FINAL

SITE INSPECTION FOR AQUEOUS FILM FORMING FOAM AREAS AT TRAVIS AIR FORCE BASE, CALIFORNIA

Contract No.: W912BV-15-C-0082

Submitted to:

U.S. Army Corps of Engineers, Tulsa District

Prepared for:

Air Force Civil Engineer Center

Prepared by:

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San Antonio, Texas 78216

JULY 2018

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ACRONYMS AND ABBREVIATIONS

µg/kg	micrograms per kilogram
µg/L	micrograms per liter
AAA	Actual AFFF Contamination Area
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFFF	Aqueous Film Forming Foam
ASTM	American Society for Testing and Materials
bgs	below ground surface
BRAC	Base Realignment and Closure
btoc	below top of casing
CERCLA	Comprehensive Environmental Response Compensation & Liability Act of 1980
CSM	conceptual site model
DoD	Department of Defense
DPT	Direct Push Technology
DW	Drinking Water
EC	Emerging Contaminant
ELLE	Eurofins Laboratories of Lancaster
EPA	Environmental Protection Agency
FS1	Fire Station 1
FS2	Fire Station 2
FS4	Fire Station 4
ft	feet
FTA	fire training area
GAC	Granulated Activated Carbon
GETS	Groundwater Extraction Treatment System
GWTP	Groundwater Treatment Plant
HA	Health Advisory
HDPE	High-density polyethylene
HSA	hollow stem auger
IDW	Investigation-Derived Waste
NAD83	North American Datum of 1983
NAVD88	North American Vertical Datum of 1988
OTIE	Oneida Total Integrated Enterprises
PA	Preliminary Assessment
PAA	Potential AFFF Contamination Area
PAL	Project Action Limit
PFAS	Per- and polyfluoroalkyl substance
PFBS	Perfluorobutane sulfonic acid

ACRONYMS AND ABBREVIATIONS (CONTINUED)

PFOA	Perfluorooctoanoic Acid
PFOS	Perfluorooctane sulfonate
PVC	Polyvinyl chloride
QAPP	Quality Assurance Project Plan
RI	Remedial Investigation
RSL	Regional Screening Level
SAF/IE	Assistant Secretary of the Air Force for Installation, Environment & Logistics
SBB	South Base Boundary
SI	Site Inspection
SOP	Standard Operating Procedure
STP	sewage treatment plant
UFP	Uniform Federal Policy
U.S.	United States
USACE	United States Army Corps of Engineers
USAF	United States Air Force

1.0 INTRODUCTION

Oneida Total Integrated Enterprises (OTIE), under contract to the United States (U.S.) Army Corps of Engineers (USACE) Tulsa District (Contract No. W912BV-15-C-0082), has conducted site inspections (SIs) at 17 areas located on Travis Air Force Base (AFB) in Solano County, California (**Figures 1-1** and **2-1**). The purpose of this SI Report is to evaluate the potential presence of select per- and polyfluoroalkyl substances (PFAS) in environmental samples collected from aqueous film-forming foam (AFFF) release areas at concentrations that exceed the Project Action Limits (PALs) discussed below. PFAS are a class of synthetic fluorinated chemicals used in industrial and consumer products and were included in defense-related applications, primarily AFFF. The PFAS class of chemicals include the compounds: *perfluorooctane sulfonate* (PFOS), *perfluorooctoanoic acid* (PFOA) and Perfluorobutane sulfonic acid (PFBS).

The U.S. Air Force (USAF) began using PFOS-based AFFF firefighting agents to extinguish petroleum fires in 1970. AFFF may have entered the environment during routine firefighting training, equipment maintenance, storage, and use. The U.S. Environmental Protection Agency (EPA) continues to permit the use of PFOS-based AFFF; however, manufacturers have reformulated AFFF to eliminate PFOS and minimize (if not eliminate) PFOA. The USAF currently has an excess inventory of PFOS-based AFFF but is actively replacing it with formulations containing shorter chain-length PFAS. PFOS-based AFFF will be referred to as AFFF in this report; any exceptions (e.g. C6 AFFF) are clearly identified as such.

Per Department of Defense (DoD) Instruction 4715.18, "*Emerging Contaminants (ECs)*" (DoD, 2009), the Interim USAF Guidance on Sampling and Response Actions for Perfluorinated Compounds at Active and Base Realignment and Closure (BRAC) Installations (USAF, 2012), and the Assistant Secretary of the Air Force for Installation, Environment & Logistics' (SAF/IE) Policy on Perfluorinated Compounds of Concern (USAF, 2016a); the USAF will:

- Identify locations where there is a reasonable expectation that there may have been a release of PFAS associated with USAF actions;
- Determine if there is an unacceptable risk to human health and the environment; and
- Address releases that pose an unacceptable risk, including offsite migration.

The work described in this SI report is a part of the initial phase of investigation performed by the USAF in fulfillment of these objectives.

- This work was performed in accordance with the *Revised Final Uniform Federal Policy (UFP)-Quality Assurance Project Plan* (QAPP) SIs of AFFF Usage at Multiple USAF Installations in U.S. EPA Regions 6 & 9 (QAPP, [OTIE, 2016]) and the UFP-QAPP Addendum, *SIs of AFFF Usage at Travis AFB, CA* (OTIE, 2017b).

1.1 PROJECT OBJECTIVES

The objectives of this SI are to:

- Evaluate whether PFAS are present in environmental media (groundwater, soil, and/or sediment) at Air Force-mediated AFFF release areas selected for inspection;
- Evaluate whether detected PFAS concentrations are present above the respective PALs (defined in the following paragraph); and

- Identify potential exposure pathways with immediate impacts to human health.

In accordance with Interim Air Force Guidance on Sampling and Response Actions for Perfluorinated Compounds at Active and BRAC Installations (USAF, 2012) and U.S. EPA's Lifetime Health Advisory (HA) for PFOS (U.S. EPA, May 2016b) and PFOA (U.S. EPA, 2017b), a release will be considered suitable for further investigation if a PAL is exceeded in any environmental medium.

PFOS:	0.070 micrograms per liter (µg/L) in groundwater and/or 126 micrograms per kilogram (µg/kg) in soil and/or sediment
PFOA:	0.070 µg/L in groundwater and/or 126 µg/kg in soil and/or sediment
Sum of PFOS and PFOA:	0.070 µg/L in groundwater and/or surface water
***Perfluorobutane sulfonic acid* (PFBS):**	40 µg/L in groundwater and/or surface water and/or 130,000 µg/kg in soil and/or sediment

The PALs were derived from the following sources.

Groundwater:

- The PFOS and PFOA PALs - U.S. EPA's Lifetime HA (U.S. EPA, 2016a, b); and
- The PFBS PAL - U.S. EPA Tapwater Regional Screening Level (RSL) (U.S. EPA, 2017).

Soil and Sediment:

- The PFOS and PFOA PALs - U.S. EPA Superfund Program's risk-based RSL calculator using a total hazard quotient of 0.1, default residential and direct contact parameters, U.S. EPA reference dose and cancer ingestion slope factor (U.S. EPA, 2016c, d) health effects support documents for PFOS and PFOA; and
- The PFBS PAL - U.S. EPA Residential Soil RSL (U.S. EPA, 2017), using a total hazard quotient of 0.1.

Additionally, in accordance with U.S. EPA Fact Sheet (U.S. EPA, 2016e), when both PFOA and PFOS are found in drinking water, the sum of PFOA and PFOS concentrations will be compared with the 0.070 µg/L HA level.

1.2 PROJECT SCOPE

AFFF areas and sampling locations were selected for inspection during the SI process based on location-specific information provided in the Preliminary Assessment (PA) (conducted March 2015), and the Site Visit (January 2016), and are summarized in Table 17.1 of the Travis AFB QAPP Addendum (OTIE, 2017b). Sampling locations were as close as practicable to the presumed release locations. The 17 AFFF areas selected for this SI and the rationale for inspection are listed in **Section 3.0**.

Media evaluated at these 17 AFFF areas included surface soil collected from 0 to 0.5 feet below ground surface (ft bgs); subsurface soil collected from an interim depth between the surface and the groundwater table; the vadose zone immediately above the water table; groundwater collected from temporary monitoring wells and existing monitoring wells; and sediment where applicable.

Soil, sediment, and groundwater samples were collected from the AFFF areas, as applicable, to evaluate whether PFAS compounds were present and, if so, whether the detected concentrations exceed the

PALs. Sample locations were chosen by targeting areas with the highest potential PFAS concentrations, based on the entire weight of evidence, in accordance with the UFP-QAPP and the Site-specific UFP-QAPP Addendum for Travis AFB (OTIE, 2016; OTIE, 2017b).

Soil samples were collected using a stainless steel trowel, hand auger, and/or truck-mounted hollow-stem auger (HSA). Groundwater grab samples were collected using stainless steel bailers or a peristaltic pump. Groundwater samples from existing permanent wells were collected using stainless steel Proactive SS pump™ and new high density polyethylene (HDPE) tubing. Sediment grab samples were collected using a stainless steel trowel. A detailed description of field sampling activities can be found in **Section 3.0**.

Samples were analyzed for a total of 16 PFAS compounds, as well as two species of fluorotelomer sulfonates, as listed in Worksheet #11 of the QAPP Addendum for Travis AFB (OTIE 2017b). The analytical results for the 18 compounds are provided in **Appendix F**. While there are no regulatory advisory limits for thirteen of the PFAS compounds, or either of the fluorotelomer sulfonates, the data may be useful for future mass-balance and PFAS-transformation studies, which are expected to be conducted if remedial investigation is required. As such, this SI Report does not discuss the 15 compounds that do not have established PALs.

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2.0 AFFF AREA BACKGROUND

2.1 AREA LOCATION, SETTING, AND HISTORY

The following sections provide descriptions and histories of Travis AFB and the 17 AFFF SI areas.

2.1.1 Travis Air Force Base

Location and Setting

Located approximately three miles east of Fairfield, California, Travis AFB occupies 6,383 acres of land within Solano County, California (**Figure 1-1**). The Base was established in 1942 and named Fairfield-Suisun Army Air Base. During World War II, the Base's primary mission was ferrying aircraft and supplies to the Pacific Theater. In 1947, following World War II and the establishment of the USAF, the installation was renamed Fairfield-Suisun AFB. In 1951 the Base was renamed Travis AFB.

Area History and Prior Investigations

A limited site investigation completed in 2014 evaluated the potential presence of PFAS compounds at seven Travis AFB locations (excluding fire training areas [FTAs]). Locations were identified based on information provided by Travis AFB personnel, operational history, and/or known or potential release of materials containing PFAS at the locations. The seven locations were then ranked based on potential for PFAS contamination, association with existing ERP sites, and logistical access as follows (SES, 2015):

- Building 811 (within the footprint of ERP site SD034)
- Building 895/Fire Station #4 (within the footprint of SD033)
- Building 1380/Fire Station #3 (within the footprint of FT004)
- Outfalls #1 and #2 (downgradient of SS014 and SD033)
- Building 14 (within the footprint of SS016)
- Building 560/old fire department (within the footprint of SS016)
- Former fire training area at the corner of Airman Drive and Travis Drive (within the footprint of ST018). Note, however, that fire training areas were not eligible for investigation as part of the project.

Of these seven locations, four locations were selected for additional investigation:

- Building 811 (SD034),
- Building 895/Fire Station #4 (SD033)
- Building 1380/Fire Station #3 (FT004) and
- Outfalls #1 and #2 (SS014 and SD033) (SES, 2015).

In 2015, the Air Force Civil Engineer Center (AFCEC) completed a PA as part of a USAF enterprise-wide response to possible PFAS releases per DoD Instruction 4715.18, ECs, and in accordance with the Comprehensive Environmental Response Compensation & Liability Act of 1980 (CERCLA). The PA

expanded the number of potential source areas to include FTAs, hangars, fire stations, emergency response locations, and AFFF storage and handling areas (CH2M HILL, 2015).

Information obtained from the 2014 site investigation and the AFCEC PA was supplemented with information collected during the 2017 site visit, SI scoping meetings, follow-up interviews, and record searches conducted during preparation of the QAPP Addendum and used to update the conceptual site model (CSM). The revised CSM, included in Table 17.1 of the QAPP Addendum (OTIE 2017b), identified 17 potential AFFF areas that required further investigation. Summaries of those 17 areas are presented in the following report sections. Detailed descriptions are provided in Table 17.1 of the QAPP Addendum (OTIE 2017b).

2.1.2 AFFF Area 1 –FT005 (Former Fire Training Area 4)

Location and Setting

Site FT005 (Former FTA 4) is located on the southeastern portion of the Base, and south of Runway 03R-21L (**Figure 2-1 and 3-1**). The site covers approximately 30 acres and is bounded by Union Creek to the north and west, the decommissioned sewage treatment plant (STP) to the east, and an undeveloped grass field to the south. Site FT005 is unpaved and partially covered with vegetation.

Area History

AFFF, protein foam, and water were used during training activities from 1962 until the early 1970s. Fires generated using waste fuels, oils, and solvents were extinguished. The amount of AFFF used at this site is unknown (CH2M HILL, 2015).

2.1.3 AFFF Area 2 – Current Fire Training Area (FTA)

Location and Setting

The Current FTA is located northwest of Union Creek and Perimeter Road (**Figure 2-1 and 3-2**). Fire training exercises using an old aircraft engine fuselage and four engines in a pit were conducted from 1987 to 1996. An old fire hose was used to transfer fuel from a storage tank and distribute the fuel within the pit. The current FTA was built in 1996 and contains a mock aircraft placed within a concrete berm, and configured to use propane as the primary source of fuel. Fire extinguishing agents historically used at the FTA include AFFF, dry chemical, and water. The training facility is outfitted with a closed water recirculation system consisting of a flexible dual lining for containment (CH2MHILL, 2015). .

Area History

The AFFF, dry chemical, and water that were used prior to the construction of the current FTA in 1996 however, were not contained and may have infiltrated into the ground or potentially flowed into nearby Union Creek. (OTIE, 2017b).

2.1.4 AFFF Area 3 - Hangar Building 811

Location and Setting

Hangar Building 811 (also known as ERP Site SD034), is located east of the intersection of Ellis Drive and Ragsdale Street (**Figures 2-1 and 3-3**). The building was constructed in 1979 with an AFFF fire suppression system, which currently remains in use. The suppression system consists of two 1,500-gallon plastic tanks that contain AFFF (CH2M HILL, 2015).

Area History

In 2011, an accidental AFFF discharge occurred in Hangar Building 811. The AFFF cannon punctured the side of the hangar and released AFFF onto the grass and concrete-covered areas west, south, and southwest of the building (CH2M HILL, 2015). AFFF discharged within Hangar Building 811 would have been captured by the floor drains/trenches, collected in a nearby aboveground storage tank, and then pumped into an unlined holding pond (CH2M HILL, 2015).

2.1.5 AFFF Area 4 – Fire Station 1 (FS1)

Location and Setting

Fire Station 1, Building 175 (FS1) is located on the southwest corner of Travis Avenue and First Street (**Figures 2-1 and 3-4**). The FS1 building was constructed in 1956 and is surrounded by landscaped grass to the north, west and southwest, and asphalt and concrete pavement in the remaining areas. FS1 serves as the structural fire station (non-airfield related) for Travis AFB and houses one fire engine that carries approximately 56 gallons of AFFF.

Area History

Fire engine truck cleaning is performed outside the fire station building because there are no floor drains. If trucks were washed inside, the remnant AFFF on the truck, or potential spills, would be washed out the bay doors located on the east or west side of the building (CH2M HILL, 2015). If AFFF had spilled and was washed out the bay doors, it may have migrated to the nearby grassy areas or to a nearby storm drain.

2.1.6 AFFF Area 5 – Fire Station 2 (FS2)

Location and Setting

Fire Station 2 (FS2) was located on the southwest corner of the intersection of Hangar Avenue and Broadway Street (**Figures 2-1 and 3-5**). The fire station building was constructed in 1956 and served as the main airfield fire station until 2011 when the new Fire Station 5 was built. The building was surrounded on the northeast and southeast corners by small patches of grass-covered landscaping, and the remaining surrounding areas are paved with asphalt and concrete. FS2 housed up to seven fire engines, which carried 50 to 500 gallons of AFFF each. AFFF was stored in 55-gallon drums on the west side of the building (CH2M HILL, 2015). FS2 was demolished between 2011 and 2012; however, the wash rack on the west side remains in place.

Area History

There are no reported AFFF accidental releases at FS2. However, fire engines and equipment were cleaned in the wash rack, where floor drains captured wash-water runoff and fed it into the sanitary sewer system. Refilling vehicle AFFF tanks occurred outdoors near the drum storage area west of the building (CH2M HILL, 2015).

2.1.7 AFFF Area 6 – Fire Station 4 (FS4)

Location and Setting

FS4 is located adjacent to Taxiway L at the southern terminus of Ragsdale Street (**Figures 2-1 and 3-6**). FS4 was constructed in 1999 and consists of a small administrative building and a carport for one fire

engine. The fire station was operational until the early 2010s. The building is surrounded by grass except for the asphalt access road, driveway, and parking lot areas. FS4 served as the fire responder for the southern runway (Runway 03L-21R), and the fire engine carried approximately 500 gallons of AFFF.

Area History

There are no reported accidental AFFF releases at FS4. However, the fire engine and equipment were cleaned outside the fire station. Because there were no floor drains, there was potential for AFFF runoff to wash out of the carport into the surrounding grassy area (CH2M HILL, 2015).

2.1.8 AFFF Area 7 – 1982/1983 C-5 Crash

Location and Setting

The 1982/1983 C-5 Crash site is the location of an early 1980s-era C-5 aircraft crash and resultant fire on the south side of Runway 03R-21L (**Figures 2-1 and 3-7**).

Area History

The aircraft caught fire upon landing, igniting a small grass fire on the side of the runway. Less than 100 gallons of AFFF were reportedly used to extinguish the aircraft fire. Concrete joints on the runway are sealed, and any AFFF-laden water that was applied would have likely migrated off the runway and into the adjacent grassy areas (**Figure 3-7**).

2.1.9 AFFF Area 8 – 1986 C-141B Accident

Location and Setting

The 1986 C-141B accident occurred near aircraft parking areas 609 and 610, east of Taxiway J and west of Taxiway K **(Figures 2-1 and 3-8)**. The resulting fire was reportedly fully contained within those two aircraft parking areas (CH2M HILL 2015).

Area History

On 15 October 1986, a C-141B aircraft made an emergency night landing. While the plane was being marshalled into a parking area, the aircraft made a hard right turn and the left wing struck a light pole, rupturing the aircraft's main fuel tank. Fuel ran down the light pole and into a high-voltage junction box at the base of the pole, igniting a fire that spread back up the pole and onto the aircraft's wing. Approximately 500 to 1,000 gallons of AFFF were used to extinguish the fire (CH2MHILL, 2015). The fire was reportedly fully contained on the airfield near aircraft parking areas 609 and 610; however, two small grassy strips are near the fire location, and runoff or overspray may have flowed to the unpaved areas adjacent to the parking areas.

2.1.10 AFFF Area 9 – 1988 C-5 Fire

Location and Setting

The 1988 C-5 Fire is the site of an aircraft fire that occurred south of parking area 282. 1988 C-5 Fire encompasses a low-lying grassy area bounded by Taxiways D, E, 200 Ramp and the terminus of the Runway 03L-21Rapproach (OTIE 2017b) (**Figures 2-1 and 3-9**).

Area History

On 31 January 1988, a C-5 aircraft was on a local training flight when it was forced to make an emergency landing. After the C-5 landed and taxied to Taxiway D, south of parking area 282 (**Figure 3-9**), the crew realized that the aircraft was on fire. Fire crews responded and used water to extinguish the fire inside the aircraft. It is unknown whether AFFF was used; however, a fire engine carrying AFFF responded to the fire. If AFFF was used, it is likely that the small amount used would have potentially washed out to the adjacent grassy area (CH2M HILL 2015).

2.1.11 AFFF Area 10 – Late 1980s C-141B Crash

Location and Setting

A Late 1980s C-141B Crash site is located near the intersection of Taxiways J and Runway 03L-21R (**Figures 2-1 and 3-10**).

Area History

In the late 1980s, a C-141B aircraft crash-landed due to a problem with the nose gear. Approximately 60 gallons of AFFF may have been used to extinguish the small fire that reportedly developed under the nose of the aircraft. Concrete joints on the runway were sealed and any AFFF-laden runoff would have likely flowed off the runway and into the adjacent grassy areas on either side of Taxiway J and between Runway 03L-21R and Taxiway R (CH2M HILL 2015).

2.1.12 AFFF Area 11 – 2001 Aircraft Crash

Location and Setting

The 2001 Aircraft Crash site is located approximately 800 feet southwest of the intersection of the connector from Perimeter Road/Collins Drive and Runway 03R-21L (CH2M HILL 2015) (**Figures 2-1 and 3-11**).

Area History

In 2001, a small aircraft crashed southwest of the intersection of the connector from Perimeter Road/Collins Drive and Runway 03R-21L. The aircraft caught fire when it landed. Approximately 5 gallons of AFFF were used to extinguish the fire. Concrete joints on the runway are sealed and AFFF-laden water would have likely flowed off the runway and into the grassy areas adjacent to the runway and connector road (CH2M HILL 2015).

2.1.13 AFFF Area 12 – 2014 E75 Air Show Crash

Location and Setting

On 4 May 2014, a Boeing E75 Stearman biplane was performing an aerial demonstration at the Travis Air Show. The aircraft was inverted when it contacted the runway, slid, and came to a stop near the northeastern terminus of Runway 03L-21R and Taxiway H (**Figures 2-1 and 3-12**). The crash was located near the southern edge of the runway. Runoff would likely have flowed to the grassy area adjacent to the southeast of the runway (CH2M HILL 2015).

Area History

The aircraft caught fire shortly after the crash; however, fewer than 5 gallons of AFFF were needed to extinguish the fire. Concrete joints on the runway are sealed and any runoff of AFFF-laden water would have likely flowed off the runway into the grassy areas (CH2M HILL 2015).

2.1.14 AFFF Area 13 – Nozzle Spray Test Area (900 Ramp)

Location and Setting

Nozzle Spray Test Area (900 Ramp) includes the 900 ramp, which is a paved aircraft parking area surrounded by grass on the south, east, and west sides (**Figures 2-1 and 3-13**). An annual nozzle spray test is performed to verify the functionality of the firefighting equipment, and to calibrate the chemical balance of the AFFF mixture. The tests have been performed at this location for many years. Typically, fire engines are parked on Parking Space 903 and AFFF is sprayed toward Parking Space 904 (CH2M HILL, 2015).

Area History

Each nozzle spray test used approximately 10 to 15 gallons of AFFF per fire engine. The AFFF-water mixture was typically left in place on the concrete of 900 Ramp and allowed to evaporate. In addition, tests in 2004 and 2007 were performed on the northeast side of the 900 Ramp. AFFF was sprayed onto the grass and into the West Branch of Union Creek (**Figure 3-13**) (CH2M HILL 2015).

2.1.15 AFFF Area 14 – Former Sewage Treatment Plant and Sludge Disposal Area

Location and Setting

The Former STP and Sludge Disposal Area is located in the southeastern portion of Travis AFB, east of FT005 and Carson Road (**Figures 2-1 and 3-14**). The Former STP included a settling basin, oxidation ponds, and a chlorine contact chamber. The plant treated primarily domestic waste and some industrial waste generated at the Base (CH2M HILL 2015).

Area History

The Former STP operated from the early 1950s until the late 1970s. Releases of AFFF into floor drains of the fire stations during this time would have entered the sanitary sewer system and been conveyed to the Former STP for treatment (CH2M HILL, 2015).

2.1.16 AFFF Area 15 – Outfall #1

Location and Setting

Outfall #1 is located within the main branch of Union Creek at the southernmost point of Travis AFB, near the point where Union Creek crosses the Base property boundary. Because Union Creek is the primary surface water pathway for runoff at Travis AFB, nearly all surface water from the Base flows through Union Creek, past Outfall #1 before moving off-Base (**Figures 2-1 and 3-15**) (CH2M HILL, 2015).

Area History

Multiple AFFF releases at Travis AFB may have migrated into Union Creek via stormwater or other surface water runoff (CH2M HILL, 2015).

2.1.17 AFFF Area 16 – Outfall #2

Location and Setting

Outfall #2 is located within the Western Branch of Union Creek, approximately 80 feet from its confluence with the Main Branch of Union Creek (**Figures 2-1 and 3-16**). The outfall is approximately 4,300 feet upstream from Outfall #1, at the outlet of the Western Branch of Union Creek, approximately 0.4 miles from where it flows underneath the runway adjacent to the 900 Ramp (**Figure 2-1**) (CH2M HILL, 2015).

Area History

AFFF release to the West Branch of Union Creek at Ramp 900 has been reported (CH2M HILL, 2015). In addition, AFFF may have migrated into the West Branch of Union Creek via stormwater or other surface water runoff.

2.1.18 AFFF Area 17 – South Base Boundary Groundwater Treatment Plant

Location and Setting

The South Base Boundary (SBB) Groundwater Treatment Plant (GWTP) is located to the north of Perimeter Road, and southeast of AFFF Area 2 Current FTA (**Figures 2-1 and 3-17**).

Area History

The SBB GWTP can treat groundwater from up to 34 extraction wells at ERP sites FT005, SS029, and SS030. Collected groundwater is routed through two bag filters which are plumbed in parallel. Then through two 6,000-pound granular activated carbon vessels (GAC). Both GAC vessels are plumbed in series. Treated water then empties into a 12,000-gallon effluent holding tank. Treated water is then discharged (currently at about 150GPM) from the effluent tank to the main branch of Union Creek, under discharge requirements specified in the Volatile Organic Compound and Fuel General Permit (USAF, 2016).

The SBB GWTP contains two 6,000-pound granular activated carbon vessels (GAC). Currently, both GAC vessels (plumbed in series) treat influent groundwater. In this configuration, groundwater entering the system first passes through a pair of bag filters (plumbed in parallel) before entering the primary GAC vessel. Process water then flows through the secondary GAC vessel before emptying into a 12,000-gallon effluent holding tank. Treated water is then discharged from the effluent tank to the main branch of Union Creek, under discharge requirements specified in the San Francisco Bay Regional Water Quality Control Board Order #R2-2012-0012 – General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds, Fuel Leaks and Other Related Wastes (Volatile Organic Compound and Fuel General Permit) (USAF, 2016b).

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3.0 FIELD ACTIVITIES, SAMPLING RATIONALE, ANALYTICAL PROTOCOL, AND ANALYTICAL RESULTS

OTIE conducted SI activities at the 17 AFFF Areas on Travis AFB. SI field activities were conducted during two events: one between 24 August and 5 September 2017, and the second on 23 and 24 October 2017. AFFF area locations are summarized in Table 17.1 of the Travis AFB QAPP Addendum (OTIE 2017b), and are shown on **Figure 2-1**.

The most likely locations where PFAS constituents would concentrate at each AFFF area were identified. These locations were selected for soil borings/temporary wells and sediment sample collection and selecting existing wells for gauging and sampling. The identified locations are referred to throughout this report as either release areas or accumulation areas. For the purposes of this report, release areas are defined as specific locations that received PFOS-based AFFF releases from fire suppression, equipment testing, equipment leaks, spillage or any other release of AFFF into the environment. Accumulation areas are defined as topographically depressed locations susceptible to runoff and subsequent accumulation of AFFF. Field activities were conducted in accordance with the QAPP (OTIE, 2016), QAPP Addendum (OTIE, 2017b), the Work Plan (OTIE, 2015), and the Site-specific Safety and Health Plan (OTIE, 2017c). A summary of the number of samples collected at each AFFF area presented in **Table 3.1**.

Table 3.1 SI Sample Summary

AFFF Area	Soil	Sediment	Groundwater	Influent/Effluent
AFFF Area 1: FT005 (Former FTA 4)	9	--	3	--
AFFF Area 2: Current FTA	9	--	4	--
AFFF Area 3: Hangar Building 811	6	1	2	--
AFFF Area 4: Fire Station 1	9	--	3	--
AFFF Area 5: Fire Station 2	9	--	3	--
AFFF Area 6: Fire Station 4	9	1	3	--
AFFF Area 7: 1982/1983 C-5 Crash	9	--	3	--
AFFF Area 8: 1986 C-141B Crash	3	--	1	--
AFFF Area 9: 1988 C-5 Fire	8	--	3	--
AFFF Area 10: Late 1980s C-141B Crash	11	--	4	--
AFFF Area 11: 2001 Aircraft Crash	12	--	2	--
AFFF Area 12: 2014 E75 Air Show Crash	9	--	3	--
AFFF Area 13: Nozzle Spray Test Area	9	--	3	--
AFFF Area 14: Former STP and Sludge Disposal Area	6	1	3	--
AFFF Area 15: Outfall #1	--	1	--	--
AFFF Area 16: Outfall #2	--	1	--	--
AFFF Area 17: SBB GWTP	--	1	--	2
Totals	118	6	40	2

NOTE:
Sample summary quantities do not include field duplicate samples or quality control samples.

ACRONYMS:

AFFF = aqueous film-forming foam; FTA – fire training area; GWTP – Groundwater Treatment Plant; SBB – South Base Boundary; SI – Site Inspection; STP – sewage treatment plant; "--" = not applicable

Laboratory results are provided in **Appendix B** and signed chain-of-custodies are provided in **Appendix A-5.**

3.1 FIELD ACTIVITIES

Field records from the SI activities are provided in **Appendix A**. Records of daily field activities are provided in **Appendix A-1**. Media sampled during the 2017 SI included soil, sediment, and groundwater, and treatment system influent/effluent process water. Sampling each medium for PFAS analysis was conducted in accordance with specific procedures designed to reduce the risk of cross-contamination. The procedures and prohibited items are detailed in Standard Operating Procedure (SOP) Addendum No. 1 for PFAS Sampling, which can be found in Appendix C of the QAPP Addendum (OTIE, 2017b). Field personnel reviewed this SOP prior to field operations.

Prohibited items included Teflon®, Gore-Tex™, Tyvek®, low-density polyethylene, fast food wrappers, and select personal care products, clothing, and packaging. Prior to sample collection, field personnel completed a daily checklist to document that sampling equipment, personal protective equipment, and tools and materials in the vicinity of the sampling locations were free from materials that may be a source of PFAS contamination. The completed Daily PFAS Protocol Checklists are included with the field forms in **Appendix A-2**.

A three-step process was implemented to decontaminate reusable sampling equipment in accordance with the QAPP and QAPP Addendum. Prior to sample collection, each piece of equipment was washed using the following three steps: 1) scrub with mixture of laboratory-grade detergent and potable water; 2) rinse with potable water; and, 3) rinse with laboratory-provided, laboratory-certified PFAS-free water.

3.1.1 Mobilization

Base-specific subsurface utility clearance requirements and Dig Safe practices were completed prior to conducting invasive activities. The following permits were completed and approved prior to field mobilization:

- **Air Force Form 332 and 103 Permits:** Travis AFB Civil Engineer Work Clearance Request (USAF Form 103) – Permit Numbers 0106122017 through 1506122017 under Work Order Request (USAF Form 332) Number 1898459; and
- **Air Force Airfield Waiver:** Federal Aviation Administration Airfield Waiver Request, under Aeronautical Study Numbers 2017-AWP-4939-OE through 2017-AWP-4942-OE and 2017-AWP-1469-OE through 2017-AWP-1476-OE.

3.1.2 Soil Boring Advancement

Soil-boring activities were performed by Woodward Drilling Company, Inc. of Rio Vista, California, and Cascade Drilling of Woodland, California. The upper five feet of each soil boring was cleared for utilities or other subsurface obstructions by hand digging using a hand auger or post-hole digger prior to drilling. Soil borings were advanced using a CME-95 truck-mounted HSA drill rig equipped with 8-inch outside-diameter augers. Each boring was continuously cored and logged by the OTIE field geologist using the Unified Soil Classification System. A detailed boring log was constructed for each boring. The soil type and changes in lithology were noted and recorded on the boring logs. In general, borings were advanced until groundwater was encountered, and terminated approximately five-to-eight feet below the groundwater surface. Boring logs are presented in **Appendix A-3**. A photographic log is provided in **Appendix A-4**.

Temporary wells were installed in 38 of the 40 soil borings as described in **Section 3.1.6**. Soil borings and temporary wells were destroyed after groundwater sampling was completed, in accordance with

California Well Standards (California Department of Water Resources, 1981 1991). Well casings and screens were removed, and neat cement grout was placed using a tremie pipe, beginning at the bottom of the boring. Surfaces were restored to match the surrounding existing surface.

3.1.3 Soil Sample Collection

Soil samples were collected for laboratory analysis. Soil cores obtained from hand augers or core barrels were subsampled using a decontaminated stainless steel trowel. Soil-sample depths at each boring generally followed guidelines outlined in the QAPP Addendum (OTIE, 2017b) as listed below. Soil borings 88C5-2 and Late80s-2 were exceptions, because only two soil samples could be collected due to shallow groundwater. Soil samples were collected as follows.

- One surface soil sample collected from approximately 0 to 1.0 ft bgs;
- One mid-depth sample collected between ground surface and the water table, or approximately 25 ft bgs, whichever was shallower. This sample was biased toward any lithologic change observed in the field in accordance with the QAPP Addendum (OTIE 2017b). In the case of very shallow groundwater, no mid-depth sample was collected; and
- One deep sample from the interface between the unsaturated and saturated zones, or approximately 25 ft bgs, whichever was shallower.

The 25 ft bgs maximum soil sample depth was selected based on historical and typical PFAS distributions observed at AFFF areas at numerous Air Force installations. Concentrations are typically highest in surface soil samples and decrease substantially with depth. Since the goal of the SI is to confirm the presence or absence of PFAS from surface AFFF releases in the AFFF areas, soil samples deeper than 25 ft bgs were not identified in the QAPP Addendum (OTIE, 2017b).

Soil samples for PFAS analysis were collected and placed into laboratory-provided high-density polyethylene (HDPE) containers with unlined lids. Sample containers were sealed, labeled, and packed into ice-filled coolers. The coolers were sealed and shipped under chain-of-custody procedures to Maxxam Analytics in Ontario, Canada. Chain-of-custody records are provided in **Appendix A-5**.

Soil samples for physiochemical analyses were composites of samples collected from distinct horizons at up to three depth intervals (surface soil [0 to 1.0 ft bgs], mid-depth [6 to 12 ft bgs], and deep [7 to 23 ft bgs]). Physiochemical properties were analyzed by Eurofins Laboratories of Lancaster (ELLE), Pennsylvania for physiochemical properties including Method SW9045C (pH), Method SM5310B (total organic carbon), and Method ASTM D422 (particle-size analysis). The physiochemical results could be used to support PFAS fate and transport evaluations during the remedial investigations, as applicable. Physiochemical analytical reports are provided in **Appendix B**.

3.1.4 Sediment Sample Collection

Sediment samples were collected from the surface of drainage features located in accumulation areas, downslope from source areas, or discharge points from drain systems at six AFFF areas. The samples were collected using a decontaminated stainless steel trowel or HDPE container fashioned to facilitate sediment sampling where a trowel could not be used due to access and safety constraints. Sediment samples were placed into laboratory-provided HDPE containers with unlined lids. The containers were sealed, labeled, packed into ice-filled coolers and delivered under chain-of-custody procedures to Maxxam Analytics of Ontario, Canada. Chain-of-custody records are provided in **Appendix A-5**.

3.1.5 Temporary Well Installation

In accordance with the QAPP Addendum (OTIE, 2017b), temporary wells were constructed using 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing and 0.010-inch slotted 1-inch diameter Schedule 40 PVC well screens with a 2-inch diameter PVC cap. The 10-foot screen was generally placed with approximately two feet of screen above the water table and eight feet of screen below the water table. Final temporary well design was determined in the field by the OTIE Geologist based on depth-to-water and geologic conditions. A total of 38 temporary wells were installed; temporary wells were not installed in borings at 2001Crash-1 and 2001Crash-2, because groundwater was not encountered during drilling. Detailed well construction diagrams are provided in **Appendix A-3**.

After sampling, the well casings were removed and the boreholes were destroyed using neat cement grout, in accordance with California Well Standards (California Department of Water Resources, 1981 and 1991).

3.1.6 Groundwater Sampling

Groundwater in temporary wells was allowed to stabilize for a minimum of 24 hours following well construction prior to gauging and sampling, wherever possible. The exceptions were where there was a limited window available for groundwater sampling, mostly at selected AFFF areas adjacent to the runways. Per the QAPP, temporary wells were not developed. Low-flow sampling techniques were not used due to large amounts of settleable solids preventing the use of a downhole pump. Groundwater grab samples were collected using a stainless steel bailer. Groundwater samples were not collected from borings at 2001Crash-1 and 2001Crash-2 because groundwater was not encountered during borehole advancement (**Sections 3.1.11 and 3.12**).

Two existing groundwater monitoring wells selected for sampling were gauged using a PFAS-free Durham Slope Indicator water-level meter before purging. Groundwater was purged and sampled, using a Proactive SS™ pump equipped with new, disposable HDPE tubing. All sampling equipment was free of Teflon and low-density polyethylene. Field parameters were measured during purging, and samples were collected following stabilization, when possible. Purge records for the existing monitoring wells are provided in **Appendix A-6**.

Groundwater samples were stored in laboratory-provided HDPE containers with unlined lids. Sample containers were sealed, labeled, packed into ice-filled coolers. Coolers were sealed and delivered under chain-of-custody procedures to Maxxam Analytics of Ontario, Canada. Chain-of-custody records are provided in **Appendix A-5**.

3.1.7 Influent/Effluent Water Sampling

Samples of influent and effluent process water were collected from the SBB GWTP to determine the presence or absence of PFAS in influent and effluent of the SBB GWTP. Effluent is discharged to Union Creek approximately 230 feet west of the treatment plant (**Figure 3-17**). The treatment plant influent and effluent samples were collected in clean sample jars directly from the influent and effluent sample ports, respectively. The sample containers were sealed, labeled, packed into ice-filled coolers, and delivered to Maxxam under chain-of-custody control. Influent and effluent sample collection was documented on daily field activity logs (**Appendix A**).

3.1.8 Laboratory Analysis

PFAS analyses were conducted by Maxxam Analytics, a DoD accredited laboratory in the Environmental Laboratory Accreditation Program (ELAP). Laboratory analytical reports are provided in **Appendix B.** Soil, groundwater, sediment, and process water PFAS concentrations were analyzed using U.S. EPA Method 537 Modified (groundwater) and American Society for Testing and Materials (ASTM) Method D7968-14 (soil and sediment). U.S. EPA Method 537 Modified is a modification of U.S. EPA Method 537, which is used to analyze 14 PFAS compounds in drinking water. The method modification was developed for solids, groundwater, and other matrices. The Maxxam modification is proprietary; however, the method changes entail sample preparation using solid-phase extraction, expanding the number of analytes (18 under this SI), and the use of Isotope Dilution instead of surrogates. More information related to the modified method can be found in the QAPP (OTIE, 2016). The Data Validation Report is provided in **Appendix C**.

Composite soil samples were analyzed by ELLE, in Lancaster, Pennsylvania, for physiochemical properties including pH by Method SW9045C, total organic carbon by Method SM5310B, and particle-size analysis by ASTM Method D422.

Investigation-derived waste (IDW) samples were analyzed by ELLE, an accredited laboratory under the DoD ELAP, located in Lancaster, Pennsylvania. Soil and water IDW samples were analyzed for volatile organic compounds by U.S. EPA Method SW8260B, full range total petroleum hydrocarbons by U.S. EPA Method SW8015B, and California Assessment Method 17 metals by U.S. EPA Methods SW6010B and SW7471A/7470A. In addition, IDW water samples were analyzed for flash point by U.S. EPA Method 1010 and pH by Method SM4500.

3.1.9 Surveying

On 29 September and 25 October 2017, soil boring, temporary well and sediment sample locations were surveyed by California-licensed surveyor Fullen Surveying Mapping, Inc. The coordinates were surveyed in The North American Datum of 1983 (NAD 83) and North American Vertical Datum of 1988 (NAVD 88) for mapping and Environmental Restoration Program Information Management System submission and in Universal Transverse Mercator World Geodetic System 84 for submission to the Base Geographic Information Systems Department. Survey coordinates and top of casing elevations are presented in **Appendix D**.

3.1.10 Investigation-Derived Waste Disposal

IDW was temporarily stored on Travis AFB in an approved IDW staging area. Soil and water IDW from soil boring activities was stored in Department of Transportation-approved 55-gallon steel drums. Samples were collected from each IDW container and composited by AFFF area and media. Composite samples were submitted for laboratory analysis per applicable local, State, and Federal requirements. The IDW analytical results indicated that the soil and water were non-hazardous waste. On 20 December 2017, 65 drums with a total of 33,500 pounds of IDW soil and 20 drums with an estimated 1,155 gallons of IDW water were transported by Cascade Environmental of Woodland, California to US Ecology, a CERCLA-approved waste disposal facility in Beatty Nevada.

IDW characterization laboratory analytical reports are provided in **Appendix B;** IDW disposal profiles, manifests and facility approval documentation are provided in **Appendix E**.

3.1.11 Variances

Variances from the sampling plan presented in the QAPP Addendum include:

- Groundwater was not sampled from borings 2001Crash-1 and 2001Crash-2, because water was not encountered; and
- Only two soil samples (surface and unsaturated-saturated zone interface) were collected from borings 88C5-2 and Late80s-2, due to the shallow depth to water (approximately 6 and 9 feet bgs, respectively). The deep samples were collected immediately above the water table. Since the water table was very shallow, no mid-depth samples were collected.

3.2 AFFF AREA 1 – FT005 (FORMER FTA 4)

3.2.1 Sample Locations and Rationale

Site FT005 (formerly known as FTA-4), is located on the southeastern portion of the Base. The site covers approximately 30 acres, and is bounded by Union Creek to the north and west, the decommissioned sewage treatment plant to the east and an open grassy field to the south (**Figures 2-1 and 3-1**).

3.2.1.1 Soil Samples

On 24 and 25 August 2017, three soil borings, FT005-1, FT005-2, and FT005-3 shown on **Figure 3-1**, were advanced to depths ranging from 25 to 30 ft bgs for lithologic logging and soil-sample collection. Soil boring FT005-1 was positioned at the entry to FT005; a potential source area. Soil boring FT005-2 was positioned in the middle of the undisturbed grassy area; a potential accumulation point. Soil boring FT005-3 was positioned in the grassy area near the boundary of FT005, also a potential accumulation area (OTIE, 2017b). Three soil samples were collected from each boring, for a total of nine soil samples. The rationale for the soil sampling depths is presented in **Table 3.2.1.1.**

Table 3.2.1.1 AFFF AREA 1 – FT005 (Former FTA 4) Soil Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
FT005-1	FT005-1-1.0	1.0	Surface sampling
	FT005-1-12	12.0	Mid-depth (No lithologic change)
	FT005-1-19.5	19.5	Deep soil sample
FT005-2	FT005-2-1.0	1.0	Surface sampling
	FT005-2-12	12.0	Mid-depth (No lithologic change)
	FT005-2-21	21.0	Deep soil sample
FT005-3	FT005-3-1.0	1.0	Surface sampling
	FT005-3-11.5	11.5	Mid-depth (No lithologic change)
	FT005-3-23	23.0	Deep soil sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.2.1.2 Groundwater Samples

Each of the three soil borings FT005-1, FT005-2, and FT005-3 were converted to temporary monitoring wells and one groundwater sample was collected from each. Well construction information is presented in **Table 3.2.1.2.** Groundwater sample locations and groundwater elevations are presented on **Figure 3-1**.

Table 3.2.1.2 AFFF AREA 1 – FT005 (Former FTA 4) Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
FT005-1	FT005-1-GW	12	16.0-26.0	8/25/2017
FT005-2	FT005-2-GW	11.5	16.0-26.0	8/25/2017
FT005-3	FT005-3-GW	11	15.0-25.0	8/25/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.2.2 Analytical Results

3.2.2.1 Soil Results

Two of the nine soil samples collected from FT005 contained PFAS concentrations above the PAL. Soil sample results are presented in **Table 3.2.2.1**. **Table F-1** in **Appendix F** presents all PFAS soil results.

Table 3.2.2.1 AFFF AREA 1 – Site FT005 (Former FTA 4) Groundwater Sample Results

Sample Location	Sample ID	Sample Depth (ft bgs)	PFOA	PFOS	PFBS
PAL[1]			126	126	130,000
FT005-1	FT005-1-1.0	1.0	**140**	**690**	3.7 J
	FT005-1-12	12.0	40.0	7.2	7.3
	FT005-1-19.5	19.5	9.4	8.4	1.4
FT005-2	FT005-2-1.0	1.0	8.9	**340**	0.48 J
	FT005-2-12	12.0	3.7	1.5	1.6
	FT005-2-21	21.0	3.3	0.97 J	1.4
FT005-3	FT005-3-1.0	1.0	0.52 U	1.2	0.52 U
	FT005-3-11.5	11.5	5.9	0.39 J	0.60 J
	FT005-3-23	23.0	0.47 J	0.58 U	0.58 U

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PAL
Concentrations are presented in µg/kg (micrograms per kilogram).
For analyte abbreviations refer to **Appendix F.**

DEFINITIONS:
bgs = below ground surface
DTW = depth to water
ft = feet
PAL = Project Action Limit
J = Estimated detection at concentration shown
U = non-detect at reporting limit shown

3.2.2.2 Groundwater Results

PFAS results for all three groundwater samples collected from FT005 (Former FTA 4) showed at least one PFAS constituent or sum of PFOA and PFOS above the PAL as shown in **Table 3.2.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.2.2.2 AFFF AREA 1 – Site FT005 (Former FTA 4) Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
FT005-1	FT005-1-GW	12	**32**	**26**	**58**	4.7
FT005-2	FT005-2-GW	11.5	**11**	**3.3**	**14.3**	5.1
FT005-3	FT005-3-GW	11	**0.093**	**0.072**	**0.165**	0.020 J

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
J = Estimated detect at concentration shown
PAL = Project Action Limit

3.2.3 Conclusions

Concentrations of PFOS exceeded the PAL in two of nine soil samples (FT005-1-1.0 and FT005-2-1.0) and exceeded the PAL for PFOA in one of the nine soil samples (FT005-1-1.0). The groundwater samples collected from each of the temporary wells contained concentrations of both PFOA and PFOS above the PALs. PFBS concentrations did not exceed the PAL in any samples collected from this AFFF area.

3.3 AFFF AREA 2 – CURRENT FIRE TRAINING AREA (FTA)

3.3.1 Sample Locations and Rationale

The Current FTA is located to the northwest of Union Creek and Perimeter Road (**Figures 2-1 and 3-2**). From 1987 to 1996, fire training exercises were performed at this location within a pit using an old aircraft engine container. In 1996, the current FTA was built and contains a mock aircraft located within a concrete berm.

3.3.1.1 Soil Samples

On 25 August 2017 and 24 October 2017, three soil borings, CFTA-1, CFTA-2, and CFTA-3 shown on **Figure 3-2**, were advanced to depths ranging from 17 to 27 ft bgs for lithologic logging and soil-sample collection. Soil boring CFTA-1 is positioned northwest of the current FTA concrete ring; a potential accumulation point. Soil boring CFTA-2 is positioned west of the current FTA concrete ring; a potential source area. Soil boring CFTA-3 was positioned southwest of the current FTA concrete ring; also a potential accumulation point (OTIE, 2017b). Three soil samples were collected from each of the soil borings, for a total of nine soil samples. The rationale for the soil sampling depths is presented in **Table 3.3.1.1.**

Table 3.3.1.1 AFFF AREA 2 – Current FTA Soil Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
CFTA-1	CFTAS-1-1.0	1.0	Surface sampling
	CFTA-1-10.5	10.5	Mid-depth (No lithologic change)
	CFTA-1-16.5	16.5	Deep soil sample
CFTA-2	CFTA-2-1.0	1.0	Surface sampling
	CFTA-2-11.5	11.5	Mid-depth (No lithologic change)
	CFTA-2-23.5	23.5	Deep soil sample
CFTA-3	CFTA-3-1.0	1.0	Surface sampling
	CFTA-3-11.0	11.0	Mid-depth (No lithologic change)
	CFTA-3-18.0	18.0	Deep soil sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.3.1.2 Groundwater Samples

Each of the three soil borings CFTA-1, CFTA-2, and CFTA-3 were converted to temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. One permanent well, CFTA-GW-1, was also sampled. Monitoring well CFTA-GW-1 is located 10 feet south of the current FTA concrete ring, immediately downgradient of the potential source area. Well construction information for temporary wells CFTA-1, CFTA-2, and CFTA-3 is presented in **Table 3.3.1.2.** No screen interval information is available for well CFTA-GW-1. Groundwater sample locations and groundwater elevations are presented on **Figure 3-2**.

Table 3.3.1.2 AFFF AREA 2 – Current FTA Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
CFTA-1	CFTA-1-GW	18	12.0-22.0	8/28/2017
CFTA-2	CFTA-2-GW	17.5	17.0-27.0	8/28/2017
CFTA-3	CFTA-3-GW	19	12.0-22.0	8/28/2017
CFTA-GW-1	CFTA-GW-1	15.23	NA	8/25/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification
NA = not available

3.3.2 Analytical Results

3.3.2.1 Soil Results

One of the nine soil samples collected from Current FTA contained PFAS concentrations above the PAL. Soil sample results are presented in **Table 3.3.2.1**. **Table F-1** in **Appendix F** presents all PFAS soil results.

Table 3.3.2.1 AFFF AREA 2 – Current FTA Groundwater Sample Results

Sample Location	Sample ID	Sample Depth (ft bgs)	PFOA	PFOS	PFBS
PAL[1]			126	126	130,000
CFTA-1	CFTA-1-1.0	1.0	1.3	**180**	0.53 J
	CFTA-1-10.5	10.5	0.59 U	0.59 U	0.59 U
	CFTA-1-16.5	16.5	0.60 U	0.60 U	0.60 U
CFTA-2	CFTA-2-1.0	1.0	1.2	14	1.0
	CFTA-2-11.5	11.5	0.51 U	2.8	0.39 J
	CFTA-2-23.5	23.4	0.54 U	0.97	0.33 J
CFTA-3	CFTA-3-1.0	1.0	0.54 J	35.0	0.52 U
	CFTA-3-11	11.0	0.58 U	0.33 J	0.58 U
	CFTA-3-18	18.0	0.60 U	1.2	0.60 U

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PAL
Concentrations are presented in µg/kg (micrograms per kilogram).
For analyte abbreviations refer to **Appendix F.**

DEFINITIONS:
bgs = below ground surface
DTW = depth to water
ft = feet
PAL = Project Action Limit
J = Estimated detection at concentration shown
U = non-detect at reporting limit shown

3.3.2.2 Groundwater Results

All four groundwater samples collected from Current FTA contained at least one PFAS constituent with a concentration above the PALs. Groundwater sample results are presented in **Table 3.3.2.2. Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.3.2.2 AFFF AREA 2 – Current FTA Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
CFTA-1	CFTA-1-GW	18	0.062	**0.20**	**0.262**	0.079
CFTA-2	CFTA-2-GW	17.5	**0.52**	**2.3**	**2.82**	0.89
CFTA-3	CFTA-3-GW	19	**0.22**	**1.2**	**1.42**	1.1
CFTA-GW-1	CFTA-GW-1	15.23	**0.28**	**0.60**	**0.88**	0.61

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
PAL = Project Action Limit

3.3.3 Conclusions

Concentrations of PFOS exceeded the PAL in one of nine soil samples (CFTA-1-1.0). Concentrations of PFOA exceeded the PAL in three of four groundwater samples collected. All four groundwater samples collected had concentrations of PFOS that exceeded the PAL. PFBS concentrations did not exceed the PAL in any samples collected from this AFFF area.

3.4 AFFF AREA 3 – HANGAR BUILDING 811

3.4.1 Sample Locations and Rationale

Hangar Building 811 is located near Ellis Drive and Boyles Street at Travis AFB (**Figures 2-1 and 3-3**). The building was constructed in 1979 with an AFFF fire suppression system that remains in use. The suppression system consists of two 1,500-gallon plastic tanks containing AFFF (CH2M HILL 2015).

3.4.1.1 Soil and Sediment Samples

On 30 August 2017, two soil borings, 811-1 and 811-2 shown on **Figure 3-3,** were advanced to depths of 27 and 27.5 ft bgs for lithologic logging and soil sample collection. Soil boring 811-1 was positioned approximately 100 feet west of Hangar 811 and 20 feet south of Ellis Drive, a potential source area. Soil boring 811-2 was positioned approximately 20 feet south of Ellis Drive in between the two parking lots in the grassy area; a potential accumulation point. Three soil samples were collected from each of the soil borings. A total of eight soil samples were collected (six normal and two duplicate). Two sediment samples (one normal and one duplicate) were collected at the headwall of the drainage culvert; a potential accumulation point for Hangar Building 811. The rationale for the soil sampling depths is presented in **Table 3.4.1.1.**

Table 3.4.1.1 AFFF AREA 3 – Hangar Building 811 Soil and Sediment Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
811-1	B811-1-0.5	0.5	Surface sampling
	B811-1-08	8.0	Mid-depth (No lithologic change)
	B811-1-22	22.0	Deep soil sample
811-2	B811-2-0.5	0.5	Surface sampling
	B811-2-FD		Field Duplicate
	B811-2-07	7.0	Mid-depth (No lithologic change)
	B811-2-FD2	23.0	Field Duplicate
	B811-2-23	23.0	Deep soil sample
811-SED-1	811-SED-1	0.5	Sediment sample
	811-SED-FD		Field Duplicate

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.4.1.2 Groundwater Samples

Each of the two soil borings 811-1 and 811-2 were converted to temporary monitoring wells. One groundwater sampled was collected from each temporary monitoring well. Temporary well construction information is presented in **Table 3.4.1.2.** Groundwater sample locations and groundwater elevations are presented on **Figure 3-3**.

Table 3.4.1.2 AFFF AREA 3 – Hangar Building 811 Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
811-1	B811-1-W10	10	17.0-27.0	8/31/2017
811-2	B811-2-W10	10	17.0-27.0	8/31/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.4.2 Analytical Results

3.4.2.1 Soil and Sediment Results

All eight soil samples and the two sediment samples collected from Hangar Building 811 contained PFAS concentrations below the PALs.

Tables F-1 and F-3 in **Appendix F** presents the soil boring and sediment PFAS results.

3.4.2.2 Groundwater Results

Both of the groundwater samples collected from Hangar Building 811 contained at least one PFAS constituent with a concentration above the PAL. Groundwater sample results are presented in **Table 3.4.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.4.2.2 AFFF AREA 3 – Hangar Building 811 Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
811-1	B811-1-W10	10	**0.49**	**5.8**	**6.29**	0.43
811-2	B811-2-W10	10	**0.11**	**0.36**	**0.47**	0.10

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
PAL = Project Action Limit

3.4.3 Conclusions

None of the soil or sediment samples collected from Hangar Building 811 contained PFAS constituents with concentrations above their respective PALs. The groundwater samples collected from each of the temporary wells contained concentrations of both PFOA and PFOS above the PALs. PFBS concentrations did not exceed the PAL in any samples collected from this AFFF area.

3.5 AFFF AREA 4 – FIRE STATION 1 (FS1)

3.5.1 Sample Locations and Rationale

FS1 is located on the southwest corner of Travis Avenue and First Street on Travis AFB (**Figures 2-1 and 3-4**). FS1 was constructed in 1956 and is surrounded by landscaped grass to the north, west, and southwest. The remaining areas are paved with asphalt or concrete.

3.5.1.1 Soil Samples

On 28 August 2017 and 30 August 2017, three soil borings, FS1-1, FS1-2, and FS1-3 shown on **Figure 3-4**, were advanced to depths ranging from 20 to 22 ft bgs for lithologic logging and soil sample collection. Soil boring FS1-1 is positioned approximately 50 feet west of FS1 in the grassy area; a potential source area. Soil boring FS1-2 is positioned approximately 70 feet southwest of FS1 in the grassy area; a potential accumulation point. Soil boring FS1-3 was positioned approximately 5 to 10 feet away from the concrete V-ditch downslope from the FTA in a potential accumulation point (OTIE, 2017b). Three soil samples were collected from each of the soil borings, for a total of nine soil samples. The rationale for the soil sampling depths is presented in **Table 3.5.1.1.**

Table 3.5.1.1 AFFF AREA 4 – Fire Station 1 (FS1) Soil Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
FS1-1	FS1-1-1.0	1.0	Surface sampling
	FS1-1-12	12.0	Mid-depth (No lithologic change)
	FS1-1-18	18.0	Deep soil sample
FS1-2	FS1-2-0.5	0.5	Surface sampling
	FS1-2-08	8.0	Mid-depth (No lithologic change)
	FS1-2-17	17.0	Deep soil sample
FS1-3	FS1-3-0.5	0.5	Surface sampling
	FS1-3-08	8.0	Mid-depth (No lithologic change)
	FS1-3-17	17.0	Deep soil sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.5.1.2 Groundwater Samples

Each of the three soil borings FS1-1, FS1-2, and FS1-3 were converted to temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. Well construction information is presented in **Table 3.3.1.2.** Groundwater sample locations and groundwater elevations are presented on **Figure 3-4**.

Table 3.5.1.2 AFFF AREA 4 – Fire Station 1 (FS1) Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
FS1-1	FS1-1-W10	10	10.0-20.0	8/28/2017
FS1-2	FS1-2-W10	15.0	9.8-19.8	8/31/2017
FS1-3	FS1-3-W10	15.0	9.8-19.8	8/31/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.5.2 Analytical Results

3.5.2.1 Soil Results

One of the nine soil samples collected from FS1 contained PFAS concentrations above the PAL. Soil sample results are presented in **Table 3.5.2.1**. **Table F-1** in **Appendix F** presents all PFAS soil results.

Table 3.5.2.1 AFFF AREA 4 – Fire Station 1 (FS1) Groundwater Sample Results

Sample Location	Sample ID	Sample Depth (ft bgs)	PFOA	PFOS	PFBS
PAL[1]			126	126	130,000
FS1-1	FS1-1-1.0	1.0	1.8	56	0.53 U
	FS1-1-12	12.0	0.33 J	0.41 J	0.56 U
	FS1-1-18	18.0	0.72 U	0.72 U	0.72 U
FS1-2	FS1-2-0.5	0.5	2.0	26	0.40 J
	FS1-2-08	8.0	1.4	1.2	0.60 U
	FS1-2-17	17.0	0.72 U	0.72 U	0.72 U
FS1-3	FS1-3-0.5	0.5	44	**780**	8.4 J
	FS1-3-08	8.0	0.81 J	0.69 J	0.82 J
	FS1-3-17	17.0	0.58 U	0.58 U	0.58 U

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PAL
Concentrations are presented in µg/kg (micrograms per kilogram).
For analyte abbreviations refer to **Appendix F.**

DEFINITIONS:
bgs = below ground surface
DTW = depth to water
ft = feet
PAL = Project Action Limit
J = Estimated detection at concentration shown
U = non-detect at reporting limit shown

Table F-1 in **Appendix F** presents all PFAS soil results.

3.5.2.2 Groundwater Results

All three of the groundwater samples collected from FS1 contained at least one PFAS constituent with a concentration above the PAL. Groundwater sample results are presented in **Table 3.5.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.5.2.2 AFFF AREA 4 – Fire Station 1 (FS1) Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
FS1-1	FS1-1-W10	10	**0.27**	**0.60**	**0.87**	0.084
FS1-2	FS1-2-W10	15.0	**0.86**	**0.96**	**1.82**	0.54
FS1-3	FS1-3-W10	15.0	**0.87**	**28**	**28.87**	1.3

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
PAL = Project Action Limit

3.5.3 Conclusions

Concentrations of PFOS exceeded the PAL in one of nine soil samples (FS1-3-0.5). The groundwater samples collected from each of the temporary wells contained concentrations of both PFOA and PFOS above the PALs. PFBS concentrations did not exceed the PAL in any samples collected from this AFFF area.

3.6 AFFF AREA 5 – FIRE STATION 2 (FS2)

3.6.1 Sample Locations and Rationale

FS2 is located southwest of the intersection of Hangar Avenue and Broadway Street (**Figures 2-1 and 3-5**). FS2 was constructed in 1956 and was the main airfield fire station until 2011 when the new Fire Station 5 was built. The building has small patches of landscaped grass in the northeast and southeast corner. The remaining areas are paved with asphalt or concrete.

3.6.1.1 Soil Samples

On 30 and 31 August 2017, three soil borings, FS2-1, FS2-2, and FS2-3 shown on **Figure 3-5**, were advanced to depths ranging from 21 to 30.5 ft bgs for lithologic logging and soil sample collection. Soil boring FS2-1 is positioned approximately 50 feet from the wash racks southern edge in the asphalt area; a potential accumulation area. Soil boring FS2-2 is positioned approximately 45 feet from the wash racks northern edge in the asphalt area; a potential accumulation area. Soil boring FS2-3 is positioned approximately 10 feet from the east side of the concrete in the grassy area (OTIE, 2017b). Three soil samples were collected from each of the soil borings, for a total of nine soil samples. The rationale for the soil sampling depths is presented in **Table 3.6.1.1.**

Table 3.6.1.1 AFFF AREA 5 – Fire Station 2 (FS2) Soil Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
FS2-1	FS2-1-0.5	0.5	Surface sampling
	FS2-1-07	7.0	Mid-depth (No lithologic change)
	FS2-1-12	12.0	Deep soil sample
FS2-2	FS2-2-0.5	0.5	Surface sampling
	FS2-2-07	7.0	Mid-depth (No lithologic change)
	FS2-2-11	11.0	Deep soil sample
FS2-3	FS2-3-01	1.0	Surface sampling
	FS2-3-11	11.0	Mid-depth (No lithologic change)
	FS2-3-14.5	14.5	Deep soil sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.6.1.2 Groundwater Samples

Each of the three soil borings FS2-1, FS2-2, and FS2-3 were converted to temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. Well construction information is presented in **Table 3.6.1.2.** Groundwater sample locations and groundwater elevations are presented on **Figure 3-5**.

Table 3.6.1.2 AFFF AREA 5 – Fire Station 2 (FS2) Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
FS2-1	FS2-1-W16	15.7	10.8-20.8	9/1/2017
FS2-2	FS2-2-W10	10.2	12.3-22.3	9/1/2017
FS2-3	FS2-3-W11	11.3	12.5-22.5	9/1/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.6.2 Analytical Results

3.6.2.1 Soil Results

Four of the nine soil samples collected from FS2 contained PFAS concentrations above the PAL. Soil sample results are presented in **Table 3.6.2.1**. **Table F-1** in **Appendix F** presents all PFAS soil results.

Table 3.6.2.1 AFFF AREA 5 – Fire Station 2 (FS2) Soil Sample Results

Sample Location	Sample ID	Sample Depth (ft bgs)	PFOA	PFOS	PFBS
PAL[1]			126	126	130,000
FS2-1	FS2-1-0.5	0.5	32	**2,100**	6.1 J
	FS2-1-07	7.0	5.3	**410**	6.5
	FS2-1-12	12.0	6.0 UJ	85 J	6.0 UJ
FS2-2	FS2-2-0.5	0.5	**170 J**	**550 J**	7.9 J
	FS2-2-07	7.0	24 J	**380 J**	10 J
	FS2-2-11	11.0	6.6 UJ	47 J	6.6 UJ
FS2-3	FS2-3-01	1.0	2.6	75	0.60 UJ
	FS2-3-11	11.0	1.4	59	0.48 J
	FS2-3-14.5	14.5	3.8	100	0.96 J

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PAL
Concentrations are presented in µg/kg (micrograms per kilogram).
For analyte abbreviations refer to **Appendix F.**

DEFINITIONS:
bgs = below ground surface
DTW = depth to water
ft = feet
PAL = Project Action Limit
J = Estimated detection at concentration shown
U = non-detect at reporting limit shown

3.6.2.2 Groundwater Results

All three of the groundwater samples collected from FS2 contained at least one PFAS constituent with a concentration above the PAL. Groundwater sample results are presented in **Table 3.6.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.6.2.2 AFFF AREA 5 – Fire Station 2 (FS2) Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
FS2-1	FS2-1-W16	15.7	**22**	**690**	**712**	31
FS2-2	FS2-2-W10	10.2	**23**	**340**	**363**	12
FS2-3	FS2-3-W11	11.3	**29**	**410**	**439**	12

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PAL
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
PAL = Project Action Limit

3.6.3 Conclusions

Concentrations of PFOS exceeded the PAL in four of nine soil samples (FS2-1-0.5, FS2-1-07, FS2-2-0.5, and FS2-2-07) and exceeded the PAL for PFOA in one of the nine soil samples (FS2-2-0.5). All three groundwater samples contained PFOS and PFOA concentrations above the PAL. PFBS concentrations did not exceed the PAL in any samples collected from this AFFF area.

3.7 AFFF Area 6 – Fire Station 4 (FS4)

3.7.1 Sample Locations and Rationale

FS4 is located near the southern runway and east of the southern tip of Ragsdale Street on Travis AFB (**Figures 2-1 and 3-6**). FS4 was constructed in 1999 and was closed in early 2010. The building is surrounded by grass except for the asphalt access road, driveway, and parking lot.

3.7.1.1 Soil and Sediment Samples

On 1 September 2017, three soil borings, FS4-1, FS4-2, and FS4-3, shown on **Figure 3-6,** were advanced to 19 ft bgs for lithologic logging and soil sample collection. Soil boring FS4-1 was positioned near the intersection of the Fire Station driveway and Ragsdale Blvd, in the grassy swale area (**Figure 3-6**). Soil boring FS4-2 was positioned approximately 130 feet south of the northeast corner of FS4, in the same grassy swale area. Soil boring FS4-3 was positioned approximately 40 feet northeast of the northeast corner of FS4, in the grass, and approximately 10 feet east of the parking area. Three soil samples were collected from each of the soil borings. A total of ten soil samples were collected (nine normal and one duplicate). One sediment sample, FS4-SED-1, was collected in the drainage ditch on the north side of the asphalt turnaround and 40 feet south of soil boring FS4-2 in the drainage swale; a potential accumulation point for FS4. The rationale for the soil sampling depths is presented in **Table 3.7.1.1.**

Table 3.7.1.1 AFFF AREA 6 – Fire Station 4 (FS4) Soil and Sediment Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
FS4-1	FS4-1-0.5	0.5	Surface sampling
	FS4-1-06	6.0	Mid-depth (No lithologic change)
	FS4-1-12	11.0	Deep soil sample
FS4-2	FS4-2-0.5	0.5	Surface sampling
	FS4-2-FD		Field Duplicate
	FS4-2-06	6.0	Mid-depth (No lithologic change)
	FS4-2-11	11.0	Deep soil sample
FS4-3	FS4-3-0.5	0.5	Surface sampling
	FS4-3-06	6.0	Mid-depth (No lithologic change)
	FS4-3-11	11.0	Deep soil sample
FS4-SED-1	FS4-SED-1	0.5	Sediment sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.7.1.2 Groundwater Samples

Each of the three soil borings FS4-1, FS4-2, and FS4-3 were converted to temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. Well construction information is presented in **Table 3.7.1.2.** Groundwater sample locations and groundwater elevations are presented on **Figure 3-6**.

Table 3.7.1.2 AFFF AREA 6 – Fire Station 4 (FS4) Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
FS4-1	FS4-1-W09	9.0	9.0-19.0	9/1/2017
FS4-2	FS4-2-W11	10.8	9.0-19.0	9/1/2017
	FS4-2-WFD			
FS4-3	FS4-3-W12	11.5	9.0-19.0	9/1/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.7.2 Analytical Results

3.7.2.1 Soil and Sediment Results

All three soil samples and the one sediment sample collected from FS4 contained PFAS concentrations below the PALs.

Tables F-1 and F-3 in **Appendix F** presents the soil boring and sediment PFAS results.

3.7.2.2 Groundwater Results

Each of the four groundwater samples collected from FS4 contained at least one PFAS constituent with a concentration above the PAL. Groundwater sample results are presented in **Table 3.7.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.7.2.2 AFFF AREA 6 – Fire Station 4 (FS4) Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
FS4-1	FS4-1-W09	9.0	**0.72**	**17**	**17.72**	0.79
FS4-2	FS4-2-W11	10.8	**0.75**	**32**	**32.75**	1.1
	FS4-2-WFD		**0.80**	**30**	**30.80**	0.99
FS4-3	FS4-3-W12	11.5	**0.46**	**9.2**	**9.66**	0.57

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
ft = feet
DTW = depth to water
PAL = Project Action Limit

3.7.3 Conclusions

Neither of the soil samples nor the sediment sample collected from FS4 contained PFAS constituents with concentrations above their respective PALs. All four groundwater samples contained PFOS and PFOA at a concentration above the PAL. PFBS did not exceed the PAL in any samples collected at this AFFF area.

3.8 AFFF AREA 7 – 1982/1983 C-5 CRASH

3.8.1 Sample Locations and Rationale

The 1982/1983 C-5 Crash is located on the south side of the Runway 03R-21L (**Figures 2-1 and 3-7**). The aircraft caught fire and caused a grass fire as well. Less than 100 gallons of AFFF were used to extinguish the aircraft fire.

3.8.1.1 Soil Samples

On 3 September 2017, three soil borings, 82/83C5-1, 82/83C5-2, and 82/83C5-3, shown on **Figure 3-7,** were advanced to depths ranging from 15 to 28 ft bgs for lithologic logging and soil sample collection. Soil boring 82/83C5-1 is positioned approximately 70 feet southeast of Runway 03R-21L in the grassy area. Soil boring 82/83C5-2 is positioned approximately 130 feet southeast of the northern runway in the grassy area and approximately 390 feet northeast of soil boring 82/83C5-1. Soil boring 82/83C5-3 is positioned approximately 140 feet southeast of Runway 03R-21L, in the grassy area approximately 420 feet northeast of 82/83C5-2 (OTIE, 2017b). Three soil samples were collected from each of the soil borings. A total of ten soil samples were collected (nine normal and one duplicate). The rationale for the soil sampling depths is presented in **Table 3.8.1.1.**

Table 3.8.1.1 AFFF AREA 7 – 1982/1983 C-5 Crash Soil Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
82/83C5-1	82/83 C5-1-0.5	0.5	Surface sampling
	82/83 C5-1-07	7.0	Mid-depth (No lithologic change)
	82/83 C5-1-12	12.0	Deep soil sample
82/83C5-2	82/83 C5-2-0.5	0.5	Surface sampling
	82/83 C5-2-07	7.0	Mid-depth (No lithologic change)
	82/83 C5-2-18	18.0	Deep soil sample
	82/83 C5-2-FD		Field Duplicate
82/83C5-3	82/83 C5-3-0.5	0.5	Surface sampling
	82/83 C5-3-8	8.0	Mid-depth (No lithologic change)
	82/83 C5-3-14	14.0	Deep soil sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.8.1.2 Groundwater Samples

Each of the three soil borings 82/83C5-1, 82/83C5-2, and 82/83C5-3 were converted to temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. Well construction information is presented in **Table 3.8.1.2.** Groundwater sample locations and groundwater elevations are presented on **Figure 3-7**.

Table 3.8.1.2 AFFF AREA 7 – 1982/1983 C-5 Crash Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
82/83C5-1	82/83 C5-1-W13	13	10.0-20.0	9/3/2017
	82/83 C5-2-WFD			
82/83C5-2	82/83 C5-2-W12	12	5.0-15.0	9/3/2017
82/83C5-3	82/83 C5-3-W13	13	5.0-15.0	9/3/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.8.2 Analytical Results

3.8.2.1 Soil Results

All ten soil samples collected from FS4 contained PFAS concentrations below the PALs.

Table F-1 in **Appendix F** presents all PFAS soil results.

3.8.2.2 Groundwater Results

All of the four groundwater samples collected from 1982/1983 C-5 Crash contained at least one PFAS constituent with a concentration above the PAL. Groundwater sample results are presented in **Table 3.8.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.8.2.2 AFFF AREA 7 – 1982/1983 C-5 Crash Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
82/83C5-1	82/83 C5-1-W13	13	**0.091**	**1.2**	**1.29**	0.17
	82/83 C5-2-WFD		**0.091**	**1.1**	**1.19**	0.14
82/83C5-2	82/83 C5-2-W12	12	0.038	**0.20**	**0.238**	0.083
82/83C5-3	82/83 C5-3-W13	13	**0.10**	**0.35**	**0.45**	0.058

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
PAL = Project Action Limit

3.8.3 Conclusions

None of the soil samples collected from 1982/1983 C-5 Crash contained PFAS constituents with concentrations above their respective PALs. Concentrations of PFOA exceeded the PAL in two of three groundwater samples collected. All four groundwater samples collected had concentrations of PFOS that exceeded the PAL. PFBS concentrations did not exceed the PAL in any samples collected from this AFFF area.

3.9 AFFF AREA 8 – 1986 C-141B ACCIDENT

3.9.1 Sample Locations and Rationale

On October 15, 1986, a C-141B made an emergency landing due to a bomb threat at the terminal. While being marshalled in the parking area the aircraft's left wing struck a nearby light pole, rupturing the number 1 main tank. Fuel ran down the light pole and into a high voltage junction box at the base of the pole, igniting a fire that spread up the light pole. The fire was fully contained near parking areas 609 and 610 (**Figures 2-1 and 3-8**). Approximately 500 to 1,000 gallons of AFFF were used to extinguish the fire.

3.9.1.1 Soil Samples

On 31 August 2017, one soil boring, 86C141B-1, shown on **Figure 3-8,** was advanced to 20 ft bgs for lithologic logging and soil sample collection. Soil boring 86C141B-1 was positioned in the northern part of the grassy area just west of the airplane parking area; a potential accumulation point (OTIE, 2017b). Three soil samples were collected from the boring. The rationale for the soil sampling depths is presented in **Table 3.9.1.1.**

Table 3.9.1.1 AFFF AREA 8 – 1986 C-141B Accident Soil Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
86C141B-1	86C141B-1-0.5	0.5	Surface sampling
	86C141B-1-09	9.0	Mid-depth (No lithologic change)
	86C141B-1-12	12.0	Deep soil sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.9.1.2 Groundwater Samples

The soil boring 86C141B-1 was converted to a temporary monitoring well. One groundwater sample was collected from the temporary monitoring well. Monitoring well construction information is presented in **Table 3.9.1.2.** The groundwater sample location and groundwater elevation are presented on **Figure 3-8**.

Table 3.9.1.2 AFFF AREA 8 – 1986 C-141B Accident Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
86C141B-1	1986C141B-1-W10	9.8	9.6-19.6	9/1/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.9.2 Analytical Results

3.9.2.1 Soil Results

All three soil samples collected from 1986 C-141B Accident contained PFAS concentrations below the PALs.

Table F-1 in **Appendix F** presents all PFAS soil results.

3.9.2.2 Groundwater Results

The groundwater sample collected from 1986 C-141B Accident contained at least one PFAS constituent with a concentration above the PAL. Groundwater sample results are presented in **Table 3.9.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.9.2.2 AFFF AREA 8 – 1986 C-141B Accident Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
86C141B-1	86C141B-1-W10	9.8	**0.12**	**3.1**	**3.22**	0.21

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
PAL = Project Action Limit

3.9.3 Conclusions

None of the soil samples collected from 1982/1983 C-5 Crash contained PFAS constituents with concentrations above their respective PALs. Concentrations of both PFOA and PFOS exceeded the PALs in the groundwater sample. PFBS concentrations did not exceed the PAL in any samples collected from this AFFF area.

3.10 AFFF AREA 9 – 1988 C-5 FIRE

3.10.1 Sample Locations and Rationale

On 31 January 1988, a C-5 was on a local training flight when it was forced to make an emergency landing after a malfunctioning light warned the crew of trouble. After landing, the aircraft caught on fire and taxied to the south of parking areas 282 and 292 (**Figures 2-1 and 3-9**). It is unknown if AFFF was used to extinguish the inside of the aircraft. A fire truck carrying AFFF responded to the fire.

3.10.1.1 Soil Samples

On 4 September 2017 and 23 October 2017, three soil borings, 88C5-1, 88C5-2, and 88C5-3, shown on **Figure 3-9,** were advanced to depths ranging from 10 to 19.4 ft bgs for lithologic logging and soil sample collection. Soil boring 88CD-1 was positioned approximately 150 feet southeast of parking area 282 in the area downslope from the crash site, a potential accumulation area. Soil boring 88C5-2 was positioned approximately 155 feet from parking area 282 and approximately 200 feet southwest of soil boring 88C5-1 in the grassy area; a potential accumulation area. Soil boring 88C5-3 was positioned approximately 200 feet from parking area 282 and approximately 200 feet east of 88C5-3 in the grassy area; a potential accumulation area (OTIE, 2017b). Three soil samples were collected from 88C5-1 and 88C5-3 and two soil samples were collected from 88C5-2. A total of nine soil samples were collected (eight normal and one duplicate). The rationale of the soil sampling depths is presented in **Table 3.10.1.1**.

Table 3.10.1.1 AFFF AREA 9 – 1988 C-5 Fire Soil Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
88C5-1	88C5-1-0.5	0.5	Surface sampling
	88C5-1-5.5	5.5	Mid-depth (No lithologic change)
	88C5-1-8.5	8.5	Deep soil sample
88C5-2	88C5-2-0.5	0.5	Surface sampling
	88C5-DUP-0.5		Field Duplicate
	88C5-2-5.5	5.5	Deep soil sample
88C5-3	88C5-3-0.5	0.5	Surface sampling
	88C5-3-05	5.0	Mid-depth (No lithologic change)
	88C5-3-09	9.0	Deep soil sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.10.1.2 Groundwater Samples

Each of the three soil borings, 88C5-1, 88C5-2, and 88C5-3, were converted to temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. Monitoring well construction information is presented in **Table 3.10.1.2**. Groundwater sample locations and groundwater elevations are presented on **Figure 3-9**.

Table 3.10.1.2 AFFF AREA 9 – 1988 C-5 Fire Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
88C5-1	88C5-1-W06	6.1	9.4-19.4	9/4/2017
88C5-2	88C5-2-W6.0	5.8	1.8-11.8	10/23/2017
	88C5-2-WFD			
88C5-3	88C5-3-W06	6.1	4.5-14.5	9/4/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.10.2 Analytical Results

3.10.2.1 Soil Results

All nine soil samples collected from 1988 C-5 Fire contained PFAS concentrations below the PALs.

Table F-1 in **Appendix F** presents all PFAS soil results.

3.10.2.2 Groundwater Results

Each of the four groundwater samples collected from 1988 C-5 Fire contained at least one PFAS constituent with a concentration above the PAL. Groundwater sample results are presented in **Table 3.10.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.10.2.2 AFFF AREA 9 – 1988 C-5 Fire Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			**0.07**	**0.07**	**0.07**	**40**
88C5-1	88C5-1-W06	6.1	**0.25**	**0.23**	**0.48**	0.21
88C5-2	88C5-2-W6.0	5.8	**3.0**	**0.76**	**3.76**	2.8
	88C5-2-WFD		**3.0**	**0.80**	**3.80**	2.8
88C5-3	88C5-3-W06	6.1	**0.88**	**0.71**	**1.59**	0.70

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
PAL = Project Action Limit

Figure 3-9 presents the groundwater sample locations.

Table F-2 in **Appendix F** presents all PFAS groundwater results.

3.10.3 Conclusions

None of the soil samples collected from 1988 C-5 Fire contained PFAS constituents with concentrations above their respective PAL. All four groundwater samples collected had PFOA and PFOS concentrations that exceeded the PAL. PFBS concentrations did not exceed the PAL in any samples collected from this AFFF area.

3.11 AFFF AREA 10 – LATE 1980S C-141B CRASH

3.11.1 Sample Locations and Rationale

In the late 1980s, a C-141B crash-landed on the south of Runway 03L-21R, near Taxiway J and Taxiway S (**Figures 2-1 and 3-10**). Approximately 60 gallons of AFFF may have been used to extinguish the fire.

3.11.1.1 Soil Samples

On 4 September 2017 and 23 October 2017, four soil borings, Late80s-1, Late80s-2, Late80s-3, and Late80s-4, shown on **Figure 3-10,** were advanced to depths ranging from 12 to 21 ft bgs for lithologic logging and soil sample collection. Soil boring Late80s-1 was positioned approximately 100 feet northeast of Taxiway J in the grassy area, a potential source area. Soil boring Late80s-2 was positioned approximately 100 feet west of Taxiway J in the grassy area, a potential source area. Soil boring Late80s-3 was positioned approximately 25 feet south of Runway 03L-21R and approximately 40 feet southeast of soil boring Late80s-2 in the grass, a potential source area (OTIE, 2017b). Late 80s-4 was positioned approximately 25 feet south of Runway 03L-21R, and approximately 625 feet northeast of boring

Late80s-3. Three soil samples were collected from Late80s-1, Late80s-3, and Late80s-4 and two soil samples were collected from Late80s-2. A total of 12 soil samples were collected (11 normal and one duplicate). The rationale of the soil sampling depths is presented in **Table 3.11.1.1**.

Table 3.11.1.1 AFFF AREA 10 – Late 80s C-141B Crash Soil Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
Late80s-1	Late80s-1-0.5	0.5	Surface sampling
	Late80s-1-FD		Field Duplicate
	Late80s-1-07	7.0	Mid-depth (No lithologic change)
	Late80s-1-14	14.0	Deep soil sample
Late80s-2	Late80s-2-0.5	0.5	Surface sampling
	Late80s-2-7.0	7.0	Deep soil sample
Late80s-3	Late80s-3-0.5	0.5	Surface sampling
	Late80s-3-06	6.0	Mid-depth (No lithologic change)
	Late80s-3-12	12.0	Deep soil sample
Late80s-4	Late80s-4-0.5	0.5	Surface sampling
	Late80s-4-5.5	5.5	Mid-depth (No lithologic change)
	Late80s-4-13	13.0	Deep soil sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.11.1.2 Groundwater Samples

Each of the four soil borings, Late80s-1, Late80s-2, Late80s-3, and Late80s-4 were converted to temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. Monitoring well construction information is presented in **Table 3.11.1.2**. Groundwater sample locations and groundwater elevations are presented in **Figure 3-10**.

Table 3.11.1.2 AFFF AREA 10 – Late 80s C-141B Crash Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
Late80s-1	Late80s-1-W09	9.4	8.9-18.9	9/4/2017
Late80s-2	Lates80s-2-W09	8.9	2.7-12.7	10/23/2017
Late80s-3	Late80s-3-W11	11.1	9.5-19.5	9/4/2017
Late80s-4	Late80s-4-W13	12.7	10.0-20.0	10/23/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.11.2 Analytical Results

3.11.2.1 Soil Results

Nine of the 12 soil samples collected from Late 80s C-141B Crash contained PFAS concentrations below the PALs. PFAS were not detected in the remaining three samples.

Table F-1 in **Appendix F** presents all PFAS soil results.

3.11.2.2 Groundwater Results

The groundwater sample collected from Late 80s C-141B Crash contained at least one PFAS constituent with a concentration above the PAL. Groundwater sample results are presented in **Table 3.11.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.11.2.2 AFFF AREA 10 – Late 80s C-141B Crash Groundwater Sample Results

Sample Location	DTW (ft btoc)	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
Late80s-1	Late80s-1-W09	9.4	**0.37**	**8.1**	**8.47**	0.93
Late80s-2	Lates80s-2-W09	8.9	**0.17**	**2.4**	**2.57**	0.25
Late80s-3	Late80s-3-W11	11.1	**0.15**	**2.1**	**2.25**	0.18
Late80s-4	Late80s-4-W13	12.7	**0.11**	**1.4**	**1.51**	0.24

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
PAL = Project Action Limit

3.11.3 Conclusions

None of the soil samples collected from Late 80s C-141B Crash contained PFAS constituents with concentrations above their respective PALs. Concentrations of PFOA and PFOS exceeded the PAL in all four groundwater samples collected. PFBS concentrations did not exceed the PAL in the sample collected from the AFFF area.

3.12 AFFF AREA 11 – 2001 AIRCRAFT CRASH

3.12.1 Sample Locations and Rationale

In 2001, a small aircraft crash-landed on the Runway 03R-21L (**Figures 2-1 and 3-11**). Less than 5 gallons of AFFF was used to extinguish the fire.

3.12.1.1 Soil Samples

On 3 September 2017, four soil borings, 2001Crash-1, 2001Crash-2, 2001Crash-3, and 2001Crash-4, shown on **Figure 3-11,** were advanced to depths ranging from 17 to 37 ft bgs for lithologic logging and soil sample collection. Soil boring 2001Crash-1 was positioned approximately 140 feet southeast of

Runway 03R-21L, a potential accumulation area. Soil boring 2001Crash-2 was positioned approximately 120 feet northwest of Runway 03R-21L, a potential accumulation area. Soil boring 2001Crash-3 was positioned approximately 70 feet southeast of Runway 03R-21L, a potential source area. Soil boring 2001Crash-4 was positioned approximately 120 feet northwest of Runway 03R-21L, a potential source area. Three soil samples were collected from each of the soil borings. A total of 13 soil samples were collected (12 normal and one duplicate). The rationale of the soil sampling depths is presented in **Table 3.12.1.1**.

Table 3.12.1.1 AFFF AREA 11 – 2001 Aircraft Crash Soil Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
2001Crash-1	2001Crash-1-0.5	0.5	Surface sampling
	2001Crash-1-7.5	7.5	Mid-depth (No lithologic change)
	2001Crash-1-25	25.0	Deep soil sample
2001Crash-2	2001Crash-2-0.5	0.5	Surface sampling
	2001Crash-2-7.5	7.5	Mid-depth (No lithologic change)
	2001Crash-2-25	25.0	Deep soil sample
2001Crash-3	2001Crash-3-0.5	0.5	Surface sampling
	2001Crash-3-FD		Field Duplicate
	2001Crash-3-06	6.0	Mid-depth (No lithologic change)
	2001Crash-3-09	9.0	Deep soil sample
2001Crash-4	2001Crash-4-0.5	0.5	Surface sampling
	2001Crash-4-7.5	7.5	Mid-depth (No lithologic change)
	2001Crash-4-11.5	11.5	Deep soil sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.12.1.2 Groundwater Samples

Soil borings 2001Crash-3 and 2001Crash-4 were converted into temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. Monitoring well construction information is presented in **Table 3.12.1.2**. Groundwater sample locations and groundwater elevations are presented on **Figure 3-11**.

Table 3.12.1.2 AFFF AREA 11 – 2001 Aircraft Crash Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
2001Crash-3	2001Crash-3-W08	9.0	7.0-17.0	9/3/2017
2001Crash-4	2001Crash-4-W12	12.0	9.0-19.0	9/3/2017
	2001Crash-4-WFD			

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.12.2 Analytical Results

3.12.2.1 Soil Results

Five of 13 soil samples collected from the 2001 Aircraft Crash contained PFAS concentrations below the PALs. PFAS were not detected in the remaining eight soil samples.

Table F-1 in **Appendix F** presents all PFAS soil results.

3.12.2.2 Groundwater Results

The groundwater sample collected from the 2001 Aircraft Crash contained at least one PFAS constituent with a concentration above the PAL. Groundwater sample results are presented in **Table 3.12.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.12.2.2 AFFF AREA 11 – 2001 Aircraft Crash Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
2001Crash-3	2001Crash-3-W08	9.0	0.021	**0.12**	**0.141**	0.033
2001Crash-4	2001Crash-4-W12	12.0	0.018 J	**0.088**	**0.106**	0.010 J
	2001Crash-4-WFD		0.021	**0.10**	**0.121**	0.0087 J

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
ft = feet
DTW = depth to water
PAL = Project Action Limit
J = Estimated detect at concentration shown

3.12.3 Conclusions

None of the soil samples collected from the 2001 Aircraft Crash contained PFAS constituents with concentrations above their respective PALs. All three groundwater samples contained PFOS concentrations above the PAL. PFOA concentrations did not exceed the PAL in groundwater from this AFFF area. PFBS concentrations did not exceed the PAL in any groundwater samples collected from this AFFF area.

3.13 AFFF AREA 12 – 2014 E75 AIR SHOW CRASH

On 4 May 2014, a Boeing E75 Stearman Aircraft was performing an aerial demonstration at the Travis AFB Air Show. The aircraft contacted the runway, inverted, and slid to a stop. The right wing and cockpit was consumed by fire (**Figures 2-1 and 3-12**). Less than 5 gallons of AFFF was used to extinguish the fire (OTIE, 2017b).

3.13.1 Sample Locations and Rationale

3.13.1.1 Soil Samples

On 4 September 2017 and 23 October 2017, three soil borings, 2014E75-1, 2014E75-2, and 2014E75-3, shown on **Figure 3-12,** were advanced to 20 ft bgs for lithologic logging and soil sample collection. Soil boring 2014E75-1 was positioned approximately 50 feet southeast of Runway 03R-21L in the grassy area, a potential accumulation area. Soil boring 2014E75-2 was positioned approximately 30 feet southeast of Runway 03R-21L and approximately 130 feet northeast of soil boring 2014E75-1 in the grassy area, a potential accumulation area. Soil boring 2014E75-3 was positioned approximately 150 feet southeast of Runway 03R-21L in the grassy area, a potential accumulation area (OTIE, 2017b). Three soil samples were collected from each of the borings. A total of 11 soil samples were collected (nine normal and two duplicate). The rationale for the soil sampling depths is presented in **Table 3.13.1.1**.

Table 3.13.1.1 AFFF AREA 12 – 2014 E75 Air Show Crash Soil Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
2014E75-1	2014E75-1-0.5	0.5	Surface sampling
	2014E75-1-06	6.0	Mid-depth (No lithologic change)
	2014E75-1-13	13.0	Deep soil sample
2014E75-2	2014E75-2-0.5	0.5	Surface sampling
	2014E75-2-5.5	5.5	Mid-depth (No lithologic change)
	2014E75-2-FD		Field Duplicate
	2014E75-2-10.5	10.5	Deep soil sample
2014E75-3	2014E75-3-0.5	0.5	Surface sampling
	2014E75-DUP-0.5		Field Duplicate
	2014E75-3-5.5	5.5	Mid-depth (No lithologic change)
	2014E75-3-13.5	13.5	Deep soil sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.13.1.2 Groundwater Samples

Each of the three soil borings, 2014E75-1, 2014E75-2, and 2014E75-3 were converted to temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. Monitoring well construction information is presented in **Table 3.13.1.2**. Groundwater sample locations and groundwater elevations are presented on **Figure 3-12**.

Table 3.13.1.2 AFFF AREA 12 – 2014 E75 Air Show Crash Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
2014E75-1	2014E75-1-W12	12.5	9.0 -19.0	9/4/2017
2014E75-2	2014E75-2-W11	11.5	9.1-19.1	9/4/2017
2014E75-3	2014E75-3-W13	14.0	9.4-19.4	10/23/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.13.2 Analytical Results

3.13.2.1 Soil Results

Six of the nine soil samples collected from the 2014 E75 Air Show Crash contained PFAS concentrations below the PALs. PFAS were not detected in the remaining three soil samples.

Table F-1 in **Appendix F** presents all PFAS soil results.

3.13.2.2 Groundwater Results

Groundwater samples collected from the 2014 E75 Air Show Crash contained at least one PFAS constituent with a concentration above the PAL. Groundwater sample results are presented in **Table 3.13.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.13.2.2 AFFF AREA 12 – 2014 E75 Air Show Crash Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
2014E75-1	2014E75-1-W12	12.5	**0.12**	**0.83**	**0.95**	0.047
2014E75-2	2014E75-2-W11	11.5	**0.20**	**0.82**	**1.02**	0.12
2014E75-3	2014E75-3-W13	14.0	**0.12**	**1.0**	**1.12**	0.065

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
PAL = Project Action Limit

3.13.3 Conclusions

None of the soil samples collected from the 2014 E75 Air Show Crash contained PFAS constituents with concentrations above their respective PAL. All three groundwater samples contained PFOS and PFOA at a concentration above the PAL. PFBS did not exceed the PAL in any samples collected at this AFFF area.

3.14 AFFF AREA 13 – NOZZLE SPRAY TEST AREA

The 900 ramp is a paved aircraft parking area surrounded by grass on the south, east, and west sides. An annual nozzle spray test is performed to check equipment and evaluate the chemical balance of the AFFF. Fire engines are parked on space 903 and AFFF is sprayed toward space 904 (**Figures 2-1 and 3-13**). The spray test area was used for many years and the exact amount of AFFF cannot be estimated.

3.14.1 Sample Locations and Rationale

3.14.1.1 Soil Samples

On 5 September 2017, three soil borings, NOZ-1, NOZ-2, and NOZ-3, shown on **Figure 3-13,** were advanced to a depth ranging from 20 to 22 ft bgs for lithologic logging and soil sample collection. Soil boring NOZ-1 was positioned approximately 100 feet west of Ramp 900 and approximately 75 feet northwest of Taxiway N in the grassy area. Soil boring NOZ-2 was positioned approximately 75 feet southwest of Ramp 900 and approximately 225 feet northwest of Taxiway N, in the grassy area. Soil boring NOZ-3 was positioned approximately 75 feet southwest of Ramp 900 and approximately 370 feet northwest of Taxiway N in the grassy area (OTIE, 2017b). Three soil samples were collected from each of the borings. A total of 10 soil samples were collected (nine normal and one duplicate). The rationale for the soil sampling depths is presented in **Table 3.14.1.1**.

Table 3.14.1.1 AFFF AREA 13 – Nozzle Spray Test Area Soil Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
NOZ-1	NOZ-1-0.5	0.5	Surface sampling
	NOZ-1-08	8.0	Mid-depth (No lithologic change)
	NOZ-1-11.5	11.5	Deep soil sample
	NOZ-1-FD		Field Duplicate
NOZ-2	NOZ-2-0.5	0.5	Surface sampling
	NOZ-2-07	7.0	Mid-depth (No lithologic change)
	NOZ-2-11.5	11.5	Deep soil sample
NOZ-3	NOZ-3-0.5	0.5	Surface sampling
	NOZ-3-7.5	7.5	Mid-depth (No lithologic change)
	NOZ-3-13.5	13.5	Deep soil sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.14.1.2 Groundwater Samples

Each of the three soil borings NOZ-1, NOZ-2, and NOZ-3 were converted to temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. Monitoring well construction information is presented in **Table 3.14.1.2**. Groundwater sample locations and groundwater elevations are presented on **Figure 3-13**.

Table 3.14.1.2 AFFF AREA 13 – Nozzle Spray Test Area Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
NOZ-1	NOZ-1-W14	13.9	9.8-19.8	9/5/2017
NOZ-2	NOZ-2-W16	15.6	9.7-19.7	9/5/2017
NOZ-3	NOZ-3-W15	14.8	11.8-21.8	9/5/2017

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification

3.14.2 Analytical Results

3.14.2.1 Soil Results

Four of the 10 soil samples collected from the Nozzle Spray Test Area contained PFAS concentrations above the PAL. Soil sample results are presented in **Table 3.14.2.1**. **Table F-1** in **Appendix F** presents all PFAS soil results.

Table 3.14.2.1 AFFF AREA 13 – Nozzle Spray Test Area Soil Sample Results

Sample Location	Sample ID	Sample Depth (ft bgs)	PFOA	PFOS	PFBS
PAL[1]			126	126	130,000
NOZ-1	NOZ-1-0.5	0.5	0.63 J	110	0.55 U
	NOZ-1-08	8.0	35	7.2	2.0
	NOZ-1-11.5	11.5	1.3	6.7 J	0.66 U
	NOZ-1-FD		1.3	4.8 J	0.72 U
NOZ-2	NOZ-2-0.5	0.5	7.8 U	**2,000**	7.8 U
	NOZ-2-07	7.0	51	**910**	190
	NOZ-2-11.5	11.5	9.1	45	12
NOZ-3	NOZ-3-0.5	0.5	7.2 U	**500**	7.2 U
	NOZ-3-7.5	7.5	85	**1,400**	60
	NOZ-3-13.5	13.5	79	4.4	11

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PAL
Concentrations are presented in µg/kg (micrograms per kilogram).
For analyte abbreviations refer to **Appendix F.**

DEFINITIONS:
bgs = below ground surface
DTW = depth to water
ft = feet
J = Estimated detect at concentration shown
PAL = Project Action Limit
U = non-detect at reporting limit shown

3.14.2.2 Groundwater Results

All three groundwater samples collected from the Nozzle Spray Test Area contained at least one PFAS constituent with a concentration above the PAL. Groundwater sample results are presented in **Table 3.14.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.14.2.2 AFFF AREA 13 – Nozzle Spray Test Area Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
NOZ-1	NOZ-1-W14	13.9	**1.4**	**30**	**31.4**	1.5
NOZ-2	NOZ-2-W16	15.6	**2.4**	**7.4**	**9.8**	13
NOZ-3	NOZ-3-W15	14.8	**88**	**200**	**288**	**140**

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
PAL = Project Action Limit

3.14.3 Conclusions

Concentrations of PFOS exceeded the PAL in four of 10 soil samples (NOZ-2-0.5, NOZ-2-07, NOZ-3-0.5, and NOZ-3-7.5). All three groundwater samples contained PFOA and PFOS concentrations above the PAL. PFBS concentrations did not exceed the PAL in any samples collected from this AFFF area.

3.15 AFFF AREA 14 – FORMER SEWAGE TREATMENT PLANT (STP) AND SLUDGE DISPOSAL AREA

The Former STP and Sludge Disposal Area was located in the southeastern portion of Travis AFB and east of FT005 and Carson Road (**Figures 2-1 and 3-14**). The STP operated from the 1950s to the late 1970s. AFFF may have entered the facility through floor/sewer drains located throughout the Base (OTIE, 2017b).

3.15.1 Sample Locations and Rationale

3.15.1.1 Soil and Sediment Samples

On 28 August 2017, two soil borings, FWWTP-1 and FWWTP-2, shown on **Figure 3-14,** were advanced to 20 and 22 ft bgs for lithologic logging and soil sample collection. Soil boring FWWTP-1 was positioned approximately 790 feet south of Outer Perimeter Road and approximately 200 feet west of the Travis AFB boundary; a potential accumulation area. Soil boring FWWTP-2 was positioned approximately 380 feet south of Outer Perimeter Road and approximately 600 feet east of the access road; a potential accumulation area (OTIE, 2017b). Three soil samples were collected from each of the borings, for a total of six samples. One sediment sample, FWWTP-SED-1, was collected approximately 50 feet west of the Vallejo Road and Carson Road junction from within in Union Creek; a potential accumulation point. The rationale for the soil sampling depths is presented in **Table 3.15.1.1**.

Table 3.15.1.1 AFFF AREA 14 – Former Sewage Treatment Plant and Sludge Disposal Area Soil and Sediment Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
FWWTP-1	WWTP-1-1.0	1.0	Surface sampling
	WWTP-1-10	10.0	Lithologic change
	WWTP-1-16	16.0	Deep soil sample
FWWTP-2	WWTP-2-1.0	1.0	Surface sampling
	WWTP-2-10	10.0	Lithologic change
	WWTP-2-16	16.0	Deep soil sample
FWWTP-SED-1	WWTP-SED-1	0.5	Sediment sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.15.1.2 Groundwater Samples

Each of the two soil borings FWWTP-1 and FWWTP-2 were converted to temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. In addition, a sample was collected from one permanent groundwater monitoring well (FWWTP-GW-1). Monitoring well FWWTP-GW-1 is located approximately 425 feet southeast of Vallejo Road, a potential accumulation point. Well construction information is presented in **Table 3.15.1.2**. Groundwater sample locations and groundwater elevations are presented on **Figure 3-14**.

Table 3.15.1.2 AFFF AREA 14 – Former Sewage Treatment Plant and Sludge Disposal Area Well Information

Sample Location	Sample ID	DTW (ft btoc)	Screened Interval (ft btoc)	Sample Date
FWWTP-1	WWTP-1-GW	18	10.0-20.0	8/28/2017
FWWTP-2	WWTP-2-W10	10	10.0-20.0	8/28/2017
FWWTP-GW-1	WWTP-GW-1	13.27	NA	8/25/2017

NOTE:
btoc = below top of casing
DTW = depth to water
ft = feet
ID = identification
NA = Not available

3.15.2 Analytical Results

3.15.2.1 Soil and Sediment Results

Four of the six soil samples and the one sediment sample collected from the Former STP and Sludge Disposal Area contained PFAS concentrations below the PALs. PFAS were not detected in the remaining two soil samples.

Tables F-1 and F-3 in **Appendix F** presents the soil boring and sediment PFAS results.

3.15.2.2 Groundwater Results

Soil borings FWWTP-1 and FWWTP-2 were converted into temporary monitoring wells. One groundwater sample was collected from each temporary monitoring well. Groundwater was also collected from permanent monitoring well FWWTP-GW-1. Groundwater results are presented in **Table 3.15.2.2**. **Table F-2** in **Appendix F** presents all PFAS groundwater results.

Table 3.15.2.2 AFFF AREA 14 – Former Sewage Treatment Plant and Sludge Disposal Area Groundwater Sample Results

Sample Location	Sample ID	DTW (ft btoc)	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]			0.07	0.07	0.07	40
FWWTP-1	WWTP-1-GW	18	0.011 U	0.010 J	0.010	0.0070 J
FWWTP-2	WWTP-2-W10	10	0.017 J	0.058	**0.075**	0.026
FWWTP-GW-1	WWTP-GW-1	13.27	0.043	**0.15**	**0.19**	0.027

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
btoc = below top of casing
DTW = depth to water
ft = feet
J = Estimated detect at concentration shown
PAL = Project Action Limit
U = non-detect at reporting limit shown

3.15.3 Conclusions

None of the soil or sediment samples collected from the Former STP and Sludge Disposal Area contained PFAS constituents with concentrations above their respective PALs. One of three groundwater samples contained PFOS concentrations above the PAL. The sum of PFOA and PFOS concentrations exceeded the PAL in two of three groundwater samples. PFOA concentrations did not exceed the PAL in groundwater from this AFFF area. PFBS concentrations did not exceed the PAL in any groundwater samples collected from this AFFF area.

3.16 AFFF AREA 15 – OUTFALL #1

3.16.1 Sample Locations and Rationale

Outfall #1 is located at the southern tip of Travis AFB near Perimeter Road and the southwest end of Runway 03L-21R (**Figures 2-1 and 3-15**). Many releases of AFFF were reported on Base, and AFFF likely migrated with storm water into Union Creek. The amount of AFFF discharged into Union Creek is unknown.

3.16.1.1 Sediment Sample

One sediment sample, Outfall1-SED-1, shown on **Figure 3-15,** was collected from the center of Union Creek, approximately 50 feet southeast of the end of the access road.

Table 3.16.1.1 AFFF AREA 15 – Outfall #1 Sediment Sample

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
Outfall1-SED-1	Outfall1-SED-1	0.5	Sediment sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.16.2 Analytical Results

3.16.2.1 Sediment Results

The sediment sample collected from Outfall #1 contained PFAS concentrations below the PALs.

Table F-3 in **Appendix F** presents all PFAS sediment sample results.

3.16.3 Conclusions

The sediment sample collected at Outfall #1 did not contain any PFAS constituents with concentrations above their respective PALs.

3.17 AFFF AREA 16 – OUTFALL #2

3.17.1 Sample Locations and Rationale

Outfall #2 is located approximately 2,200 feet southeast of Building 895 and 2,800 feet southwest of the Current FTA (**Figures 2-1 and 3-16**). Many releases of AFFF were reported on Base, and AFFF likely migrated with storm water into Union Creek. The amount of AFFF discharged into Union Creek is unknown.

3.17.1.1 Sediment Sample

One sediment sample, Outfall2-SED-1, shown on **Figure 3-16,** was collected from the bed of Union Creek in the approximate center of the channel.

Table 3.17.1.1 AFFF AREA 16 – Outfall #2 Sediment Samples

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
Outfall2-SED-1	Outfall2-SED-2	0.5	Sediment sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.17.2 Analytical Results

3.17.2.1 Sediment Results

The sediment sample collected from Outfall #2 contained PFAS concentrations below the PALs.

Table F-3 in **Appendix F** presents all PFAS sediment sample results.

3.17.3 Conclusions

The sediment sample collected at Outfall #2 did not contain any PFAS constituents with concentrations above their respective PALs.

3.18 AFFF AREA 17 – SOUTH BASE BOUNDARY GROUNDWATER TREATMENT PLANT

3.18.1 Sample Locations and Rationale

The SBB GWTP is located to the north of Perimeter Road and east of the Current FTA (Figures 2-1 and 3-17). This GWTP processes the co-mingled groundwater from extraction wells at ERP sites FT005, SS029, and SS030. SS030 is immediately downgradient of the current FTA and influent/effluent sampling was performed to verify presence of AFFF in the treated and untreated groundwater.

3.18.1.1 Sediment Sample

One sediment sample, Outfall2-SED-1, shown on **Figure 3-17,** was collected from the center of Union Creek.

Table 3.18.1.1 AFFF AREA 17 – South Base Boundary Groundwater Treatment Plant Sediment Sample

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
SBBGWTP-SED-1	SBBGWTP-SED-1	0.5	Sediment sample

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.18.1.2 Influent/Effluent Samples

One sample each was collected from the influent and effluent sample ports at the SBB GWTP to evaluate the presence of PFAS in process water collected through the extraction well network from ERP Sites FT005, SS029, and SS030 before and after treatment at the GETS, and prior to discharge into Union Creek.

Table 3.18.1.2 AFFF Area 17 – South Base Boundary Groundwater Treatment Plant Process Water

Sample Location	Sample ID	Depth (ft bgs)	Reasoning
SBBGWTP-IN-1	SGTP-INFLUENT	Not applicable	Assess the presence/absence of PFAS before treatment
SBBGWTP-EF-1	SGTP-EFFLUENT	Not applicable	Assess the presence/absence of PFAS after treatment and prior to discharge to Union Creek

DEFINITIONS:
bgs = below ground surface
ft = feet
ID = identification

3.18.2 Analytical Results

3.18.2.1 Sediment Results

The sediment sample collected from SBB GWTP contained PFAS concentrations below the PALs. **Table F-3** in **Appendix F** presents all PFAS sediment sample results.

3.18.2.2 Influent/Effluent Sample Results

One influent and one effluent sample were collected at the SBB GWTP and analyzed for PFAS. PFOS, PFOA, and PFBS results are presented in **Table 3.18.2.2** below, are shown on **Figure 3-17**. **Table F-4** in **Appendix F** presents all PFAS process water results.

Table 3.18.2.2 AFFF AREA 17 – South Base Boundary Groundwater Treatment Plant Process Water Sample Results

Sample Location	Sample ID	PFOA	PFOS	PFOA+PFOS	PFBS
PAL[1]		0.07	0.07	0.07	40
SBBGWTP-IN-1	SGTP-INFLUENT	**1.6**	**1.2**	**2.8**	0.42
SBBGWTP-EF-1	SGTP-EFFLUENT	**0.86**	**0.52**	**1.38**	0.36

NOTES:
[1]PALs are explained in **Section 1.1** of this report.
Bolded = Concentration exceeds the PALs
Concentrations are presented in µg/L (micrograms per liter).

DEFINITIONS:
PAL = Project Action Limit

3.18.3 Conclusions

The sediment sample collected at the SBB GWTP did not contain PFAS constituents with concentrations above their respective PALs. PFAS concentrations were detected above the PALs in both the influent and effluent samples. PFAS concentrations were higher in the influent sample than the effluent sample.

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4.0 MIGRATION PATHWAYS AND EXPOSURE TARGETS

Migration pathways and exposure targets were evaluated in the PA Report (CH2M HILL, 2015) in accordance with the Guidance for Performing PAs under CERCLA (U.S. EPA, 1991), augmented with additional information from the Base during preparation of this SI Report, and presented below in accordance with the Guidance for Performing SIs under CERCLA (U.S. EPA, 1992).

4.1 GROUNDWATER MIGRATION PATHWAY

4.1.1 Local Hydrogeologic Setting

Travis AFB is located along the eastern edge of the Fairfield-Suisun Hydrologic Basin, a hydrologically distinct structural depression adjacent to the Sacramento Valley segment of the Central Valley Province. The primary water-bearing deposits at Travis AFB are coarse-grained sediment lenses (sand and gravel) within the extremely heterogeneous Older Alluvium and Younger Alluvium. On-Base, alluvium reaches a maximum thickness of about 100 ft. The depth to bedrock is typically around 40 to 60 ft bgs; however, bedrock was encountered as deep as 100 ft bgs in the southwestern portion of the Base.

Depth to groundwater usually fluctuates between 2 to 5 ft in most wells between fall and spring, with the maximum elevations in spring and the minimum elevations in fall. The depth to groundwater is generally 6 to 20 ft bgs, with the exception of the northwest corner of the Base where groundwater was encountered up to 40 ft bgs. The regional groundwater gradient is generally toward the south or southeast. Groundwater recharge occurs from direct infiltration of rainfall on the valley surface, and from the infiltration of runoff through local streambeds and creek beds. Natural groundwater discharge occurs at the marshlands near Potrero Hills, south of Travis.

The groundwater flow system at Travis AFB is influenced by the configuration of alluvium and bedrock. Flow within the alluvium is consistently to the south; however, three groundwater mounds exist on Base. Groundwater in the immediate vicinity of a mound flows radially away from the mound and then rejoins the regional southerly flow. Mounding occurs because bedrock geologic materials in vicinity of the mound are less permeable than the surrounding materials. Groundwater occurs under unconfined or semi-confined conditions and flows in a predominantly horizontal direction. Typical groundwater flow rates in the alluvium in the Base area are on the order of 100 to 200 ft per year, assuming an effective porosity of 20 percent, which is typical for the fine-grained sediments encountered at the Base (CH2M HILL, 2014).

The Travis AFB drinking water is purchased from the City of Vallejo Water Department and California State Water Project that originates in Lake Oroville, flows through the Sacramento River to the North Bay Aqueduct pumping facility, and then to the Base water treatment plant. The treatment plant also receives surface water from the Solano Project, which provides water from Lake Berryessa that is transported via the Putah South Canal to the terminal reservoir. When the Base water treatment plant is down for maintenance, water is obtained from up to five groundwater production wells (only three production wells are currently functional) located on Cypress Golf Course, approximately 4 miles north of the Base (CH2MHILL, 2015). The total depths of the five water production wells range from approximately 480 to 984 ft bgs (CH2MHILL, 2015). The wells are regularly maintained, but used only in emergencies. The five wells are completed in a separate aquifer not connected to the aquifer beneath the Travis AFB property. The wells have been sampled, and PFAS were not detected in any well.

4.1.2 Hydrologic Setting

Union Creek is the primary surface water pathway for runoff at Travis AFB. The headwaters of Union Creek are approximately 1 mile north of the Base, near the Vaca Mountains, where the creek is an intermittent stream. Union Creek splits into two branches north of the Base, with the main (eastern) branch being impounded into a recreation pond designated as Duck Pond. At the exit from Duck Pond, the creek is routed through a storm sewer that runs beneath the runway to the southeastern area of the Base where it empties into an open creek channel.

Surface runoff at Travis AFB has been altered by the rerouting of both branches of Union Creek, the installation of storm sewers and ditches, and general development. Surface water runoff on the Base ultimately drains to Union Creek. Union Creek flows southwest off Base into Hill Slough, a seasonally and semi-permanently flooded wetland from which water flows into Suisun Marsh (CH2M HILL, 2014).

4.2 SURFACE WATER MIGRATION PATHWAY

Lake Oroville and Lake Berryessa, the sources for the municipal water supplied to Travis AFB and surrounding community, are located to the north of the Base. Therefore, these lakes are not located along the 15-mile surface water pathway from the facility. Surface water runoff from the Base and discharge from the SBB GWTP is directed through a series of manmade drainage structures that discharge from Outfall # 1 (the farthest downstream location) into Union Creek (**Figure 4-1**). Union Creek is a perennial surface water body that generally flows south and west to the confluence with Suisun Marsh, which empties into Suisun Bay approximately 10 miles downstream from the Base.

4.2.1 Actual or Potential Releases to Surface Water

Surface water samples were not collected as part of this SI. However, a sample of the effluent from the SBB GWTP GETS was collected prior to its discharge into Union Creek. While PFAS concentrations exceeded the PAL for drinking water in the effluent sample, PALs do not exist for surface water. Potential receptors for surface water are primarily biological receptors that inhabit surface water bodies.

There are multiple endangered and threatened species in the County (**Section 4.3.3.2**); however, their exact locations are unknown. Approximately 23 miles of wetland frontage is present along the pathway, and the entire AFB is located within a designated federal wilderness area/wildlife preserve. The 15-mile surface water migration pathway is completed in Suisun Bay. There is no available documentation of commercial fishing along the pathway; however, recreational fishing is assumed. Surface water on-base and downstream of AFFF Area 17 is not used for drinking water. Therefore, it is not expected that human receptors could be exposed to PFAS in surface water through ingestion. There could be incidental contact through dermal exposure by Travis AFB personnel when performing occasional maintenance work within on-base surface water drainages.

4.3 SOIL AND SEDIMENT EXPOSURE PATHWAY

4.3.1 Local Geology

Descriptions of the geology in vicinity of Travis AFB are presented in the PA report (CH2MHILL, 2015), and are summarized below.

Travis AFB is on the western edge of the Sacramento Valley segment of the Great Valley Geomorphic Province. The Great Valley Geomorphic Province is a southeast-trending, sediment-filled basin. The

Coast Range Geomorphic Province, which consists of folded and uplifted bedrock mountains, lies to the west of Travis AFB.

Gently sloping alluvial plains and fans overlying undulating bedrock characterize the geomorphology of Travis AFB. Coalescing, low-relief fans were deposited by the Ulatis, Union, Alamo, Laurel, and Suisun Creeks in the area. Most of the alluvial material was deposited before the last period of glaciation during the Pleistocene Epoch and is referred to as Older Alluvium. Drainages were incised into the alluvial fans during the last glaciation in response to the global lowering of the sea level. During the last 15,000 years, as sea levels rose, the drainages have refilled with alluvium. This material is referred to as Younger Alluvium. Topographic relief in the form of low ridges is provided by outcrops of sedimentary rocks characterized as bedrock in the Travis AFB area. These outcrops are mantled by colluvium deposited by sheet wash and mass wasting from the ridges. The colluvium interfingers with the alluvium, and the two units are indistinguishable in the field.

Older Alluvium makes up most of the sediment found on the Base. Alluvium beneath Travis AFB ranges in thickness from zero to about 100 ft, but the alluvium thickness is typically about 20 to 50 ft. The alluvium is underlain by bedrock consisting of semi-consolidated to consolidated sedimentary units; the alluvium and bedrock are sometimes difficult to distinguish in the field. The alluvium consists primarily of silts and clays that are low in permeability and do not readily transmit groundwater. More permeable units, such as sands and gravels, are not laterally continuous, and occur as lenses rather than as continuous beds. Typically, the coarser-grained lenses cannot be correlated between data points.

Coarse sands and gravels are deposited in streambeds and immediately adjacent to stream levees; finer silts and clays are deposited away from streams during flood events. Consequently, the discontinuous sand lenses are usually elongated parallel to streams and are contained in an overall matrix of fine-grained silts and clays in vicinity of Travis AFB. Sand lenses throughout the Base trend south-southeast. These discontinuous permeable zones are preferential pathways that create anisotropic groundwater flow in the horizontal plane.

Bedrock in the area includes Tertiary and Pliocene sedimentary rocks overlying Late Cretaceous sedimentary rocks. Individual stratigraphic units outcropping on the Base include, from oldest to youngest, the Domengine Sandstone, the Nortonville Shale, the Markley Sandstone, and the Tehama Formation. Outcrops of the relatively resistant bedrock units form most of the topographic high points on the Base.

The northwest-southeast trending axes of folds in the rocks are evident in bedrock outcrops on the Base. Erosion of the less-resistant bedrock units, such as the Nortonville Shale, formed the low areas that were later filled with alluvium. These valleys, created by down-cutting of ancient streams into the folded bedrock during the Pleistocene Epoch, are filled with alluvium, as previously described. The folded units are observed to plunge to the southeast; the depth to bedrock in the alluvium-filled valleys increases to the south (CH2M HILL, 2014).

Soil is encountered in Travis AFB borings as primarily silt, silty sand or clay. The maximum depth of exploration was 37 feet (**Appendix A-3**).

4.3.2 Soil Exposure Receptors

4.3.2.1 Human Exposure Receptors

The whole of Travis AFB is located within a designated federal wilderness area/wildlife preserve. There are over 20,000 residents living on the Base, and over 12,000 full-time workers. Additionally, the Base houses two schools with approximately 1,200 full-time students and staff, and three daycare facilities (population unknown). No residences, school, or daycare facilities are located within 200 feet of sources at the Base. The nearest on-Base elementary school is located approximately 3,300 feet hydrologically upgradient of Hangar Building 811, and the nearest on-Base child development center is located approximately 2,900 feet hydrologically upgradient of Hangar Building 811 (CH2M HILL, 2015).

AFFF areas with PFAS soil concentrations that exceeded the PALs are located in multiple areas of the Base, adjacent to active buildings, hangars, and runways (**Section 4.3.2**). The exact worker population located in areas with PFAS contamination is unknown. The estimated population within 4 miles of Fire Station 1 is 34,000 (CH2M HILL, 2015).

4.3.2.2 Ecological Receptors

An officially designated federal wilderness area/wildlife preserve encompasses Travis AFB (CH2MHILL, 2015). The following endangered species are known to inhabit Solano County:

- Plover, Mountain – Bird
- Rail, California Clapper – Bird
- Pelican, Brown – Bird
- Shrimp, Vernal Pool Tadpole – Crustacean
- Shrimp, Vernal Pool Fairy – Crustacean
- Salmon, Chinook (Central Valley Spring Run) – Fish
- Salmon, Chinook (Central Valley Winter Run) – Fish
- Smelt, Delta – Fish
- Splittail, Sacramento – Fish
- Steelhead, Central California Population – Fish
- Steelhead, California Central Valley Population – Fish
- Beetle, Delta Green Ground – Insect
- Beetle, Valley Elderberry Longhorn – Insect
- Mouse, Salt Marsh Harvest – Mammal
- Grass, Solano – Plant
- Grass, Colusa – Plant
- Navarretia, Many-Flowered – Plant

- Navarretia, Few-Flowered – Plant
- Goldfields, Contra Costa – Plant
- Stonecrop, Lake County – Plant
- Salamander, California Tiger – Amphibian

An informal consultation package was submitted to the U.S. Fish and Wildlife Service prior to mobilization to the field in compliance with statutory requirements to assess the potential risks posed to threatened and endangered species. The consultation package was prepared in accordance with legal requirements set forth under regulations implementing Section 7 of the Endangered Species Act, and documented identified locations of vernal pool fairy shrimp and Contra Costa goldfields (OTIE, 2017a) (**Figure 4-2**).

4.4 AIR MIGRATION PATHWAY

4.4.1 Release to Air

Air exposure pathways account for hazardous substance migration through the air in gaseous or particulate form. Emissions of contaminated fugitive dust (e.g., contaminated soil particles) represent a potential contaminant release to air. Accordingly, each of the AFFF Areas with PFAS concentrations exceeding the PALs in soil represents a potential air exposure pathway. This is especially true since all concentrations exceeding the PALs in soil except one are from surface locations. No samples of air or fugitive dust were collected.

4.4.2 Air Exposure Receptors

The estimated population within 4 miles of Fire Station 1 is 34,000 (CH2M HILL, 2015). Travis AFB is encompassed by an officially designated federal wilderness area/wildlife preserve (CH2MHILL, 2015), and multiple endangered species are known to exist within Solano County (**Section 4.3.3.2**); however, their exact locations are unknown. Wetlands and marshes are also present within the 4-mile radius of sources at the AFB.

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5.0 SAMPLING RESULTS

5.1 DATA SUMMARY TABLES

This section contains data summary tables for soil, sediment, groundwater and process water for PFBS, PFOA, PFOS and the sum of PFOS and PFOA concentrations in groundwater. Complete analytical results for the 18 PFAS analytes are provided in **Appendix F**.

Table 5.1 Summary of Soil Analytical Results

					Analyte	PFBS	PFOA	PFOS
					PAL:	130,000	126	126
Location ID	Sample ID	Lab ID	Sample Date	Sample Depth (ft bgs)	Sample Type	µg/kg	µg/kg	µg/kg
AFFF Area 1 FT005 (Former FTA 4)								
FT005-1	FT005-1-1.0	FAT217	8/24/2017	1.0	N	3.7 J	140	690
	FT005-1-12	FAT218	8/24/2017	12.0	N	7.3	40	7.2
	FT005-1-19.5	FAT219	8/25/2017	19.5	N	1.4	9.4	8.4
FT005-2	FT005-2-1.0	FAT220	8/24/2017	1.0	N	0.48 J	8.9	340
	FT005-2-12	FAT221	8/25/2017	12.0	N	1.6	3.7	1.5
	FT005-2-21	FAT222	8/25/2017	21.0	N	1.4	3.3	0.97 J
FT005-3	FT005-3-1.0	FAT223	8/24/2017	1.0	N	0.52 U	0.52 U	1.2
	FT005-3-11.5	FAT224	8/25/2017	11.5	N	0.60 U	5.9	0.39 J
	FT005-3-23	EGG325	8/25/2017	23.0	N	0.58 U	0.47 J	0.58 U
AFFF Area 2 Current Fire Training Area (FTA)								
CFTA-1	CFTA-1-1.0	FAT207	8/25/2017	1.0	N	0.53 J	1.3	180
	CFTA-1-10.5	FKH827	10/24/2017	10.5	N	0.59 U	0.59 U	0.59 U
	CFTA-1-16.5	FKH828	10/24/2017	16.5	N	0.60 U	0.60 U	0.60 U
CFTA-2	CFTA-2-1.0	FAT208	8/25/2017	1.0	N	1.0	1.2	14
	CFTA-2-11.5	FAT209	8/25/2017	11.5	N	0.39 J	0.51 U	2.8
	CFTA-2-23.5	FAT210	8/25/2017	23.5	N	0.33 J	0.54 U	0.97
CFTA-3	CFTA-3-1.0	FAT211	8/25/2017	1.0	N	0.52 U	0.54 J	35.0
	CFTA-3-11.0	FAT212	8/25/2017	11.0	N	0.58 U	0.58 U	0.33 J
	CFTA-3-18.0	FAT213	8/25/2017	18.0	N	0.60 U	0.60 U	1.2
AFFF Area 3 Hangar Building 811								
811-1	B811-1-0.5	FBV268	8/30/2017	0.50	N	0.66 UJ	0.85 J	19 J
	B811-1-08	FBV269	8/30/2017	8.0	N	0.66 UJ	0.66 UJ	0.66 UJ
	B811-1-22	FBV270	8/30/2017	22.0	N	0.66 UJ	0.66 UJ	2.8 J

					Analyte	PFBS	PFOA	PFOS
					PAL:	130,000	126	126
Location ID	Sample ID	Lab ID	Sample Date	Sample Depth (ft bgs)	Sample Type	µg/kg	µg/kg	µg/kg
811-2	B811-2-0.5	FBV271	8/30/2017	0.50	N	0.78 UJ	0.78 UJ	0.78 UJ
	B811-2-FD	FBV276	8/30/2017	0.5	FD	0.72 UJ	0.72 UJ	9.9 J
	B811-2-07	FBV272	8/30/2017	7.0	N	0.57 UJ	0.57 UJ	0.57 UJ
	B811-2-23	FBV273	8/30/2017	23.0	N	0.84 UJ	0.84 UJ	0.84 UJ
	B811-2-FD2	FBV277	8/30/2017	23.0	FD	0.60 UJ	0.60 UJ	0.60 UJ
AFFF Area 4 Fire Station 1 (FS1)								
FS1-1	FS1-1-1.0	FBV100	8/28/2017	1.0	N	0.53 U	1.8	56
	FS1-1-12	FBV101	8/28/2017	12.0	N	0.56 U	0.33 J	0.41 J
	FS1-1-18	FBV102	8/28/2017	18.0	N	0.72 UJ	0.72 U	0.72 U
FS1-2	FS1-2-0.5	FBV103	8/30/2017	0.5	N	0.40 J	2.0	26
	FS1-2-08	FBV104	8/30/2017	8.0	N	0.60 U	1.4	1.2
	FS1-2-17	FBV105	8/30/2017	17.0	N	0.72 U	0.72 U	0.72 U
FS1-3	FS1-3-0.5	FBV097	8/30/2017	0.5	N	8.4 J	44	**780**
	FS1-3-08	FBV098	8/30/2017	8.0	N	0.82 J	0.81 J	0.69 J
	FS1-3-17	FBV099	8/30/2017	17.0	N	0.58 U	0.58 U	6.4
AFFF Area 5 Fire Station 2 (FS2)								
FS2-1	FS2-1-0.5	FBV100	8/31/2017	0.5	N	6.1 J	32	**2,100**
	FS2-1-07	FBV101	8/31/2017	7.0	N	6.5	5.3	**410**
	FS2-1-12	FBV102	8/31/2017	12.0	N	6.0 UJ	6.0 UJ	85 J
FS2-2	FS2-2-0.5	FBV103	8/31/2017	0.5	N	7.9 J	**170 J**	**550 J**
	FS2-2-07	FBV104	8/31/2017	7.0	N	10 J	24 J	**380 J**
	FS2-2-11	FBV105	8/31/2017	11.0	N	6.6 UJ	6.6 UJ	47 J
FS2-3	FS2-3-01	FBV097	8/30/2017	1.0	N	0.60 U	2.6	75
	FS2-3-11	FBV098	8/30/2017	11.0	N	0.48 J	1.4	59
	FS2-3-14.5	FBV099	8/30/2017	14.5	N	0.96 J	3.8	100
AFFF Area 6 Fire Station 4 (FS4)								
FS4-1	FS4-1-0.5	FBV079	9/1/2017	0.5	N	0.53 U	0.26 J	75
	FS4-1-06	FBV080	9/1/2017	6.0	N	2.2	0.65 U	3.0
	FS4-1-11	FBV081	9/1/2017	11.0	N	1.9	0.67 U	11

					Analyte	PFBS	PFOA	PFOS
					PAL:	130,000	126	126
Location ID	Sample ID	Lab ID	Sample Date	Sample Depth (ft bgs)	Sample Type	µg/kg	µg/kg	µg/kg
FS4-2	FS4-2-0.5	FBV082	9/1/2017	0.5	N	0.66 U	0.66 U	14
	FS4-2-FD	FBV085	9/1/2017	0.5	FD	0.56 U	0.56 U	13
	FS4-2-06	FBV083	9/1/2017	6.0	N	0.18 J	0.55 U	0.55 U
	FS4-2-11	FBV084	9/1/2017	11.0	N	0.64 J	0.67 U	15
FS4-3	FS4-3-0.5	FBV076	9/1/2017	0.5	N	0.53 U	0.27 J	38
	FS4-3-06	FBV077	9/1/2017	6.0	N	1.1	0.55 U	1.9
	FS4-3-11	FBV078	9/1/2017	11.0	N	0.65 U	0.65 U	8.2
AFFF Area 7 1982/1983 C-5 Crash								
82/83 C5-1	82/83 C5-1-0.5	FBV246	9/3/2017	0.5	N	0.55 U	0.55 U	3.2
	82/83 C5-1-07	FBV247	9/3/2017	7.0	N	0.60 U	0.60 U	0.60 U
	82/83 C5-1-12	FBV248	9/3/2017	12.0	N	0.66 U	0.66 U	0.66 U
82/83 C5-2	82/83 C5-2-0.5	FBV249	9/3/2017	0.5	N	0.51 U	0.51 U	3.5
	82/83 C5-2-07	FBV250	9/3/2017	7.0	N	0.53 U	0.53 U	0.53 U
	82/83 C5-2-18	FBV251	9/3/2017	18.0	N	0.78 U	0.78 U	0.78 U
	82/83 C5-2-FD	FBV252	9/3/2017	18.0	FD	0.72 U	0.72 U	0.72 U
82/83 C5-3	82/83 C5-3-0.5	FBV253	9/3/2017	0.5	N	0.66 U	0.66 U	3.6
	82/83 C5-3-8	FBV254	9/3/2017	8.0	N	0.60 U	0.60 U	0.60 U
	82/83 C5-3-14	FBV260	9/3/2017	14.0	N	0.72 U	0.72 U	0.72 U
AFFF Area 8 1986 C-141 B Accident								
86C141B-1	86C141B-1-0.5	FBV243	8/31/2017	0.5	N	0.52 UJ	0.47 J	24 J
	86C141B-1-09	FBV241	8/31/2017	9.0	N	0.66 UJ	0.78 J	0.46 J
	86C141B-1-12	FBV242	8/31/2017	12.0	N	0.59 UJ	0.59 UJ	2.0 J
AFFF Area 9 1988 C-5 Fire								
88C5-1	88C5-1-0.5	FBU967	9/4/2017	0.5	N	0.58 U	0.58 U	24
	88C5-1-5.5	FBU968	9/4/2017	5.5	N	4.7	2.7	11
	88C5-1-8.5	FBU969	9/4/2017	8.5	N	2.4	1.3	4.1
88C5-2	88C5-2-0.5	FKI086	10/23/2017	0.5	N	0.60 U	0.60 U	7.1
	88C5-DUP-0.5	FKI087	10/23/2017	0.5	FD	0.60 U	0.60 U	8.0
	88C5-2-5.5	FKI088	10/23/2017	5.5	N	0.41 J	0.95 J	0.66 U

					Analyte	PFBS	PFOA	PFOS
					PAL:	130,000	126	126
Location ID	Sample ID	Lab ID	Sample Date	Sample Depth (ft bgs)	Sample Type	µg/kg	µg/kg	µg/kg
88C5-3	88C5-3-0.5	FBU964	9/4/2017	0.5	N	0.56 U	0.40 J	22
	88C5-3-05	FBU965	9/4/2017	5.0	N	0.29 J	0.45 J	0.31 J
	88C5-3-09	FBU966	9/4/2017	9.0	N	0.36 J	0.66 U	0.78 J
AFFF Area 10 Late 1980s C-141B Crash								
Late80s-1	LATE80S-1-0.5	FBU984	9/4/2017	0.5	N	0.60 U	0.60 U	28
	Late80s-1-FD	FBU987	9/4/2017	0.5	FD	0.66 U	0.66 U	32
	Late80s-1-07	FBU985	9/4/2017	7.0	N	0.72 U	0.72 U	0.72 U
	Late80s-1-14	FBU986	9/4/2017	14.0	N	0.66 U	0.66 U	0.50 J
Late80s-2	Late80s-2-0.5	FKH901	10/23/2017	0.5	N	0.49 U	0.49 U	11
	Late80s-2-7.0	FKH902	10/23/2017	7.0	N	0.66 U	0.66 U	3.2
Late80s-3	Late80s-3-0.5	FBU81	9/4/2017	0.5	N	0.60 U	0.60 U	3.4
	Late80s-3-06	FBU982	9/4/2017	6.0	N	0.72 U	0.72 U	0.72 U
	Late80s-3-12	FBU983	9/4/2017	12.0	N	0.72 U	0.72 U	0.57 J
Late80s-4	Late80s-4-0.5	FKH903	10/23/2017	0.5	N	0.58 U	0.58 U	4.1
	Late80s-4-5.5	FKH904	10/23/2017	5.5	N	0.66 U	0.66 U	0.66 U
	Late80s-4-13	FKH905	10/23/2017	13.0	N	0.72 U	0.72 U	0.78 J
AFFF Area 11 2001 Aircraft Crash								
2001Crash-1	2001CRASH-1-0.5	FBV010	9/3/2017	0.5	N	0.58 U	0.58 U	1.7
	2001CRASH-1-7.5	FBV011	9/3/2017	7.5	N	0.72 U	0.72 U	0.72 U
	2001CRASH-1-25	FBV012	9/3/2017	25.0	N	0.59 U	0.59 U	0.59 U
2001Crash-2	2001CRASH-2-0.5	FBV020	9/3/2017	0.5	N	0.52 U	0.52 U	1.3
	2001CRASH-2-7.5	FBV021	9/3/2017	7.5	N	0.56 U	0.56 U	8.0
	2001CRASH-2-25	FBV022	9/3/2017	25.0	N	0.66 U	0.66 U	0.66 U
2001Crash-3	2001CRASH-3-0.5	FBV013	9/3/2017	0.5	N	0.72 U	0.72 U	0.36 J
	2001CRASH-3-FD	FBV014	9/3/2017	0.5	FD	0.60 U	0.60 U	0.40 J
	2001CRASH-3-06	FBV015	9/3/2017	6.0	N	0.72 U	0.72 U	0.72 U
	2001CRASH-3-09	FBV016	9/3/2017	9.0	N	0.66 U	0.66 U	0.66 U
2001Crash-4	2001CRASH-4-0.5	FBV017	9/3/2017	0.5	N	0.53 U	0.53 U	0.53 U
	2001CRASH-4-7.5	FBV018	9/3/2017	7.5	N	0.66 U	0.66 U	0.66 U
	2001CRASH-4-11.5	FBV019	9/3/2017	11.5	N	0.84 U	0.84 U	0.84 U

						Analyte	PFBS	PFOA	PFOS
						PAL:	130,000	126	126
Location ID	Sample ID	Lab ID	Sample Date	Sample Depth (ft bgs)	Sample Type		µg/kg	µg/kg	µg/kg
AFFF Area 12 2014 E75 Air Show Crash									
2014E75-1	2014E75-1-0.5	FBV043	9/4/2017	0.5	N		0.53 U	0.53 U	2.0
	2014E75-1-06	FBV044	9/4/2017	6.0	N		0.66 U	0.66 U	0.66 U
	2014E75-1-13	FBV045	9/4/2017	13.0	N		0.60 U	0.60 U	0.60 U
2014E75-2	2014E75-2-0.5	FBV046	9/4/2017	0.5	N		0.32 J	2.9	4.3
	2014E75-2-5.5	FBV047	9/4/2017	5.5	N		0.60 U	0.60 U	0.60 U
	2014E75-2-FD	FBV049	9/4/2017	5.5	FD		0.66 U	0.66 U	0.66 U
	2014E75-2-10.5	FKH848	9/4/2017	10.5	N		0.66 U	0.66 U	0.26 J
2014E75--3	2014E75-3-0.5	FKH856	10/23/2017	0.5	N		0.57 U	0.57 U	1.6
	2014E75-DUP-0.5	FKH858	10/23/2017	0.5	FD		0.50 U	0.50 U	1.7
	2014E75-3-5.5	FKH857	10/23/2017	5.5	N		0.66 U	0.66 U	0.66 U
	2014E75-3-13.5	FKH859	10/23/2017	13.5	N		0.66 U	0.66 U	0.66 U
AFFF Area 13 Nozzle Spray Test Area (900 Ramp)									
NOZ-1	NOZ-1-0.5	FBU948	9/5/2017	0.5	N		0.55 U	0.63 J	110
	NOZ-1-08	FBU949	9/5/2017	8.0	N		2.0	35	7.2
	NOZ-1-11.5	FBU950	9/5/2017	11.5	N		0.66 U	1.3	6.7 J
	NOZ-1-FD	FBU951	9/5/2017	11.5	FD		0.72 U	1.3	4.8 J
NOZ-2	NOZ-2-0.5	FBU952	9/5/2017	0.5	N		7.8 U	7.8 U	**2,000**
	NOZ-2-07	FBU953	9/5/2017	7.0	N		190	51	**910**
	NOZ-2-11.5	FBU954	9/5/2017	11.5	N		12	9.1	45
NOZ-3	NOZ-3-0.5	FBU955	9/5/2017	0.5	N		7.2 U	7.2 U	**500**
	NOZ-3-7.5	FBU956	9/5/2017	7.5	N		60	85	**1,400**
	NOZ-3-13.5	FBU957	9/5/2017	13.5	N		11	79	4.4
AFFF Area 14 Former Sewer Treatment Plant and Sludge Disposal Area									
FWWTP-1	WWTP-1-1.0	FAT289	8/28/2017	1.0	N		0.60 U	1.8	1.9
	WWTP-1-10	FAT290	8/28/2017	10.0	N		0.66 U	0.66 U	0.66 U
	WWTP-1-16	FAT291	8/28/2017	16.0	N		0.78 U	0.78 U	0.78 U
FWWTP-2	WWTP-2-1.0	FAT292	8/28/2017	1.0	N		0.59 U	0.56 J	0.99
	WWTP-2-10	FAT293	8/28/2017	10.0	N		0.56 U	0.56 U	0.22 J
	WWTP-2-16	FAT294	8/28/2017	16.0	N		0.72 U	0.72 U	0.39 J

NOTES:
Bolded = Concentration exceeds the PAL.

DEFINITIONS:
µg/kg = micrograms per kilogram
FD = Field Duplicate Sample
FTA = fire training area
ft bgs = feet below ground surface
ID = Identification
J = Estimated detect at concentration shown
N = Normal Field Sample
PAL = project action limit
RSL = Regional Screening Level
U = non-detect at reporting limit shown
UJ = Not detected, limit of detection approximate

Table 5.2 Summary of Sediment Analytical Results

					Analyte	PFBS	PFOA	PFOS
					EPA RSL:	130,000	126	126
Location	Sample ID	Lab ID	Sample Date	Sample Depth (ft bgs)	Sample Type	µg/kg	µg/kg	µg/kg
AFFF Area 3 Hangar Building 811								
811-SED-1	811-SED-1	FBV274	8/30/2017	0.50	N	0.66 UJ	0.66 UJ	4.3 J
	811-SED-FD	FBV275	8/30/2017	0.50	FD	0.58 UJ	0.58 UJ	8.7 J
AFFF Area 6 Fire Station 4 (FS4)								
FS4-SED-1	FS4-SED-1	FBV090	9/1/2017	0.50	N	0.66 U	0.66 U	8.4
AFFF Area 14 Former Sewer Treatment Plant and Sludge Disposal Area								
FWWTP-SED-1	WWTP-SED-1	FCA711	9/5/2017	0.50	N	2.0 U	1.6 J	62
AFFF Area 15 Outfall #1								
Outfall1-SED-1	Outfall1-SED-1	FCA714	9/5/2017	0.50	N	1.6 U	3.2	55
AFFF Area 16 Outfall #2								
Outfall2-SED-1	Outfall1-SED-2	FCA713	9/5/2017	0.50	N	0.96 U	1.1 J	68
AFFF Area 17 Southern Base Boundary Groundwater Treatment Plant								
SBBGWTP-SED-1	SBBGWTP-SED-1	FCA712	9/5/2017	0.50	N	1.0 U	1.8	25

DEFINITIONS:
µg/kg = micrograms per kilogram
FD = Field Duplicate Sample
ft bgs = feet below ground surface
ID = Identification
J = Estimated detect at concentration shown
N = Normal Field Sample
PAL = project action limit
U = non-detect at reporting limit shown
UJ = Not detected, limit of detection approximate.

Table 5.3 Summary of Groundwater Analytical Results

					Analyte	PFBS	PFOA	PFOS	PFOA + PFOS
					PAL:	40	0.07	0.07	0.07
Location	Sample ID	Lab ID	Sample Date	Depth to GW (ft btoc)	Sample Type	µg/L	µg/L	µg/L	µg/L
AFFF Area 1 FT005 (Former FTA 4)									
FT005-1	FT005-1-GW	FAT192	8/25/2017	12	N	4.7	**32**	**26**	**58.0**
FT005-2	FT005-2-GW	FAT193	8/25/2017	11.5	N	5.1	**11**	**3.3**	**14.3**
FT005-3	FT005-3-GW	FAT194	8/25/2017	11	N	0.020 J	**0.093**	**0.072**	**0.165**
AFFF Area 2 Current Fire Training Area (FTA)									
CFTA-GW-1	CFTA-GW-1	FAT190	8/25/2017	18	N	0.61	**0.28**	**0.60**	**0.88**
CFTA-1	CFTA-1-GW	FAT195	8/28/2017	17.5	N	0.079	0.062	**0.20**	**0.262**
CFTA-2	CFTA-2-GW	FAT196	8/28/2017	19	N	0.89	**0.52**	**2.3**	**2.82**
CFTA-3	CFTA-3-GW	FAT197	8/28/2017	15.23	N	1.1	**0.22**	**1.2**	**1.42**
AFFF Area 3 Hangar Building 811									
811-1	B811-1-W10	FBV278	8/31/2017	10	N	0.43	**0.49**	**5.8**	**6.29**
811-2	B811-2-W10	FBV279	8/31/2017	10	N	0.10	**0.11**	**0.36**	**0.47**
AFFF Area 4 Fire Station 1 (FS1)									
FS1-1	FS1-1-W10	FAT195	8/28/2017	10	N	0.084	**0.27**	**0.6**	**0.87**
FS1-2	FS1-2-W10	FAT196	8/31/2017	15.0	N	0.54	**0.86**	**0.96**	**1.82**
FS1-3	FS1-3-W10	FAT190	8/31/2017	15.0	N	1.3	**0.87**	**28**	**28.87**
AFFF Area 5 Fire Station 2 (FS2)									
FS2-1	FS2-1-W16	FBV096	9/1/2017	15.7	N	31	**22**	**690**	**712**
FS2-2	FS2-2-W10	FBV095	9/1/2017	10.2	N	12	**23**	**340**	**363**
FS2-3	FS2-3-W11	FBV094	9/1/2017	11.3	N	12	**29**	**410**	**439**
AFFF Area 6 Fire Station 4 (FS4)									
FS4-1	FS4-1-W09	FBV086	9/1/2017	9.0	N	0.79	**0.72**	**17**	**17.72**
FS4-2	FS4-2-W11	FBV088	9/1/2017	10.8	N	1.1	**0.75**	**32**	**32.75**
	FS4-2-WFD	FBV089	9/1/2017	10.8	FD	0.99	**0.80**	**30**	**30.80**
FS4-3	FS4-3-W12	FBV087	9/1/2017	11.5	N	0.57	**0.46**	**9.2**	**9.66**
AFFF Area 7 1982/1983 C-5 Crash									
82/83 C5-1	82/83 C5-1-W13	FBV256	9/3/2017	13	N	0.17	**0.091**	**1.2**	**1.29**
	82/83 C5-1-WFD	FBV257	9/3/2017	13	FD	0.14	**0.091**	**1.1**	**1.19**
82/83 C5-2	82/83 C5-2-W12	FBV258	9/3/2017	12	N	0.083	0.038	**0.20**	**0.238**
82/83 C5-3	82/83 C5-3-W13	FBV259	9/3/2017	13	N	0.058	**0.10**	**0.35**	**0.45**

					Analyte	PFBS	PFOA	PFOS	PFOA + PFOS
					PAL:	40	0.07	0.07	0.07
Location	Sample ID	Lab ID	Sample Date	Depth to GW (ft btoc)	Sample Type	µg/L	µg/L	µg/L	µg/L
AFFF Area 8 1986 C-141 B Accident									
1986C141B-1	1986C141B-1-W10	FBV240	9/1/2017	9.8	N	0.21	**0.12**	**3.1**	**3.22**
AFFF Area 9 1988 C-5 Fire									
88C5-1	88C5-1-W06	FBU972	9/4/2017	6.1	N	0.21	**0.25**	**0.23**	**0.48**
88C5-2	88C5-2-W6.0	FKI089	10/23/2017	5.8	N	2.8	**3.0**	**0.76**	**3.76**
	88C5-2-WFD	FKI090	10/23/2017	5.8	FD	2.8	**3.0**	**0.80**	**3.80**
88C5-3	88C5-3-W06	FBU971	9/4/2017	6.1	N	0.70	**0.88**	**0.71**	**1.59**
AFFF Area 10 Late 1980s C-141B Crash									
Late80s-1	Late80s-1-W09	FBU988	9/4/2017	9.4	N	0.93	**0.37**	**8.1**	**8.47**
Late80s-2	Late80s-2-W09	FKH906	10/23/2017	8.9	N	0.25	**0.17**	**2.4**	**2.57**
Late80s-3	Late80s-3-W11	FBU989	9/4/2017	11.1	N	0.18	**0.15**	**2.1**	**2.25**
Late80s-4	Late80s-4-W13	FKH907	10/23/2017	12.7	N	0.24	**0.11**	**1.4**	**1.51**
AFFF Area 11 2001 Aircraft Crash									
2001Crash-3	2001Crash-3-W08	FBV025	9/3/2017	9.0	N	0.033	0.021	**0.12**	**0.141**
2001Crash-4	2001Crash-4-W12	FBV023	9/3/2017	12.0	N	0.010 J	0.018 J	**0.088**	**0.106**
	2001Crash-4-WFD	FBV024	9/3/2017	12.0	FD	0.0087 J	0.021	**0.10**	**0.121**
AFFF Area 12 2014 E75 Air Show Crash									
2014E75-1	2014E75-1-W12	FBV051	9/4/2017	12.5	N	0.047	**0.12**	**0.83**	**0.95**
2014E75-2	2014E75-2-W11	FBV050	9/4/2017	11.5	N	0.12	**0.20**	**0.82**	**1.02**
2014E75-3	2014E75-3-W13	FKH860	10/23/2017	14.0	N	0.065	**0.12**	**1.0**	**1.12**
AFFF Area 13 Nozzle Spray Test Area (900 Ramp)									
NOZ-1	NOZ-1-W14	FBU960	9/5/2017	13.9	N	1.5	**1.4**	**30**	**31.4**
NOZ-2	NOZ-2-W16	FBU959	9/5/2017	15.6	N	13	**2.4**	**7.4**	**9.8**
NOZ-3	NOZ-3-W15	FBU958	9/5/2017	14.8	N	**140**	**88**	**200**	**288**
AFFF Area 14 Former Sewage Treatment Plant and Sludge Disposal Area									
FWWTP-GW-1	WWTP-GW-1	FAT191	8/25/2017	18	N	0.027	0.043	**0.15**	**0.19**
FWWTP-1	WWTP-1-GW	FAT198	8/28/2017	10	N	0.0070 J	0.011 U	0.010 J	0.010 J
FWWTP-2	WWTP-2-W10	FBV035	8/28/2017	13.27	N	0.026	0.017 J	0.058	**0.075**

NOTES:
Bolded = Concentration exceeds the PAL.

DEFINITIONS:
µg/L = micrograms per liter
FD = Field Duplicate Sample
FTA = fire training area
ft = feet
ID = Identification
J = Estimated detect at concentration shown
N = Normal Field Sample
PAL = project action limit
U = non-detect at reporting limit shown
UJ = Not detected, limit of detection approximate

Table 5.4 Summary of Process Water Analytical Results

				Analyte	PFBS	PFOA	PFOS	PFOA + PFOS
				PAL:	40	0.07	0.07	0.07
Location	Sample ID	Lab ID	Sample Date	Sample Type	µg/L	µg/L	µg/L	µg/L
AFFF Area 17 South Base Boundary Groundwater Treatment Plant								
SBBGWTP-IN-1	SGTP-INFLUENT	FTS473	8/25/2017	N	0.42	**1.6**	**1.2**	**2.8**
SBBGWTP-EF-1	SGTP-EFFLUENT	FTS474	8/25/2017	N	0.36	**0.86**	**0.52**	**1.38**

NOTES:
Bolded = Concentration exceeds the PAL.

DEFINITIONS:
µg/L = micrograms per liter
ID = Identification
N = Normal Field Sample
PAL = project action limit

5.2 CONCLUSIONS

Seventeen AFFF Areas were sampled for PFAS in soil, sediment, groundwater, and process treatment water. **Table 5.5** summarizes the AFFF areas investigated and indicate where PFAS concentrations were detected above the PALs in samples from each media. PFAS were detected above PALs in soil samples from five AFFF areas, and in groundwater samples from 17 AFFF Areas. PFAS was not detected above PALs in any sediment samples.

Table 5.5 Summary of Total Number of Samples with PAL Exceedances

AFFF Area	Surface Soil[1]	Subsurface Soil[2]	Sediment	Groundwater	Influent/ Effluent	PAL Exceedances?
AFFF Area 1: FT005 (Former FTA 4)	---	---	ns	3	ns	**Yes**
AFFF Area 2: Current Fire Training Area (FTA)	---	---	---	4	ns	**Yes**
AFFF Area 3: Hangar Building 811	---	---	ns	2	ns	**Yes**
AFFF Area 4: Fire Station 1 (FS1)	---	---	ns	3	ns	**Yes**
AFFF Area 5: Fire Station 2 (FS2)	1	---	---	3	ns	**Yes**
AFFF Area 6: Fire Station 4 (FS4)	---	---	ns	3	ns	**Yes**
AFFF Area 7: 1982/1983 C-5 Crash	---	---	ns	3	ns	**Yes**
AFFF Area 8: 1986 C-141B Accident	---	---	ns	1	ns	**Yes**

AFFF Area	Surface Soil[1]	Subsurface Soil[2]	Sediment	Groundwater	Influent/ Effluent	PAL Exceedances?
AFFF Area 9: 1988 C-5 Fire	---	---	ns	1	ns	**Yes**
AFFF Area 10: Late 1980s C-141B Crash	---	---	ns	4	ns	**Yes**
AFFF Area 11: 2001 Aircraft Crash	---	---	ns	2	ns	**Yes**
AFFF Area 12: 2014 E75 Air Show Crash	---	---	ns	3	ns	**Yes**
AFFF Area 13: Nozzle Spray Test Area	1	1	ns	3	ns	**Yes**
AFFF Area 14: Former Sewage Treatment Plant and Sludge Disposal Area	---	---	---	2	ns	**Yes**
AFFF Area 15: Outfall #1	ns	ns	---	ns	ns	No
AFFF Area 16: Outfall #2	ns	ns	---	ns	ns	No
AFFF Area 17: SBB GWTP	ns	ns	---	ns	**2**[3]	**Yes**

NOTES:

*Quality control samples not presented in in-text tables. For the complete results, including duplicate samples, please refer to results tables in **Appendix F**.

[1]Soil 0 to 0.5 feet below ground surface

[2]Subsurface soil (collected from an interim depth and the vadose zone, immediately above the groundwater saturated/ unsaturated soil interface).

[3]Influent and effluent samples collected from SBB GWTP GETS pre- and post-treatment

--- = PFAS concentrations did not exceed the PALs in the media at this area

ns = media not sampled for PFAS at this area

6.0 DISCUSSION OF RESULTS

6.1 PAL EXCEEDANCES

PFOS and PFOA were detected above the PAL in soil, groundwater and influent/effluent process water (**Table 6.1**). PFOS and PFOA were detected together most frequently in groundwater at most AFFF areas. PFOS concentrations were generally higher; PFOA concentrations were greater than those of PFOS in groundwater samples from AFFF Area 1 FT005 Former FTA and in influent/effluent samples from AFFF Area 17 SBB GWTP. PFOA concentrations exceeded the PAL in surface soil from two AFFF Areas (AFFF Areas 1 and 5). PFOS was detected above the PAL in surface soil at five (5) AFFF Areas (AFFF Areas 1, 2, 4, 5, and 13), and in subsurface soil from two AFFF areas (AFFF Areas 5 and 13). PFOS and PFOA concentrations in groundwater exceeded the PAL at 12 of 14 AFFF Areas, and in process water at AFFF Area 17 SBB GWTP. PFOS only exceeded the PAL at two of 14 AFFF Areas. At one AFFF area (AFFF Area 14, Former STP and Sludge Disposal Area) only, the sum of PFOS and PFOA exceeded the PAL in groundwater, when their individual constituents did not. PFBS was detected above the PAL in one groundwater sample only, collected from AFFF Area 13 (Nozzle Spray Test Area). A summary of findings is presented in **Table 6.1**.

Table 6.1 PAL Exceedances by Media and Compound

AFFF Area	Surface Soil	Subsurface Soil	Sediment	Groundwater	Process Water
AFFF Area 1: FT005 (Former FTA 4)	PFOS & PFOA	---	ns	PFOS & PFOA	ns
AFFF Area 2: Current Fire Training Area (FTA)	PFOS	---	ns	PFOS & PFOA	ns
AFFF Area 3: Hangar Building 811	---	---	---	PFOS & PFOA	ns
AFFF Area 4: Fire Station 1 (FS1)	PFOS	---	ns	PFOS & PFOA	ns
AFFF Area 5: Fire Station 2 (FS2)	PFOS & PFOA	PFOS	ns	PFOS & PFOA	ns
AFFF Area 6: Fire Station 4 (FS4)	---	---	---	PFOS & PFOA	ns
AFFF Area 7: 1982/1983 C-5 Crash	---	---	ns	PFOS & PFOA	ns
AFFF Area 8: 1986 C-141B Accident	---	---	ns	PFOS & PFOA	ns
AFFF Area 9: 1988 C-5 Fire	---	---	ns	PFOS & PFOA	ns
AFFF Area 10: Late 1980s C-141B Crash	---	---	ns	PFOS & PFOA	ns
AFFF Area 11: 2001 Aircraft Crash	---	---	ns	PFOS	ns
AFFF Area 12: 2014 E75 Air Show Crash	---	---	ns	PFOS & PFOA	ns
AFFF Area 13: Nozzle Spray Test Area	PFOS	PFOS	ns	PFOS, PFOA & PFBS	ns
AFFF Area 14: Former STP and Sludge Disposal Area	---	---	---	PFOS	ns
AFFF Area 15: Outfall #1	ns	ns	---	ns	ns
AFFF Area 16: Outfall #2	ns	ns	---	ns	ns
AFFF Area 17: SBB GWTP	ns	ns	---	ns	PFOS & PFOA

NOTES:

--- = no PAL exceedances
ns – not sampled

6.2 PATHWAYS AND EXPOSURE RECEPTORS SUMMARY

Based on analytical results from SI sampling activities, potential PFAS exposure pathways exist for surface water, groundwater, soil, and air. AFFF areas at Travis AFB are located in areas accessible to the non-duty personnel, with the exception of the AFFF areas adjacent to runways, as the flightline and the controlled movement areas are accessible to duty-related personnel only.

Groundwater samples from 14 AFFF areas exceeded the PALs for at least one PFAS compound. The AFFF area closest to a potable water well is AFFF Area 1 Former FTA, which has concentrations of PFAS above the PALs. The Travis AFB production wells located at the Cypress Lakes Golf Course are within a 4-mile radius of all AFFF areas; however, they are upgradient of the AFFF areas and screened greater than 1,000 feet bgs. Travis AFB does not use its groundwater as its source of drinking water. (**Section 4.1.4 and Figure 4-3**).

Water samples collected by Travis AFB Bioenvironmental from the on-Base potable water supply wells in 2016 did not have detections of PFAS (**Section 4.1.3**).

PFOS exceeded the PAL in the surface soil samples from five AFFF areas and exceeded the PAL in the subsurface soil samples from two AFFF areas. PFOA exceeded the PAL in the surface soil samples from two AFFF areas. Concentrations of PFBS in soil did not exceed the PAL at any AFFF area. A potential soil pathway exists for the 20,500 human receptors that live and work at Travis AFB, particularly construction or maintenance workers performing ground-disturbing activities, and for the 1,300 civilian residents and visitors to the Base. PFAS concentrations in the effluent sample from AFFF Area 17 SBB GWTP exceeded the PAL, and a potential surface water pathway exists for workers performing maintenance within on-base surface water drainage channels. A potential surface water and soil pathway also exists for the ecological receptors that inhabit the Base in the vicinity of the AFFF areas, including threatened and endangered species (**Section 4.3.3.2**).

PFAS concentrations in sediment samples collected from Union Creek did not exceed the PALs. Due to the surface soil PAL exceedance, potential air migration pathways exist for the human receptors within four miles of the AFFF areas, including the population of 20,500 workers and residents at Travis AFB.

7.0 CONCLUSION

Based on the results of the SI, additional investigation will be conducted as part of remedial investigation activities. Table 7.1 lists the maximum concentrations of PFOS, PFOA and PFBS by media in comparison with the screening value for each AFFF area investigated during the SI.

Table 7.1 Summary of Analytical Results, Screening Level Exceedances, and Notes

AFFF Area	Parameter	Maximum Detected Concentration	Screening Value	Units	Number of Samples*/ Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Notes
AFFF Area 1 FT005 (Former FTA 4)	**Surface Soil (0 to 1.0 feet bgs)**							Advance Area to RI
	PFOS	**690**	126	µg/kg	3/2	**Yes**	No	
	PFOA	**140**	126	µg/kg	3/1	**Yes**		
	PFBS	3.7 J	130,000	µg/kg	3/0	No		
	Subsurface Soil (11.5 to 23 feet bgs)							
	PFOS	8.4	126	µg/kg	6/0	No	No	
	PFOA	40.0	126	µg/kg	6/0	No		
	PFBS	7.3	130,000	µg/kg	6/0	No		
	Groundwater							
	PFOS	**26**	0.07	µg/L	3/3	**Yes**	No	
	PFOA	**32**	0.07	µg/L	3/3	**Yes**		
	PFOS+PFOA	**58**	0.07	µg/L	3/3	**Yes**		
	PFBS	5.1	40	µg/L	3/0	No		
AFFF Area 2 Current Fire Training Area (FTA)	**Surface Soil (0 to 1.0 feet bgs)**							Advance Area to RI
	PFOS	**180**	126	µg/kg	3/1	**Yes**	No	
	PFOA	1.3	126	µg/kg	3/0	No		
	PFBS	1.0	130,000	µg/kg	3/0	No		

AFFF Area	Parameter	Maximum Detected Concentration	Screening Value	Units	Number of Samples*/ Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Notes
AFFF Area 2 Current Fire Training Area (FTA) (Cont'd)	**Subsurface Soil (10.5 to 23.5 feet bgs)**							Advance Area to RI
	PFOS	2.8	126	µg/kg	6/0	No	No	
	PFOA	ND	126	µg/kg	6/0	No		
	PFBS	0.39 J	130,000	µg/kg	6/0	No		
	Groundwater							
	PFOS	**2.3**	0.07	µg/L	4/4	**Yes**	No	
	PFOA	**0.52**	0.07	µg/L	4/3	**Yes**		
	PFOS+PFOA	**2.8**	0.07	µg/L	4/4	**Yes**		
	PFBS	1.1	40	µg/L	4/0	No		
AFFF Area 3 Hangar Building 811	**Surface Soil (0 to 0.5 feet bgs)**							Advance Area to RI
	PFOS	19 J	126	µg/kg	2/0	No	No	
	PFOA	0.85 J	126	µg/kg	2/0	No		
	PFBS	ND	130,000	µg/kg	2/0	No		
	Subsurface Soil (7.0 to 23 feet bgs)							
	PFOS	2.8 J	126	µg/kg	4/0	**Yes**	No	
	PFOA	ND	126	µg/kg	4/0	**Yes**		
	PFBS	ND	130,000	µg/kg	4/0	No		
	Groundwater							
	PFOS	**5.8**	0.07	µg/L	2/2	**Yes**	No	
	PFOA	**0.49**	0.07	µg/L	2/2	**Yes**		
	PFOS+PFOA	**6.29**	0.07	µg/L	2/2	**Yes**		
	PFBS	0.43	40	µg/L	2/0	No		

AFFF Area	Parameter	Maximum Detected Concentration	Screening Value	Units	Number of Samples*/ Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Notes
AFFF Area 3 Hangar Building 811 (Cont'd)	**Sediment**							
	PFOS	8.7 J	126	µg/kg	1/0	No	No	Advance Area to RI
	PFOA	ND	126	µg/kg	1/0	No		
	PFBS	ND	130,000	µg/kg	1/0	No		
AFFF Area 4 Fire Station 1 (FS1)	**Surface Soil (0 to 1.0 ft bgs)**							
	PFOS	**780**	126	µg/kg	3/1	**Yes**	No	Advance Area to RI
	PFOA	44	126	µg/kg	3/0	No		
	PFBS	8.4 J	130,000	µg/kg	3/0	No		
	Subsurface Soil (8 to 18 ft bgs)							
	PFOS	6.4	126	µg/kg	6/0	No	No	
	PFOA	1.4	126	µg/kg	6/0	No		
	PFBS	0.82 J	130,000	µg/kg	6/0	No		
	Groundwater							
	PFOS	**28**	0.07	µg/L	3/3	**Yes**	No	
	PFOA	**0.87**	0.07	µg/L	3/3	**Yes**		
	PFOS+PFOA	**28.9**	0.07	µg/L	3/3	**Yes**		
	PFBS	1.3	40	µg/L	3/0	No		
AFFF Area 5 Fire Station 2 (FS2)	**Surface Soil (0 to 1.0 ft bgs)**							
	PFOS	**2,100**	126	µg/kg	3/2	**Yes**	No	Advance Area to RI
	PFOA	**170 J**	126	µg/kg	3/1	**Yes**		
	PFBS	7.9 J	130,000	µg/kg	3/0	No		
	Subsurface Soil (7 to 14.5 ft bgs)							
	PFOS	**410**	126	µg/kg	6/2	**Yes**	No	
	PFOA	24 J	126	µg/kg	6/0	No		
	PFBS	10 J	130,000	µg/kg	6/0	No		

AFFF Area	Parameter	Maximum Detected Concentration	Screening Value	Units	Number of Samples*/ Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Notes
AFFF Area 5 Fire Station 2 (FS2) (Cont'd)	**Groundwater**							
	PFOS	**690**	0.07	µg/L	3/3	**Yes**	No	Advance Area to RI
	PFOA	**29**	0.07	µg/L	3/3	**Yes**		
	PFOS+PFOA	**712**	0.07	µg/L	3/3	**Yes**		
	PFBS	31	40	µg/L	3/0	**Yes**		
AFFF Area 6 Fire Station 4 (FS4)	**Surface Soil (0 to 1.0 ft bgs)**							Advance Area to RI
	PFOS	75	126	µg/kg	3/0	No	No	
	PFOA	0.27 J	126	µg/kg	3/0	No		
	PFBS	ND	130,000	µg/kg	3/0	No		
	Subsurface Soil (6 to 11 ft bgs)							
	PFOS	15	126	µg/kg	6/0	No	No	
	PFOA	ND	126	µg/kg	6/0	No		
	PFBS	2.2	130,000	µg/kg	6/0	No		
	Groundwater							
	PFOS	**32**	0.07	µg/L	3/3	**Yes**	No	
	PFOA	**0.80**	0.07	µg/L	3/3	**Yes**		
	PFOS+PFOA	**32.75**	0.07	µg/L	3/3	**Yes**		
	PFBS	1.1	40	µg/L	3/0	No		
	Sediment							
	PFOS	8.4	126	µg/kg	1/0	No	No	
	PFOA	ND	126	µg/kg	1/0	No		
	PFBS	ND	130,000	µg/kg	1/0	No		

AFFF Area	Parameter	Maximum Detected Concentration	Screening Value	Units	Number of Samples*/ Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Notes
AFFF Area 7 1982/1983 C-5 Crash	**Surface Soil (0 to 0.5 ft bgs)**							Advance Area to RI
	PFOS	3.6	126	µg/kg	3/0	No	No	
	PFOA	ND	126	µg/kg	3/0	No		
	PFBS	ND	130,000	µg/kg	3/0	No		
	Subsurface Soil (6 to 11 ft bgs)							
	PFOS	ND	126	µg/kg	6/0	No	No	
	PFOA	ND	126	µg/kg	6/0	No		
	PFBS	ND	130,000	µg/kg	6/0	No		
	Groundwater							
	PFOS	**1.2**	0.07	µg/L	3/3	**Yes**	No	
	PFOA	**0.10**	0.07	µg/L	3/2	**Yes**		
	PFOS+PFOA	**1.29**	0.07	µg/L	3/3	**Yes**		
	PFBS	0.17	40	µg/L	3/0	No		
AFFF Area 8 1986 C-141 B Accident	**Surface Soil (0 to 0.5 ft bgs)**							Advance Area to RI
	PFOS	24 J	126	µg/kg	1/0	No	No	
	PFOA	0.47 J	126	µg/kg	1/0	No		
	PFBS	ND	130,000	µg/kg	1/0	No		
	Subsurface Soil (9 to 12 ft bgs)							
	PFOS	2.0 J	126	µg/kg	2/0	No	No	
	PFOA	0.78 J	126	µg/kg	2/0	No		
	PFBS	ND	130,000	µg/kg	2/0	No		
	Groundwater							
	PFOS	**3.1**	0.07	µg/L	1/1	**Yes**	No	
	PFOA	**0.12**	0.07	µg/L	1/1	**Yes**		
	PFOS+PFOA	**3.22**	0.07	µg/L	1/1	**Yes**		
	PFBS	0.21	40	µg/L	1/0	No		

AFFF Area	Parameter	Maximum Detected Concentration	Screening Value	Units	Number of Samples*/ Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Notes
AFFF Area 9 1988 C-5 Fire	**Surface Soil (0 to 0.5 ft bgs)**							Advance Area to RI
	PFOS	24	126	µg/kg	3/0	No	No	
	PFOA	0.40 J	126	µg/kg	3/0	No		
	PFBS	ND	130,000	µg/kg	3/0	No		
	Subsurface Soil (5.5 to 9 ft bgs)							
	PFOS	11	126	µg/kg	5/0	No	No	
	PFOA	2.7	126	µg/kg	5/0	No		
	PFBS	4.7	130,000	µg/kg	5/0	No		
	Groundwater							
	PFOS	**0.80**	0.07	µg/L	3/3	**Yes**	No	
	PFOA	**3.0**	0.07	µg/L	3/3	**Yes**		
	PFOS+PFOA	**3.80**	0.07	µg/L	3/3	**Yes**		
	PFBS	2.8	40	µg/L	3/0	No		
AFFF Area 10 Late 1980s C-141B Crash	**Surface Soil (0 to 0.5 ft bgs)**							Advance Area to RI
	PFOS	32	126	µg/kg	4/0	No	No	
	PFOA	ND	126	µg/kg	4/0	No		
	PFBS	ND	130,000	µg/kg	4/0	No		
	Subsurface Soil (5.5 to 14 ft bgs)							
	PFOS	3.2	126	µg/kg	8/0	No	No	
	PFOA	ND	126	µg/kg	8/0	No		
	PFBS	ND	130,000	µg/kg	8/0	No		

AFFF Area	Parameter	Maximum Detected Concentration	Screening Value	Units	Number of Samples*/ Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Notes
AFFF Area 10 Late 1980s C-141B Crash (Cont'd)	PFOS	**8.1**	0.07	µg/L	4/4	**Yes**	No	Advance Area to RI
	PFOA	**0.37**	0.07	µg/L	4/4	**Yes**		
	PFOS+PFOA	**8.47**	0.07	µg/L	4/4	**Yes**		
	PFBS	0.93	40	µg/L	4/0	No		
AFFF Area 11 2001 Aircraft Crash	**Surface Soil (0 to 0.5 ft bgs)**							Further Evaluation Deferred
	PFOS	1.7	126	µg/kg	4/0	No	No	
	PFOA	ND	126	µg/kg	4/0	No		
	PFBS	ND	130,000	µg/kg	4/0	No		
	Subsurface Soil (6 to 25 ft bgs)							
	PFOS	8.0	126	µg/kg	8/0	No	No	
	PFOA	ND	126	µg/kg	8/0	No		
	PFBS	ND	130,000	µg/kg	8/0	No		
	Groundwater							
	PFOS	**0.12**	0.07	µg/L	3/3	**Yes**	No	
	PFOA	0.021	0.07	µg/L	3/0	No		
	PFOS+PFOA	**0.14**	0.07	µg/L	3/3	**Yes**		
	PFBS	0.033	40	µg/L	3/0	No		
AFFF Area 12 2014 E75 Air Show Crash	**Surface Soil (0 to 0.5 ft bgs)**							Advance Area to RI
	PFOS	4.3	126	µg/kg	3/0	No	No	
	PFOA	2.9	126	µg/kg	3/0	No		
	PFBS	0.32 J	130,000	µg/kg	3/0	No		
	Subsurface Soil (5.5 to 13.5 ft bgs)							
	PFOS	0.26 J	126	µg/kg	6/0	No	No	
	PFOA	ND	126	µg/kg	6/0	No		
	PFBS	ND	130,000	µg/kg	6/0	No		

AFFF Area	Parameter	Maximum Detected Concentration	Screening Value	Units	Number of Samples*/ Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Notes
AFFF Area 12 2014 E75 Air Show Crash (Cont'd)	**Groundwater**							
	PFOS	**1.0**	0.07	µg/L	3/3	**Yes**	No	Advance Area to RI
	PFOA	**0.20**	0.07	µg/L	3/3	**Yes**		
	PFOS+PFOA	**1.12**	0.07	µg/L	3/3	**Yes**		
	PFBS	0.12	40	µg/L	3/0	No		
AFFF Area 13 Nozzle Spray Test Area	**Surface Soil (0 to 1.0 ft bgs)**							
	PFOS	**2,000**	126	µg/kg	3/2	**Yes**	No	Advance Area to RI
	PFOA	0.63 J	126	µg/kg	3/0	No		
	PFBS	ND	130,000	µg/kg	3/0	No		
	Subsurface Soil (7 to 13.5 ft bgs)							
	PFOS	**1,400**	126	µg/kg	6/2	**Yes**	No	
	PFOA	85	126	µg/kg	6/0	No		
	PFBS	190	130,000	µg/kg	6/0	No		
	Groundwater							
	PFOS	**200**	0.07	µg/L	3/3	**Yes**	No	
	PFOA	**88**	0.07	µg/L	3/3	**Yes**		
	PFOS+PFOA	**288**	0.07	µg/L	3/3	**Yes**		
	PFBS	**140**	40	µg/L	3/1	**Yes**		
AFFF Area 14 Former Sewer Treatment Plant and Sludge Disposal Area	**Surface Soil (0 to 1.0 ft bgs)**							
	PFOS	1.9	126	µg/kg	2/0	No	No	Advance Area to RI
	PFOA	1.8	126	µg/kg	2/0	No		
	PFBS	ND	130,000	µg/kg	2/0	No		

AFFF Area	Parameter	Maximum Detected Concentration	Screening Value	Units	Number of Samples*/ Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Notes
AFFF Area 14 Former Sewer Treatment Plant and Sludge Disposal Area (Cont'd)	**Subsurface Soil (10 to 16 ft bgs)**							Advance Area to RI
	PFOS	0.39 J	126	µg/kg	4/0	No	No	
	PFOA	ND	126	µg/kg	4/0	No		
	PFBS	ND	130,000	µg/kg	4/0	No		
	Groundwater							
	PFOS	**0.15**	0.07	µg/L	3/1	**Yes**	No	
	PFOA	0.043	0.07	µg/L	3/0	No		
	PFOS+PFOA	**0.193**	0.07	µg/L	3/2	**Yes**		
	PFBS	0.027	40	µg/L	3/0	No		
	Sediment (0 to 0.5 ft bgs)							
	PFOS	62	126	µg/kg	1/0	No	No	
	PFOA	1.6 J	126	µg/kg	1/0	No		
	PFBS	ND	130,000	µg/kg	1/0	No		
AFFF Area 15 Outfall #1	**Sediment (0 to 0.5 ft bgs)**							Further Evaluation Deferred
	PFOS	55	126	µg/kg	1/0	No	No	
	PFOA	3.2	126	µg/kg	1/0	No		
	PFBS	ND	130,000	µg/kg	1/0	No		
AFFF Area 16 Outfall #2	**Sediment (0 to 0.5 ft bgs)**							Further Evaluation Deferred
	PFOS	68	126	µg/kg	1/0	No	No	
	PFOA	1.1 J	126	µg/kg	1/0	No		
	PFBS	ND	130,000	µg/kg	1/0	No		
AFFF Area 17 South Base Boundary Groundwater Treatment Plant	**Sediment (0 to 0.5 ft bgs)**							Further Evaluation Deferred
	PFOS	25	126	µg/kg	1/0	No	No	
	PFOA	1.8	126	µg/kg	1/0	No		
	PFBS	ND	130,000	µg/kg	1/0	No		

AFFF Area	Parameter	Maximum Detected Concentration	Screening Value	Units	Number of Samples*/ Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Notes
AFFF Area 17 South Base Boundary Groundwater Treatment Plant (Cont'd)	**Process Water**							
	PFOS	**1.2**	0.07	µg/L	2/2	**Yes**	No	Advance to RI
	PFOA	**1.6**	0.07	µg/L	2/2	**Yes**		
	PFOS+PFOA	**2.8**	0.07	µg/L	2/2	**Yes**		
	PFBS	0.42	40	µg/L	2/0	No		

NOTES

* Does not include QC Samples

DW – Drinking Water

Table 7.2 Summary of AFFF Areas Not Included in SI

Potential AFFF Area	Background[1]	Notes
Fire Station 3	• (Building 1380) Constructed in 1995 and located on a small hill near the northern runway on Collins Drive, north of the intersection of Meridian Road and Perimeter Road on Travis AFB. A small arms range is located to the north. • The fire station consists of a small administrative building and a carport for the fire engine. The building is surrounded by grass except for the asphalt access road and driveway. • The station serves as the first responder for the northern runway for Travis AFB and houses one fire engine that carries approximately 500 gallons of AFFF. • Confirmed groundwater contamination	Area was not be sampled during RI because the area had been investigated during the 2014 Site Investigation by SES (SES, 2015). The SES report confirmed presence of PFAS in groundwater at concentrations above PALs. Advance to RI
Fire Station 5	• Fire Station 5 (Building 38) was constructed in 2011, and is located southwest of the intersection of Hangar Avenue and Dayton Road on Travis AFB. A desert landscape is located north and south of the building, with small patches of landscaped grass located around the facility. • Fire Station 5 has served as the main airfield station since 2011 and houses up to five fire engines that carry from 50 to 500 gallons each of AFFF. In addition, a storage area to the west of the building contains one 1,000-gallon tank of AFFF on a trailer and an open shed with 28 plastic 55-gallon drums and two 5-gallon containers of AFFF. Several dozen empty 55-gallon drums of AFFF are also stored in this area. Twenty-one 5-gallon containers of AFFF are stored in deployment boxes that may be shipped at a moment's notice. Storage area is also used as a wash area and refill area for AFFF. Ten gallons of AFFF were released to the storm drain system in January 2015. • Fire Station 5 can store up to 5,000 gallons at any one time. • Within the bays, run off from any spills or discharges are captured in the floor drains and run through the OWS before entering the sanitary sewer system. On the west side in the storage area, any spills would flow into the storm drain system.	Fire Station 5 was not sampled during the SI, under the assumption that sampling at Outfalls #1 and #2 would reflect drainage from this site. However, asphalt at the site was observed to be deteriorated and areas of landscaping surrounding the building are potential areas of infiltration to the subsurface but not yet evaluated. In addition, because only sediment was collected at Outfalls #1 and #2, potential impacts to groundwater and subsurface soil have not been evaluated at this location. Advance to RI
1987 L-100 Crash	• On April 8, 1987, an L-100 Hercules aircraft aborted a landing. The engines both decelerated and the plane banked left and struck the base perimeter fence. The plane crashed and landed in the neighboring grassy field. • AFFF was reportedly used to extinguish the fire (according to a newspaper clipping, Base Firefighters sprayed foam on the smoking debris). • AFFF would have soaked into the grassy field.	Sampling during the SI was limited to on-installation releases, so this area was not sampled during the SI. Advance to RI

Potential AFFF Area	Background[1]	Notes
1993 C-141B Fire	• On October 7, 1993, a C-141B was undergoing fuel tank and electrical maintenance on the 500 ramp. The right wing exploded and flames engulfed the entire aircraft. • Over 1,000 gallons of AFFF was used to extinguish the fire. • The fire was fully contained on the airfield near parking spots 512 and 513. • AFFF likely migrated into nearby storm drains that are located on the 500 ramp and drained into Union Creek	This area was not sampled during the SI under the assumption that the sampling results from Outfall #2 would reflect impacts from this site. However, because only sediment was collected at Outfall #2, potential impacts to groundwater and subsurface soil have not been evaluated at this location. Advance to RI

NOTES

1 Background information from Table 17.1 of the Travis AFB QAPP Addendum (OTIE 2017b)

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FIGURES

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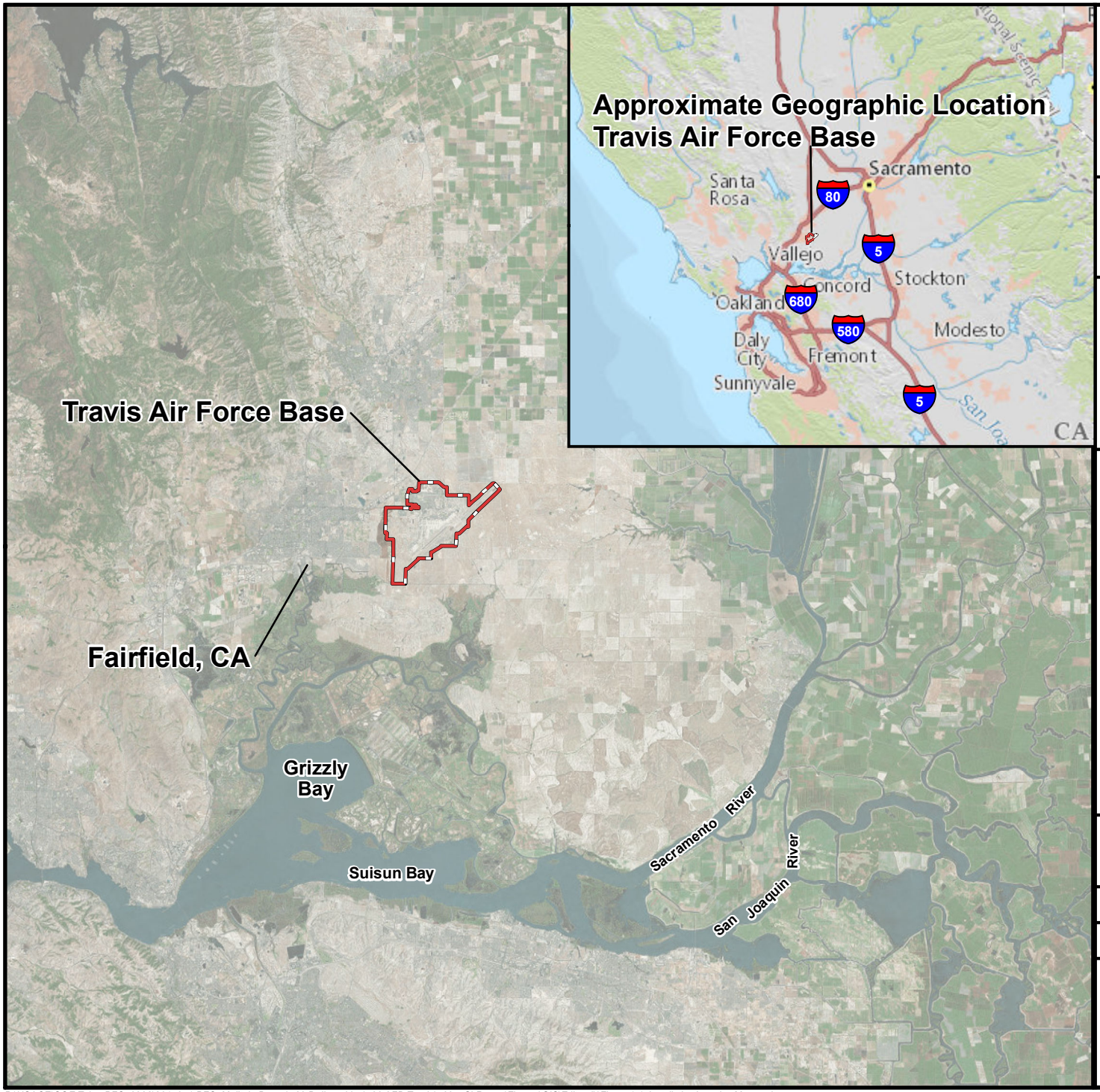


Figure 1-1
Installation Location Map
Travis Air Force Base
Solano County, California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

Travis AFB Boundary

Abbreviations

EPA = Environmental Protection Agency

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Contract # W912BV-15-C-0082

By: RJK/BCW	2/15/2018

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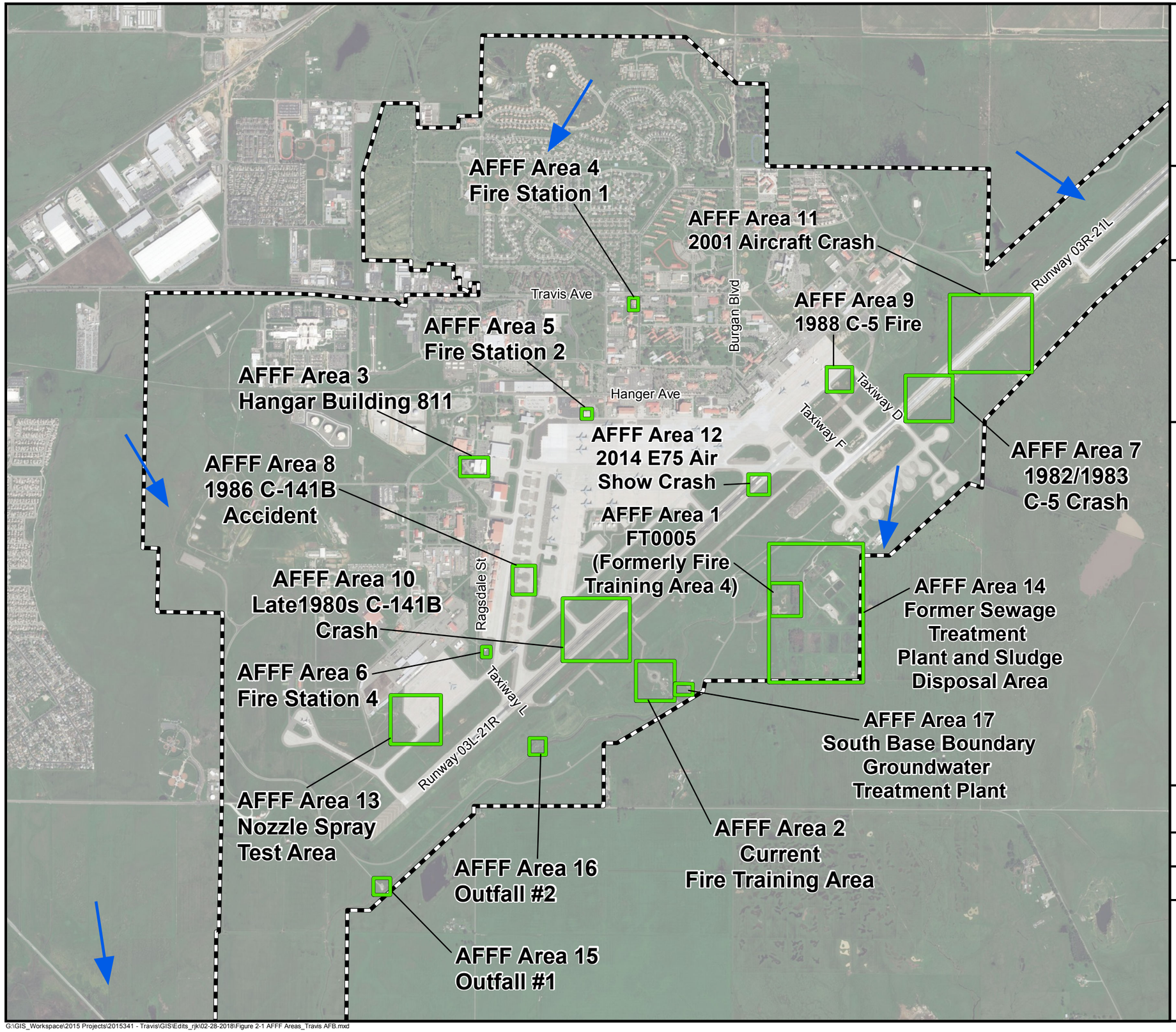


Figure 2-1
Potential AFFF Inspection Locations
Travis Air Force Base
Solano County, California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- AFFF Area
- Travis AFB Boundary
- Groundwater Flow Direction (CH2M Hill, Preliminary Assesment, 2015)

Abbreviations

EPA = Environmental Protection Agency

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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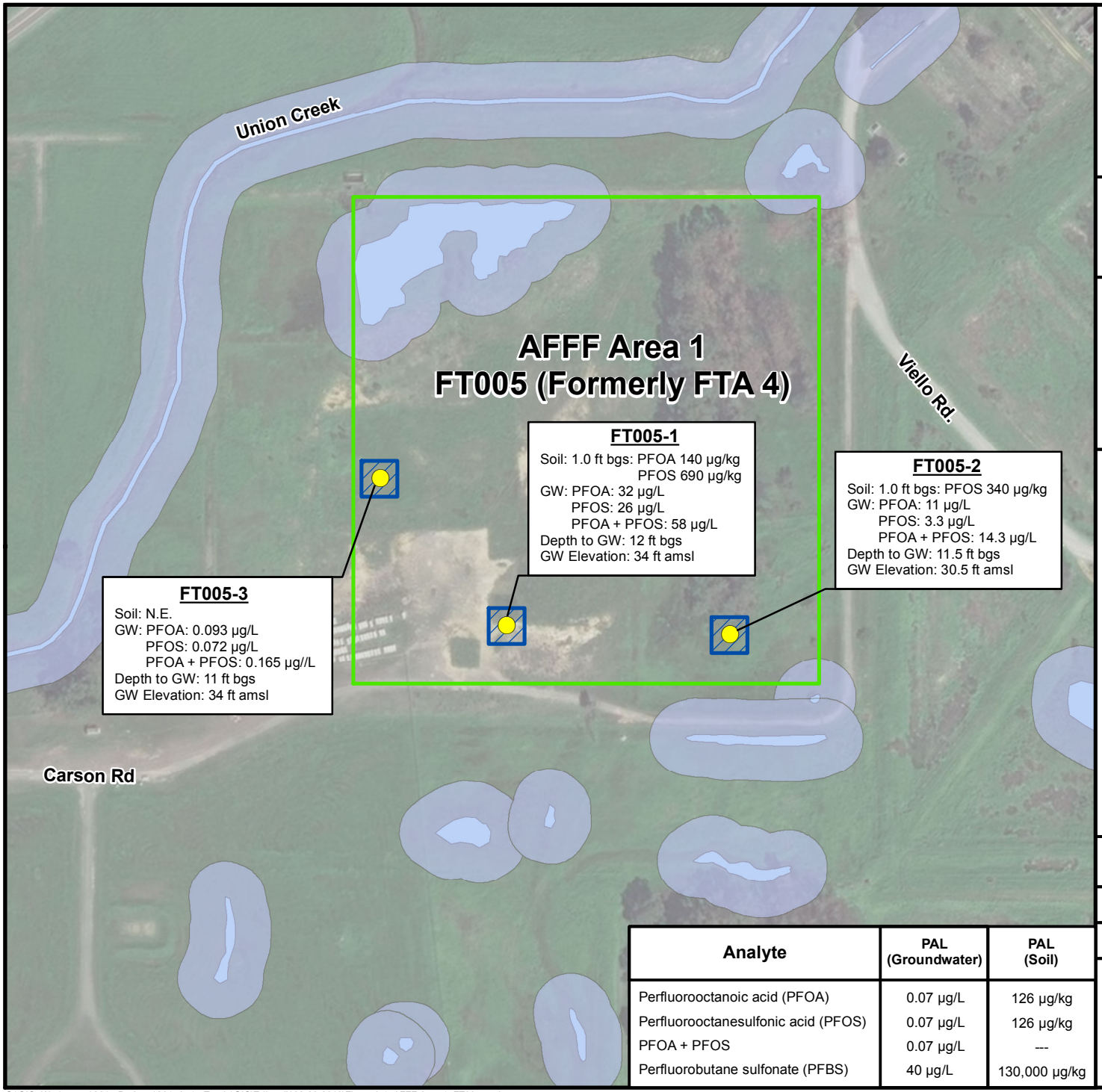
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G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 2-1 AFFF Areas_Travis AFB.mxd



Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-1
Sample Locations and PAL Exceedances
AFFF Area 1
FT005 (Formerly FTA 4)
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Vehicle Traffic Route
- Work Area Footprint
- AFFF Area
- Vernal Pool Buffer (50 feet)
- Vernal Pool

Abbreviations

EPA = Environmental Protection Agency
FTA = Fire Training Area
NE = No Exceedences
µg/L = micrograms per liter
µg/kg = micrograms per kilogram
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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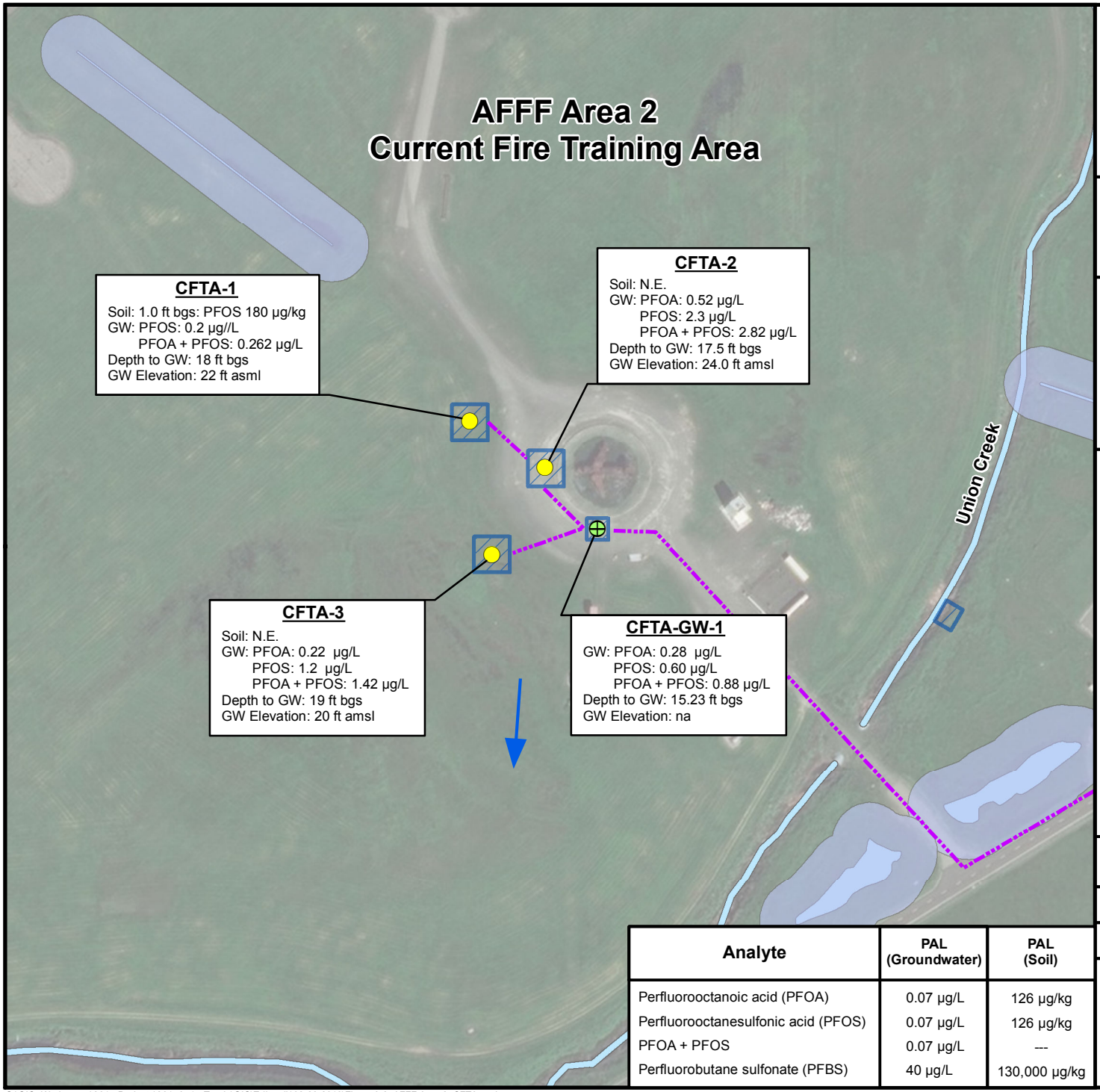
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Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-2
Sample Locations and PAL Exceedances
AFFF Area 2
Current Fire Training Area
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Existing Groundwater Well
- Work Area Footprint
- Vehicle Traffic Route
- Vernal Pool (50 foot buffer)
- Vernal Pool
- Approximate Shallow Groundwater Flow Direction (CH2M Hill, 2015)

Abbreviations

AFFF = Aqueous Film Forming Foam
GW = groundwater
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
PAL = Project Action Limit
NE = No Exceedences
ft bgs = feet below ground surface
ns = not surveyed
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Contract # W912BV-15-C-0082

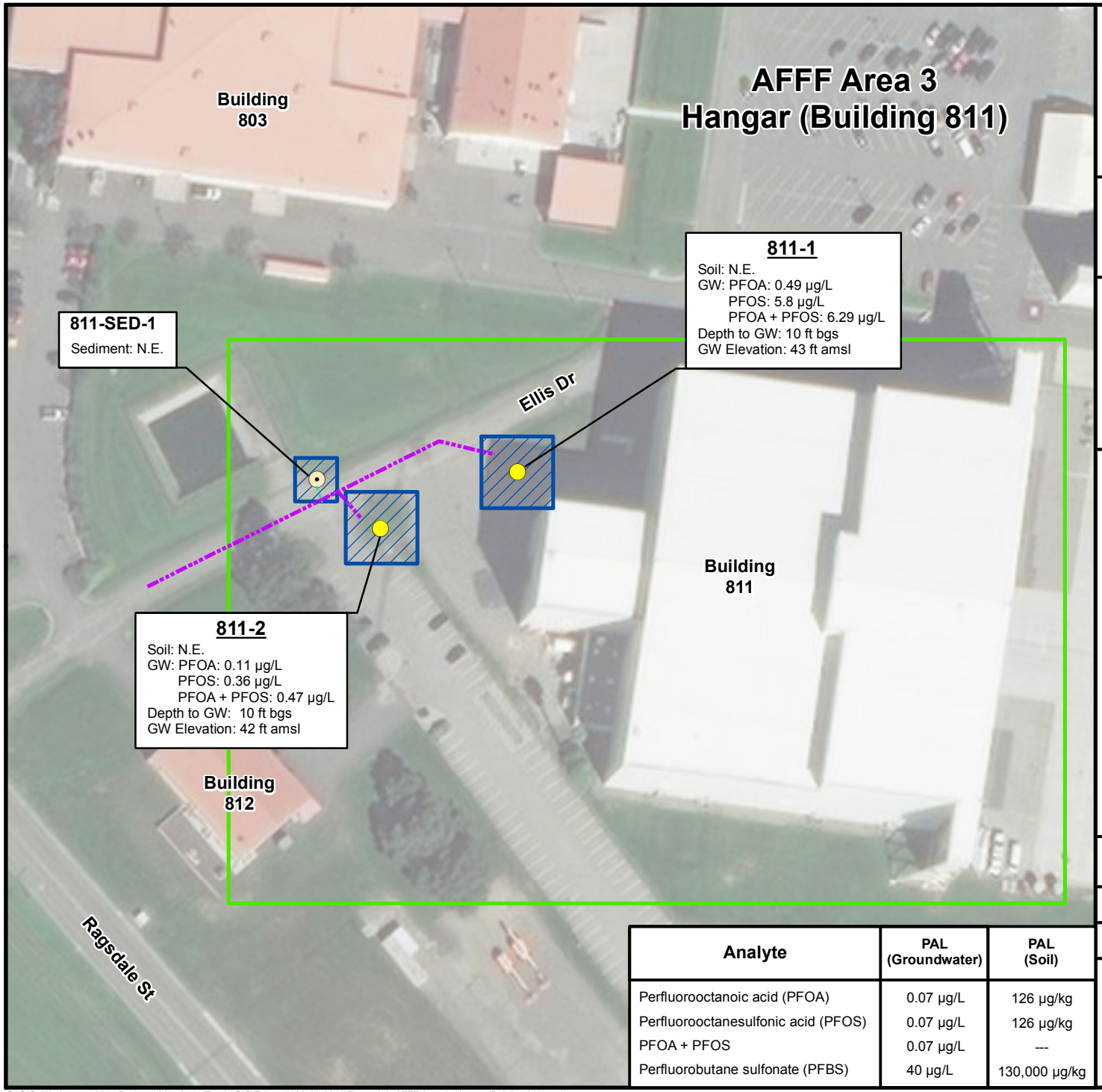
By: RJK/BCW | **6/28/2018**

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Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-3
Sample Locations and PAL Exceedances
AFFF Area 3
Hangar Building 811
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Sediment Sample
- Vehicle Traffic Route
- Work Area Footprint
- AFFF Area

Abbreviations

EPA = Environmental Protection Agency
AFFF = Aqueous Film Forming Foam
NE = No Exceedences
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
amsl = above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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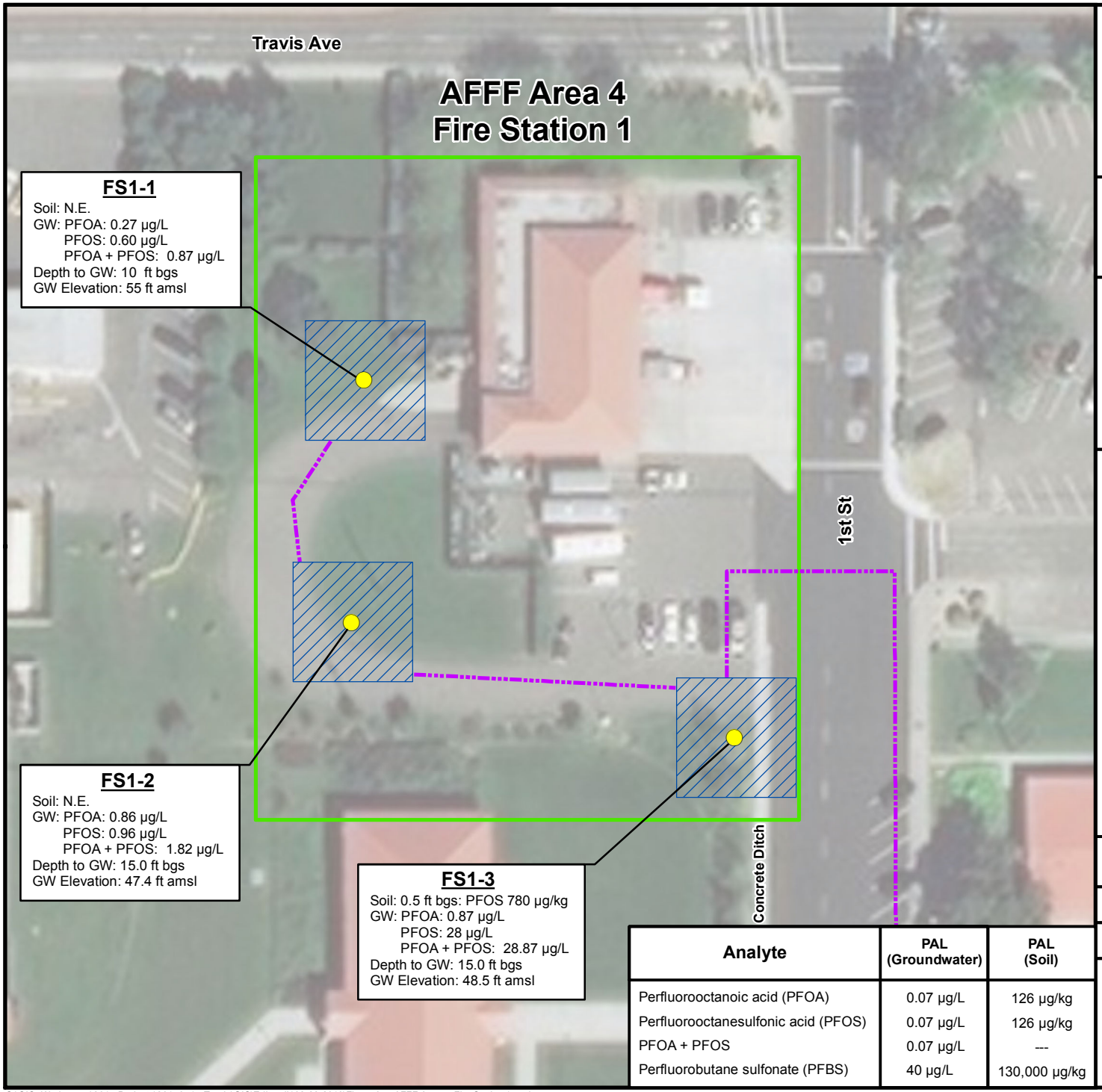
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N W E S

OTIE An Oneida Nation Company

0 25 50 100
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-3_AFFF Area 3_Hangar (Building 811).mxd



Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-4
Sample Locations and PAL Exceedances
AFFF Area 4
Fire Station 1
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Vehicle Traffic Route
- Footprint
- Potential AFFF Area

Abbreviations

EPA = Environmental Protection Agency
AFFF = Aqueous Film Forming Foam
NE = No Exceedences
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
amsl = above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Contract # W912BV-15-C-0082

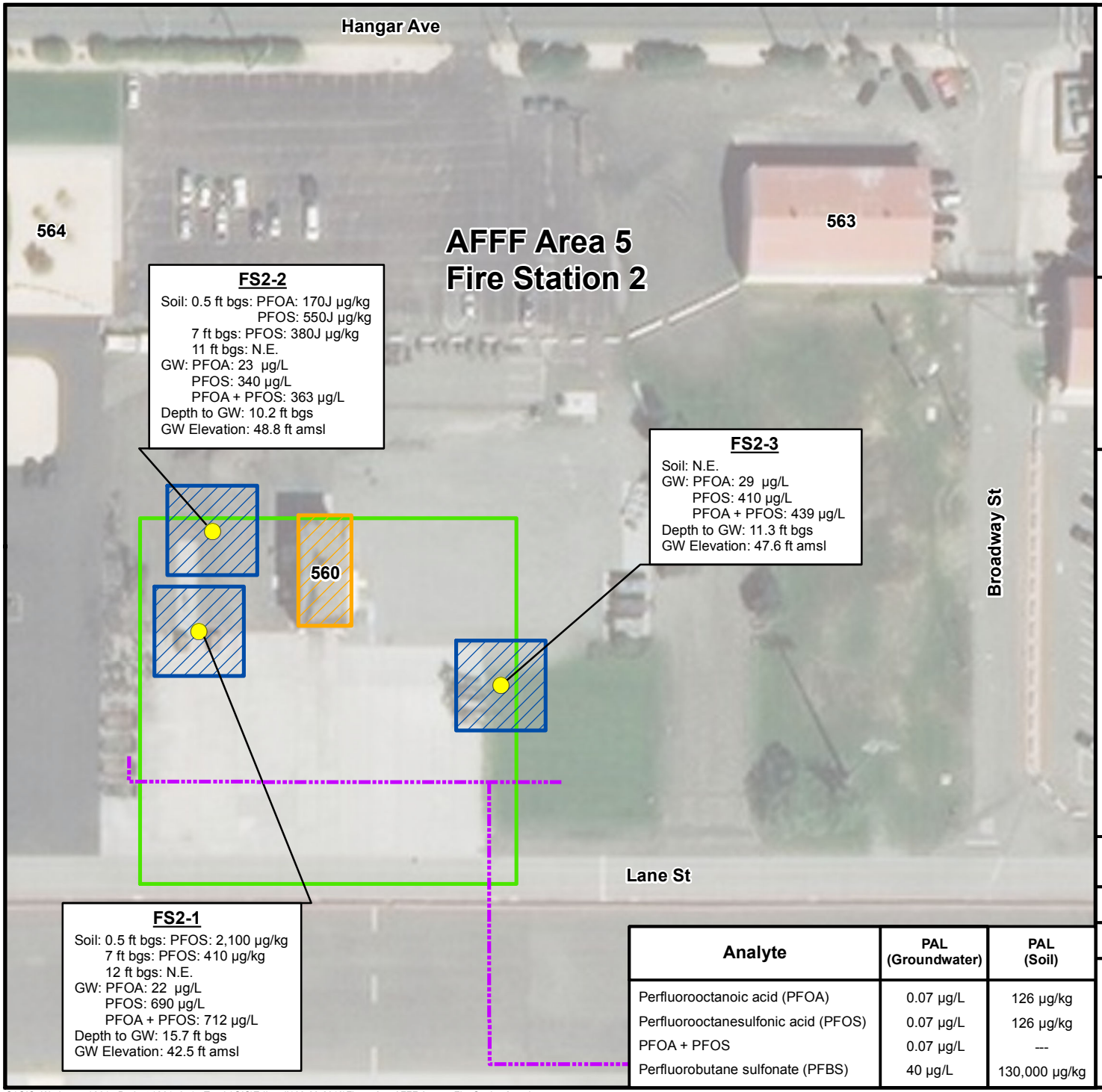
By: RJK/BCW | **6/28/2018**

N W E S

OTIE An Oneida Nation Company

0 15 30 60
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-4_AFFF Area 4_Fire Station 1.mxd



Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-5
Sample Locations and PAL Exceedances
AFFF Area 5
Fire Station 2
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Vehicle Traffic Route
- Wash Rack
- Work Area Footprint
- AFFF Area

Abbreviations

EPA = Environmental Protection Agency
NE = No Exceedences
µg/L = micrograms per liter
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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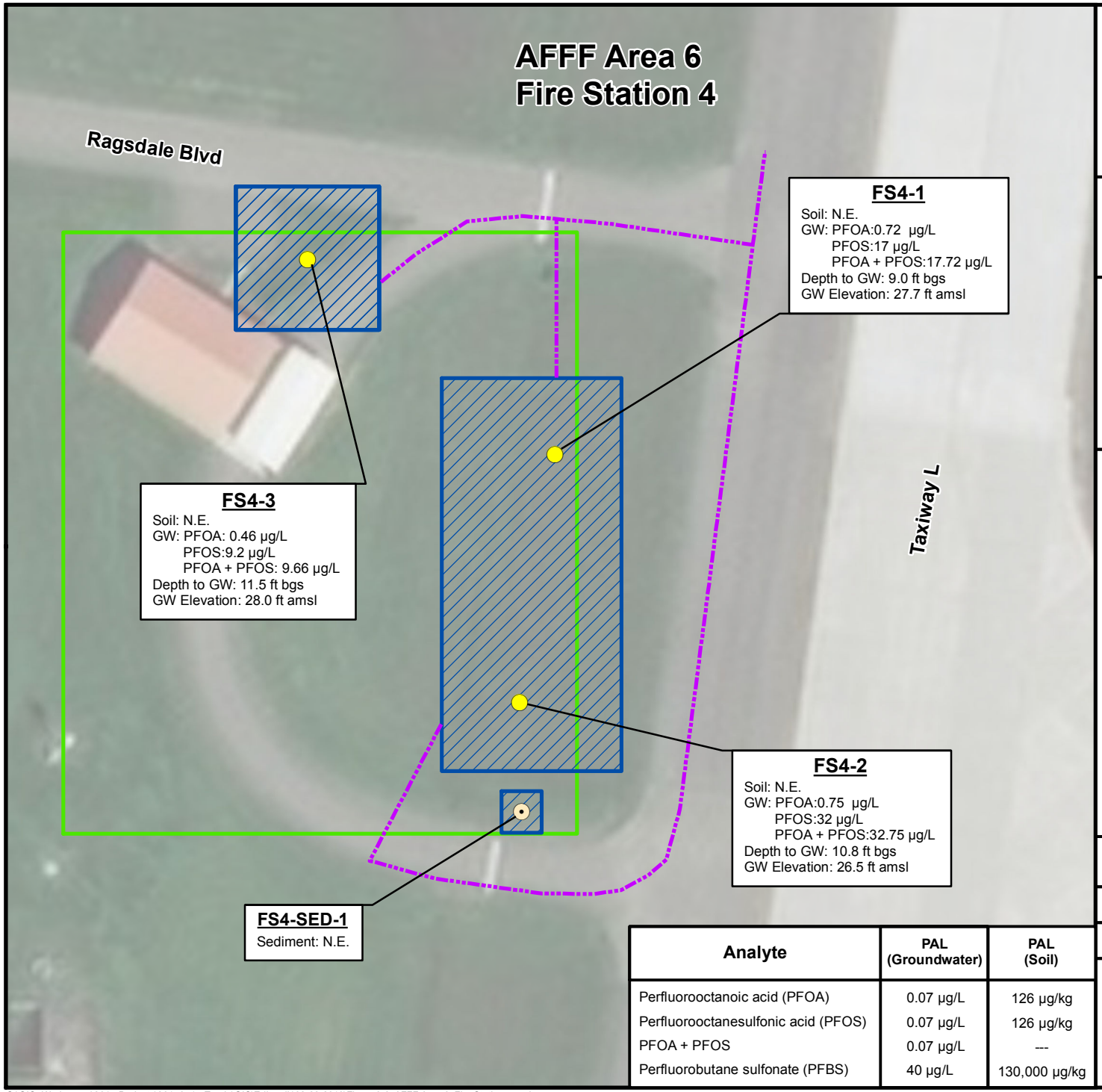
By: RJK/BCW | **6/28/2018**

N W E S

OTIE An Oneida Nation Company

0 20 40 80
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-5_AFFF Area 5_Fire Station 2.mxd



Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-6
Sample Locations and PAL Exceedances
AFFF Area 6
Fire Station 4
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Sediment Sample
- Work Area Footprint
- AFFF Area
- Vehicle Traffic Route

Abbreviations

EPA = Environmental Protection Agency
NE = No Exceedences
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
PAL = Project Action Limit
GW = Groundwater
bgs = below ground surface
amsl = above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Contract # W912BV-15-C-0082

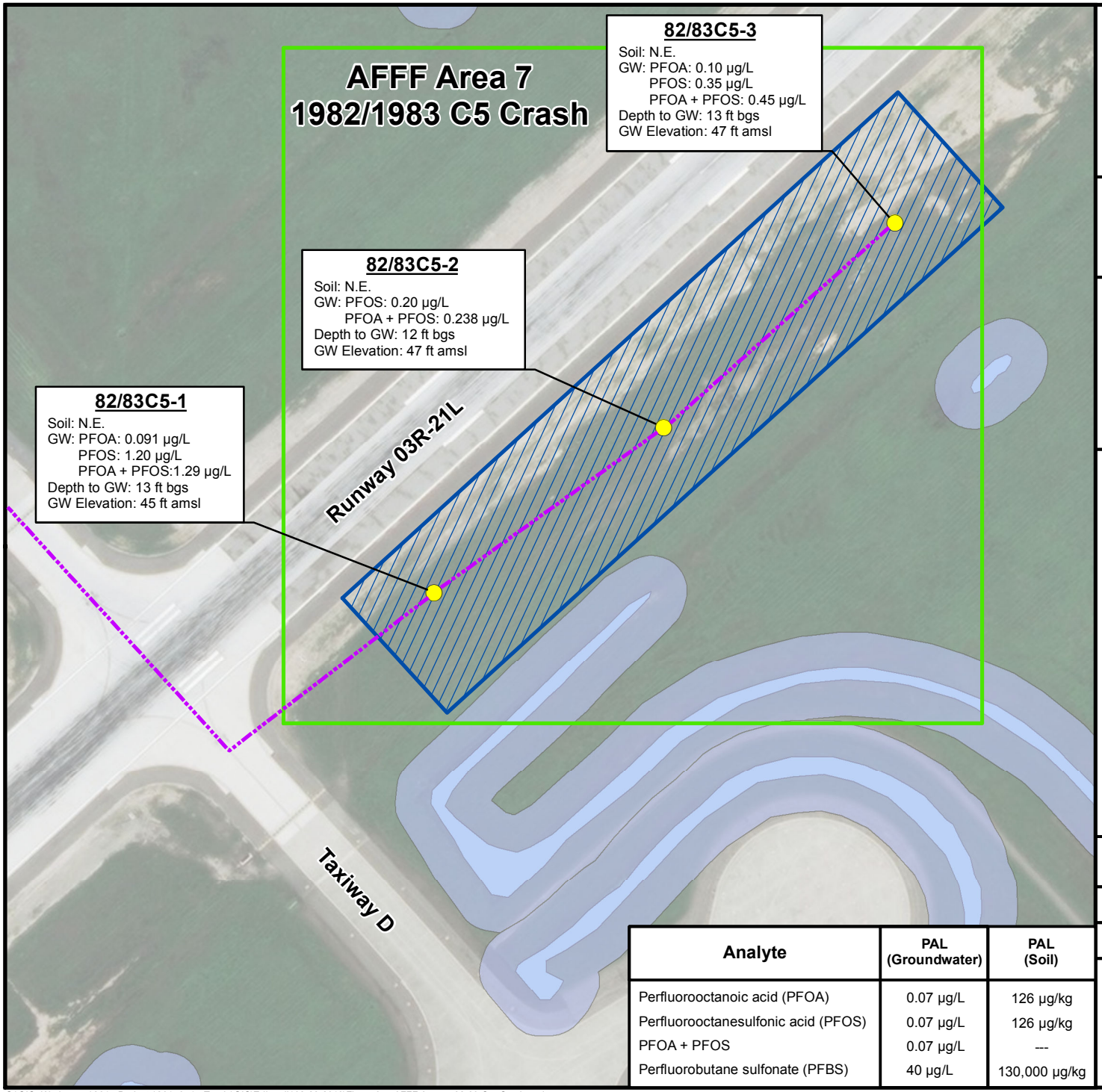
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N W E S

OTIE An Oneida Nation Company

0 25 50
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-6_AFFF Area 6_Fire Station 4.mxd



Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-7
Sample Locations and PAL Exceedances
AFFF Area 7
1982/1983 C-5 Crash
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Work Area Footprint
- AFFF Area
- Vernal Pool Buffer (50 feet)
- Vernal Pool
- Vehicle Traffic Route

Abbreviations

EPA = Environmental Protection Agency
AFFF = Aqueous Film Forming Foam
N.E. = No Exceedences
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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N W E S

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0 50 100 200
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-7_AFFF Area 7_82-83 C-5 Crash.mxd

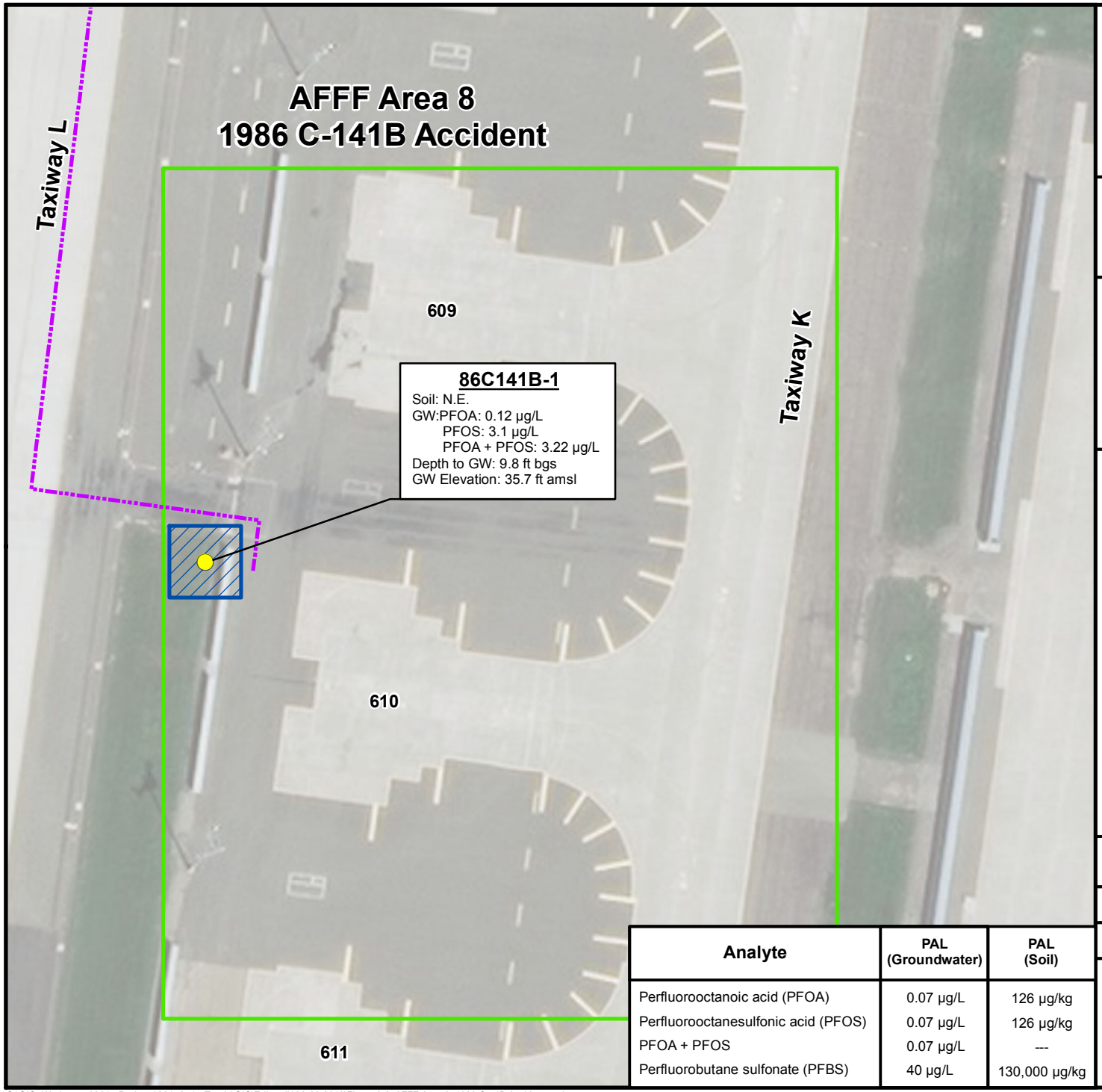


Figure 3-8
Sample Locations and PAL Exceedances
AFFF Area 8
1986 C-141B Accident
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Vehicle Traffic Route
- Work Area Footprint
- AFFF Area

Abbreviations

EPA = Environmental Protection Agency
AFFF = Aqueous Film Forming Foam
N.E. = No Exceedences
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

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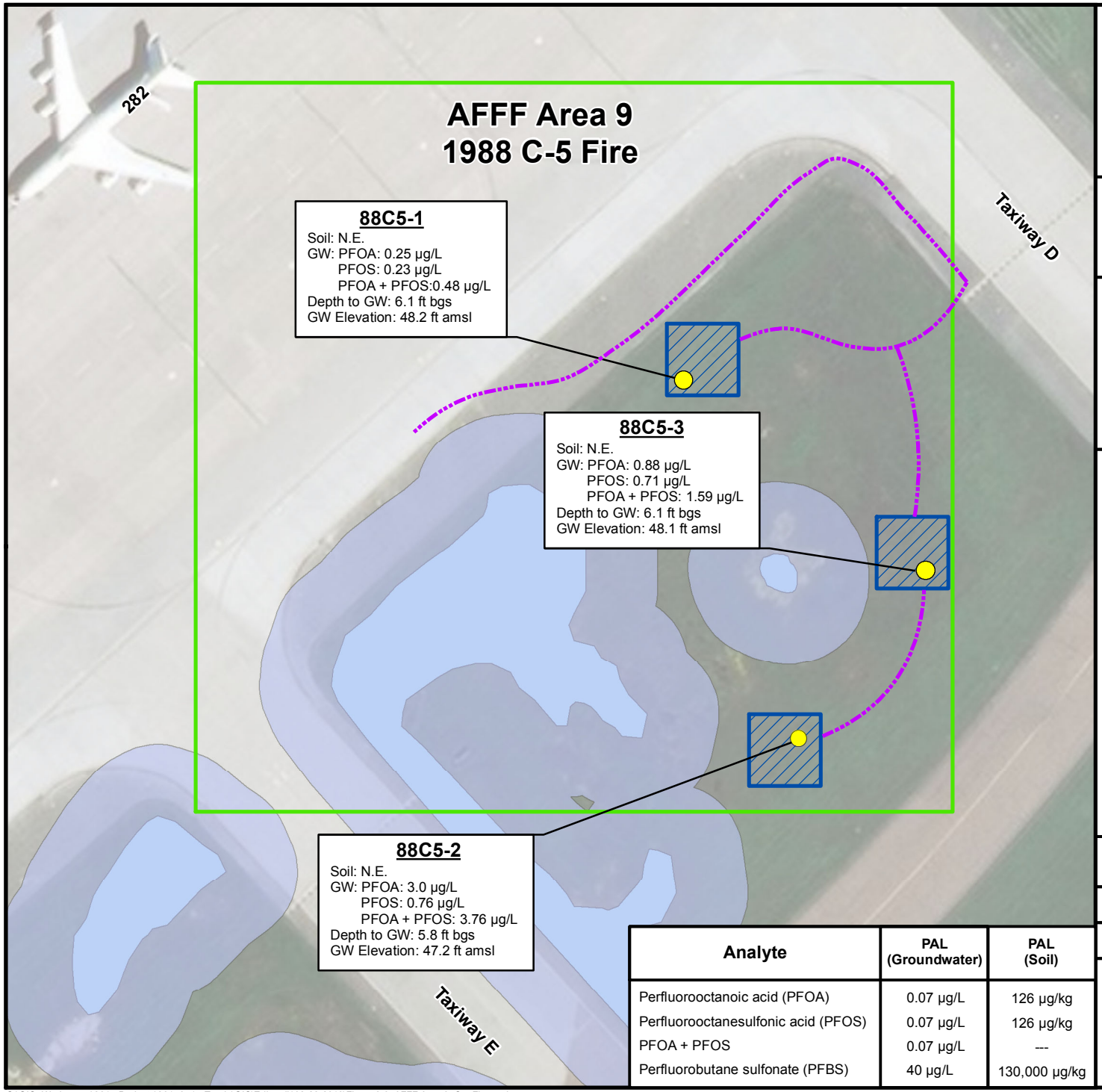
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N W E S

OTIE An Oneida Nation Company

0 25 50 100
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-8_AFFF Area 8_1986 C-41B Accident.mxd



Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-9
Sample Location and PAL Exceedances
AFFF Area 9
1988 C-5 Fire
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Work Area Footprint
- AFFF Area
- Vernal Pool Buffer (50 feet)
- Vernal Pool
- Vehicle Traffic Route

Abbreviations

EPA = Environmental Protection Agency
AFFF = Aqueous Film Forming Foam
NE = No Exceedences
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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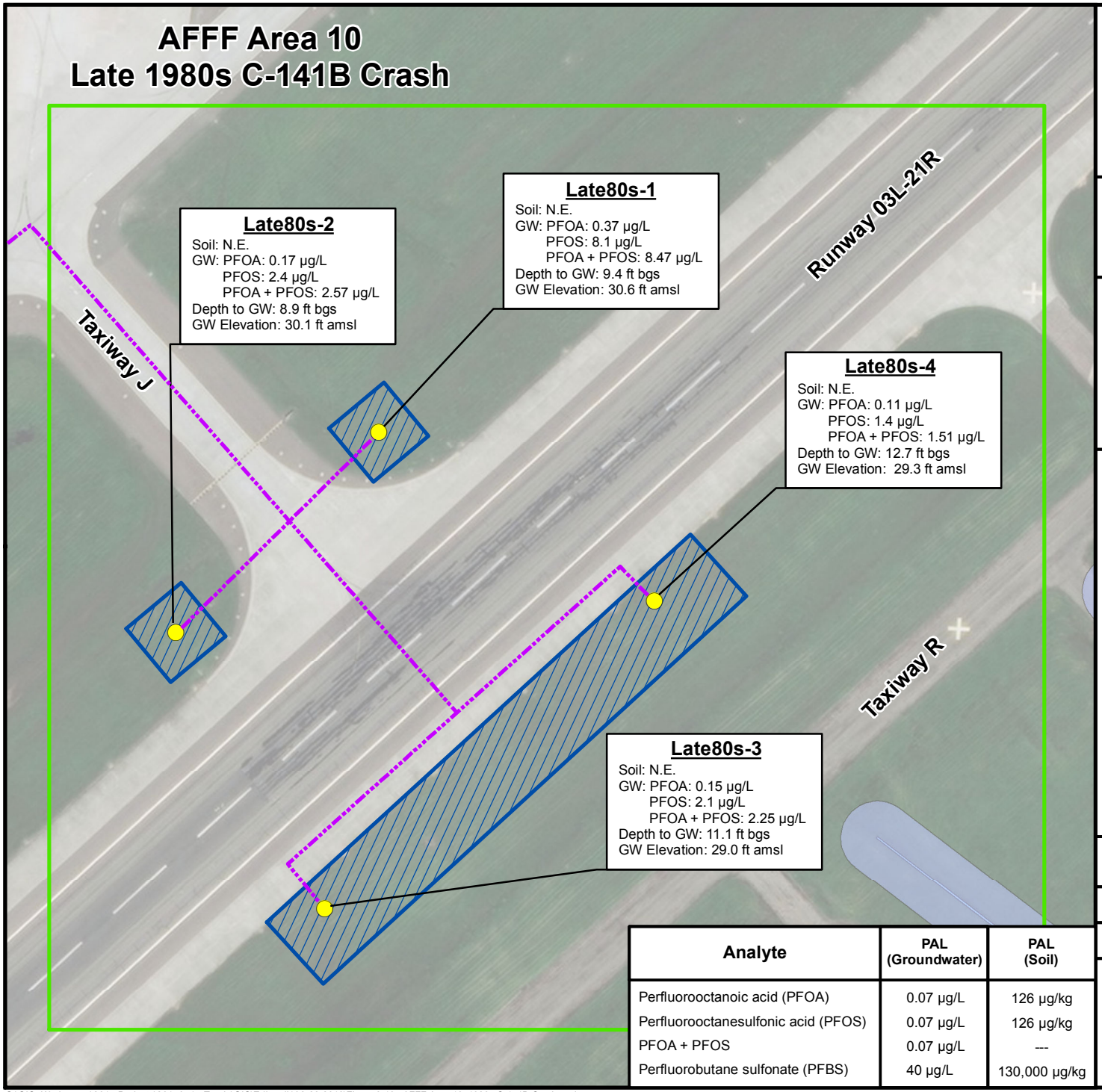
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0 25 50 100
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-9_AFFF Area 9_C-5 Fire.mxd



Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-10
Sample Location and PAL Exceedances
AFFF Area 10
Late 1980s C-141B Crash
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Work Area Footprint
- AFFF Area
- Vernal Pool Buffer (50 feet)
- Vernal Pool
- Vehicle Traffic Route

Abbreviations

EPA = Environmental Protection Agency
AFFF = Aqueous Film Forming Foam
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
PAL = Project Action Limit
NE = No Exceedences
ns = not surveyed
GW = Groundwater
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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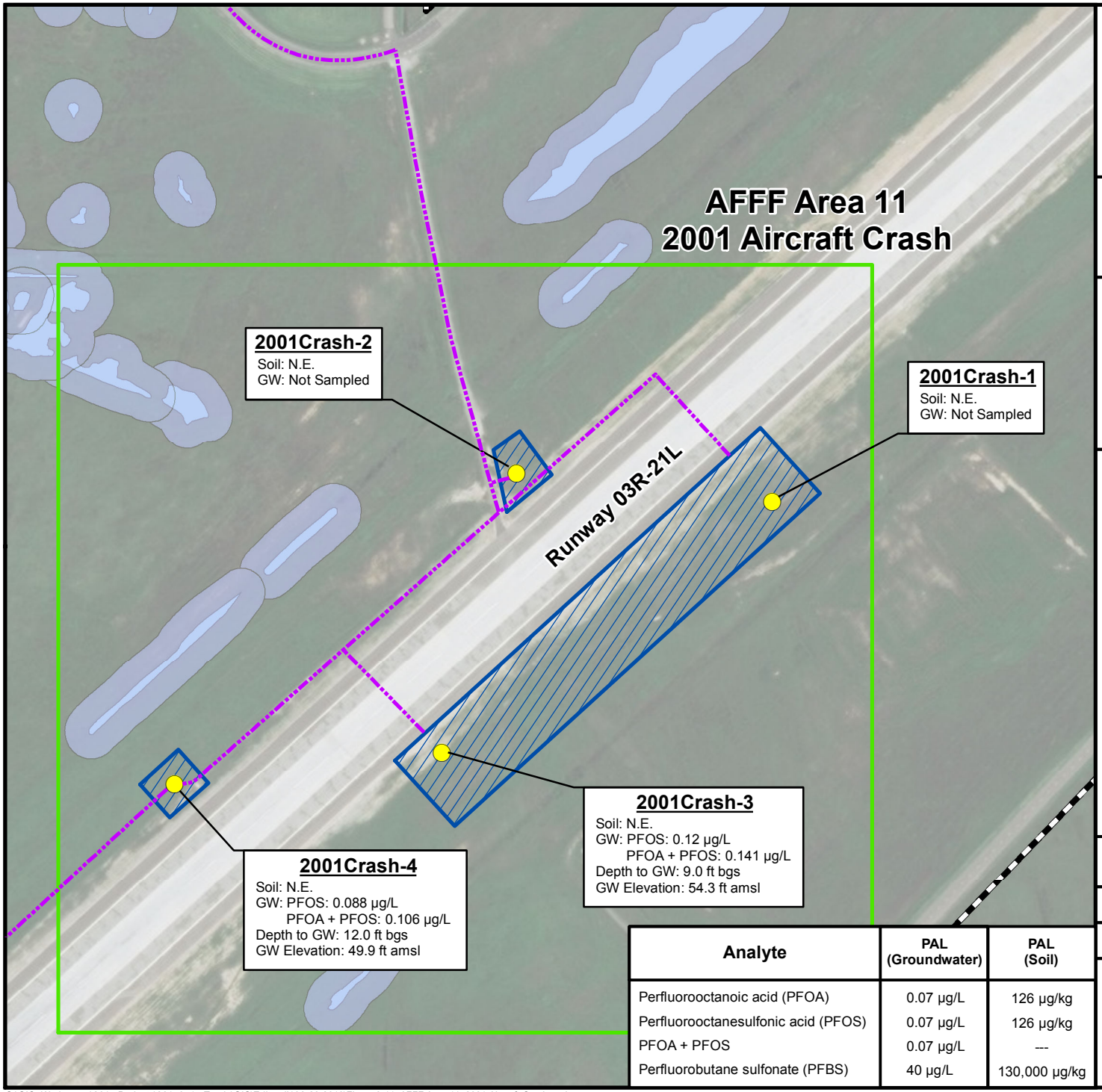
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N W E S

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0 50 100 200
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-10_ AFFF Area 10_1980s C-141B Crash.mxd



Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-11
Sample Locations and PAL Exceedances
AFFF Area 11
2001 Aircraft Crash
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Work Area Footprint
- AFFF Area
- Travis AFB Boundary
- Vernal Pool Buffer (50 feet)
- Vernal Pool
- Vehicle Traffic Route

Abbreviations

EPA = Environmental Protection Agency
AFFF = Aqueous Film Forming Foam
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
NE = No Exceedences
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Contract # W912BV-15-C-0082

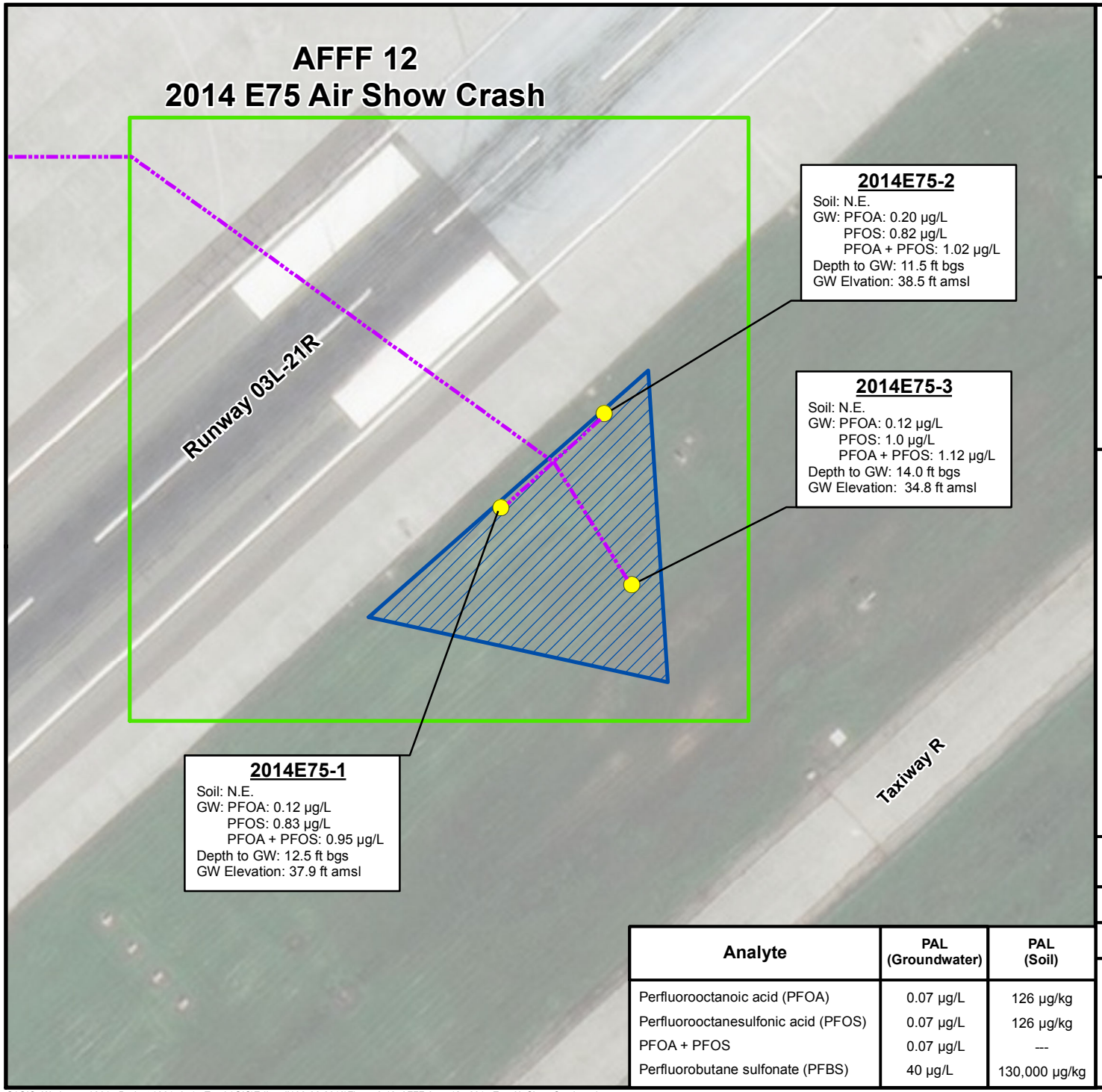
By: RJK/BCW | **6/28/2018**

N W E S

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0 75 150 300
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-11_AFFF Area 11_2001 Aircraft Crash.mxd



Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-12
Sample Location and Exceedances
AFFF Area 12
2014 E75 Air Show Crash
Travis Air Force Base
Califronia

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Work Area Footprint
- AFFF Area
- Vehicle Traffic Route

Abbreviations

EPA = Environmental Protection Agency
AFFF = Aqueous Film Forming Foam
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
NE = No Exceedences
ns = not surveyed
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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N W E S

OTIE An Oneida Nation Company

0 25 50 100
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-12_AFFF Area 12_ 2014 E75 Air Show Crash.mxd

Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

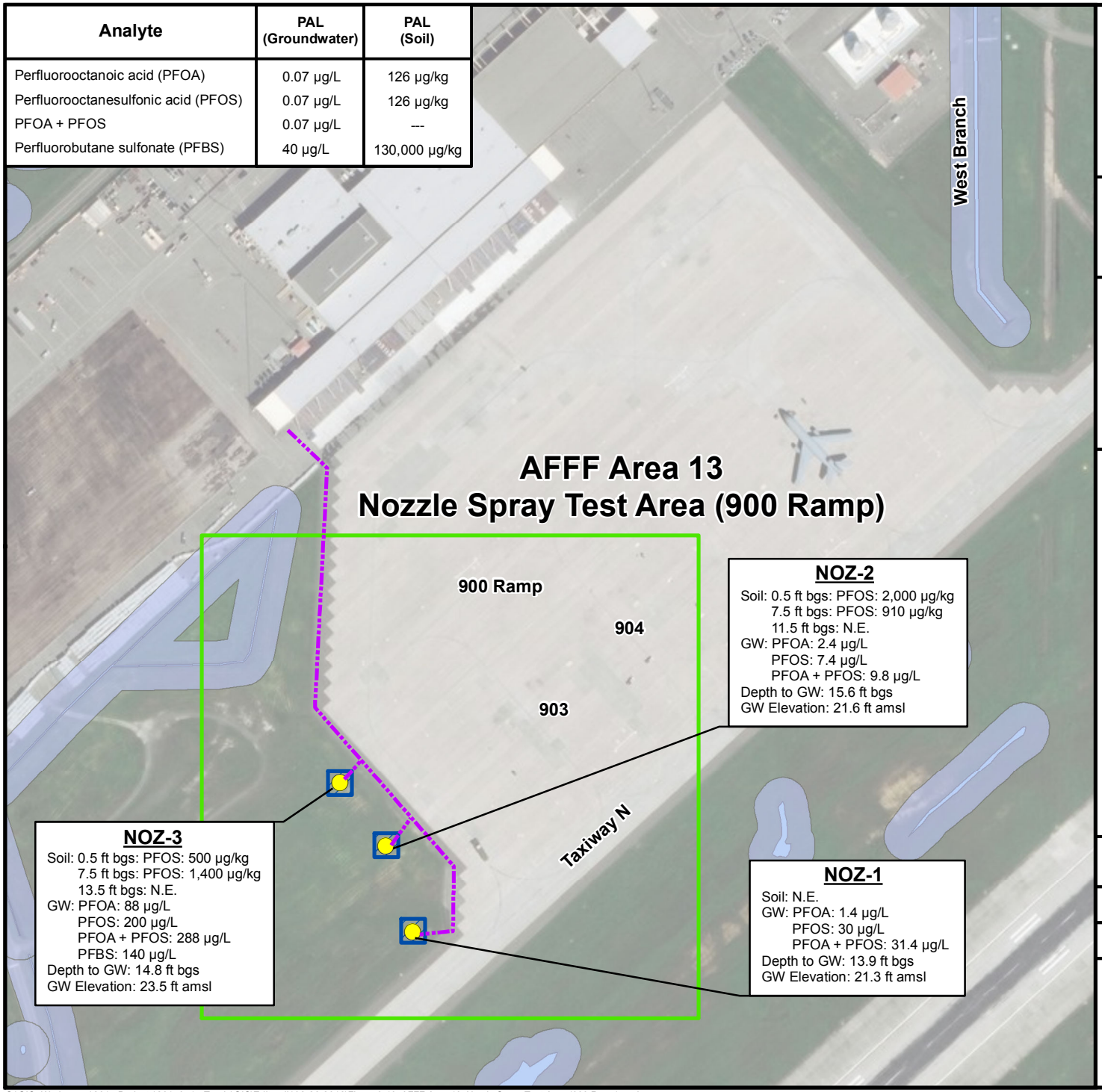


Figure 3-13
Sample Locations and Exceedances
AFFF Area 13
Nozzle Spray Test Area (900 Ramp)
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Vehicle Traffic Route
- Work Area Footprint
- AFFF Area
- Vernal Pool Buffer (50 feet)
- Vernal Pool

Abbreviations

EPA = Environmental Protection Agency
NE = No Exceedences
µg/kg = miligrams per kilogram
µg/L = micrograms per liter
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Contract # W912BV-15-C-0082

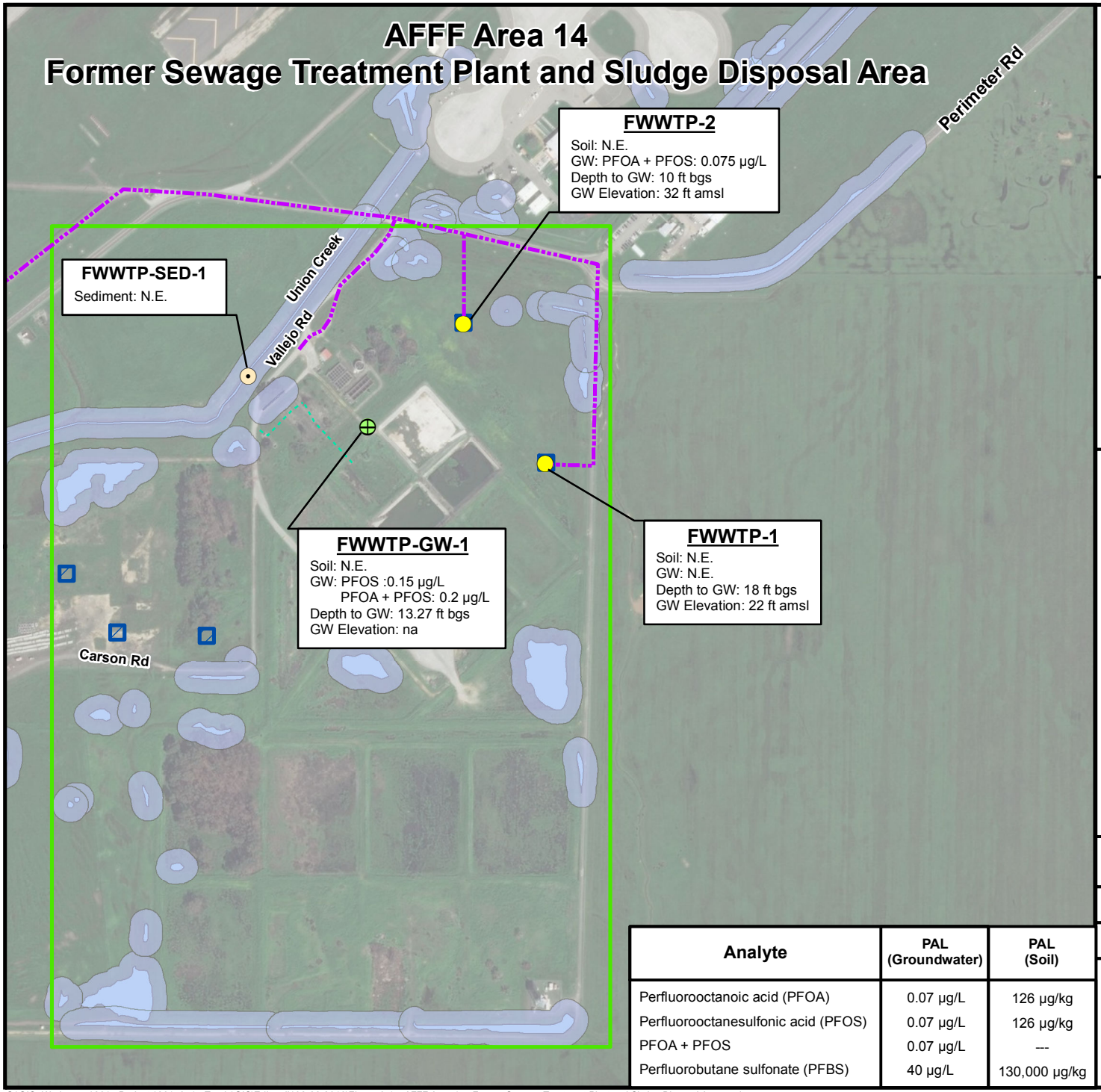
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N W E S

OTIE An Oneida Nation Company

0 75 150 300
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-13_AFFF Area 13_Nozzle Spray Test Area (900 Ramp).mxd



Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-14
Sample Location and PAL Exceedances
AFFF Area 14
Former Sewage Treatment Plant and Sludge Disposal Area
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Soil Boring/Groundwater Grab Sample
- Sediment Sample
- Existing Groundwater Well
- Foot Traffic Route
- Vehicle Traffic Route
- Work Area Footprint
- AFFF Area
- Vernal Pool Buffer (50 feet)
- Vernal Pool

Abbreviations

EPA = Environmental Protection Agency
NE = No Exceedences
ns = not surveyed
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

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N W E S

OTIE An Oneida Nation Company

0 125 250 500
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-14_AFFF Area 14_ Former Sewage Treatment Plant and Sludge Disposal Area.mxd

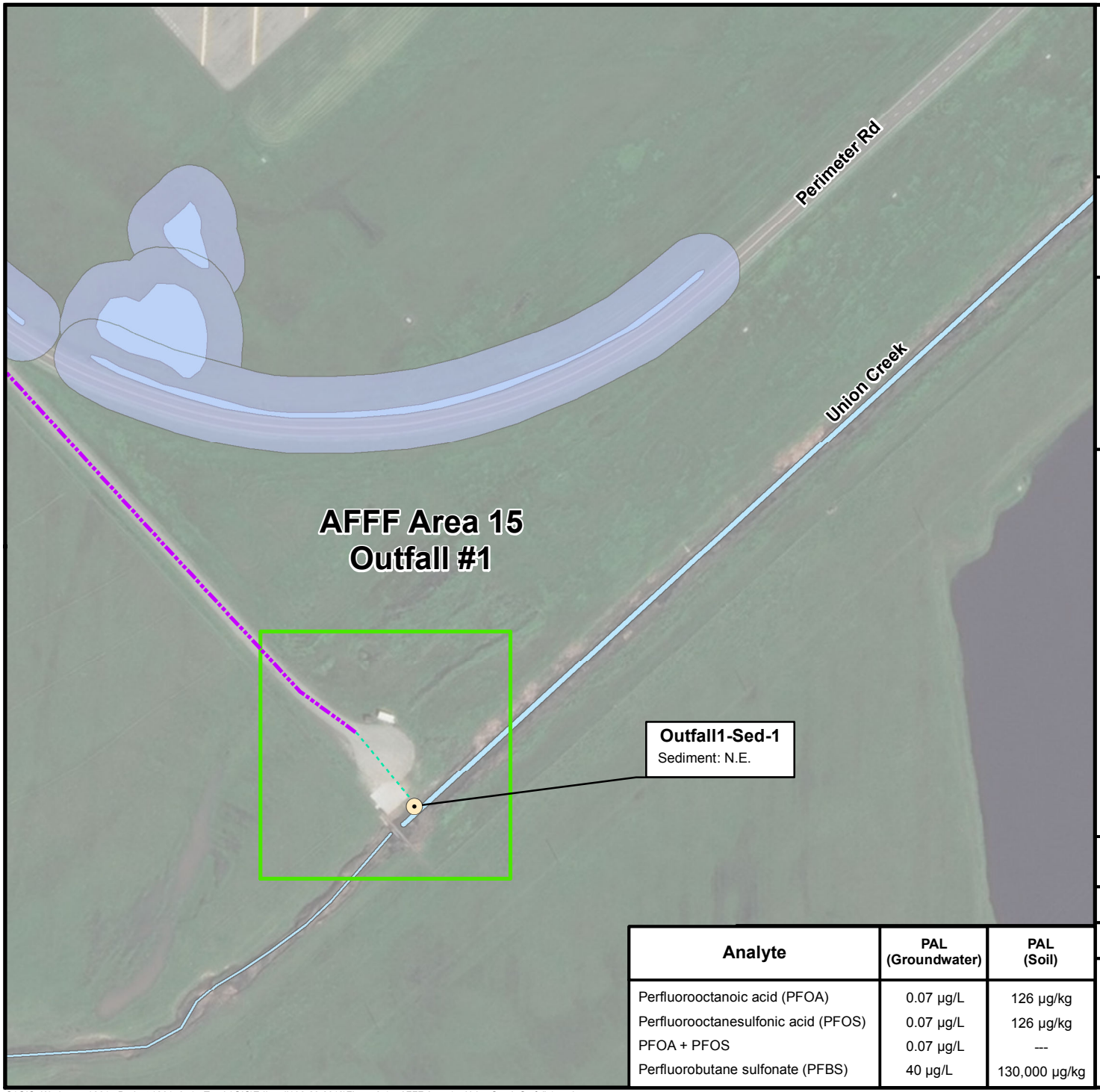


Figure 3-15
Sample Locations and PAL Exceedances
AFFF Area 15
Outfall #1
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Sediment Sample
- Foot Traffic Route
- Vehicle Traffic Route
- Site Inspection Boundary
- Vernal Pool Buffer (50 feet)
- Vernal Pool

Abbreviations

EPA = Environmental Protection Agency
AFFF = Aqeous Film Forming Foam
µg/kg = micrograms per kilogram
NE = No Exceedences
PAL = Project Action Limit
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Contract # W912BV-15-C-0082

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N W E S

OTIE An Oneida Nation Company

0 50 100 200
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-15_AFFF Area 15_Union Creek Outfall 1.mxd

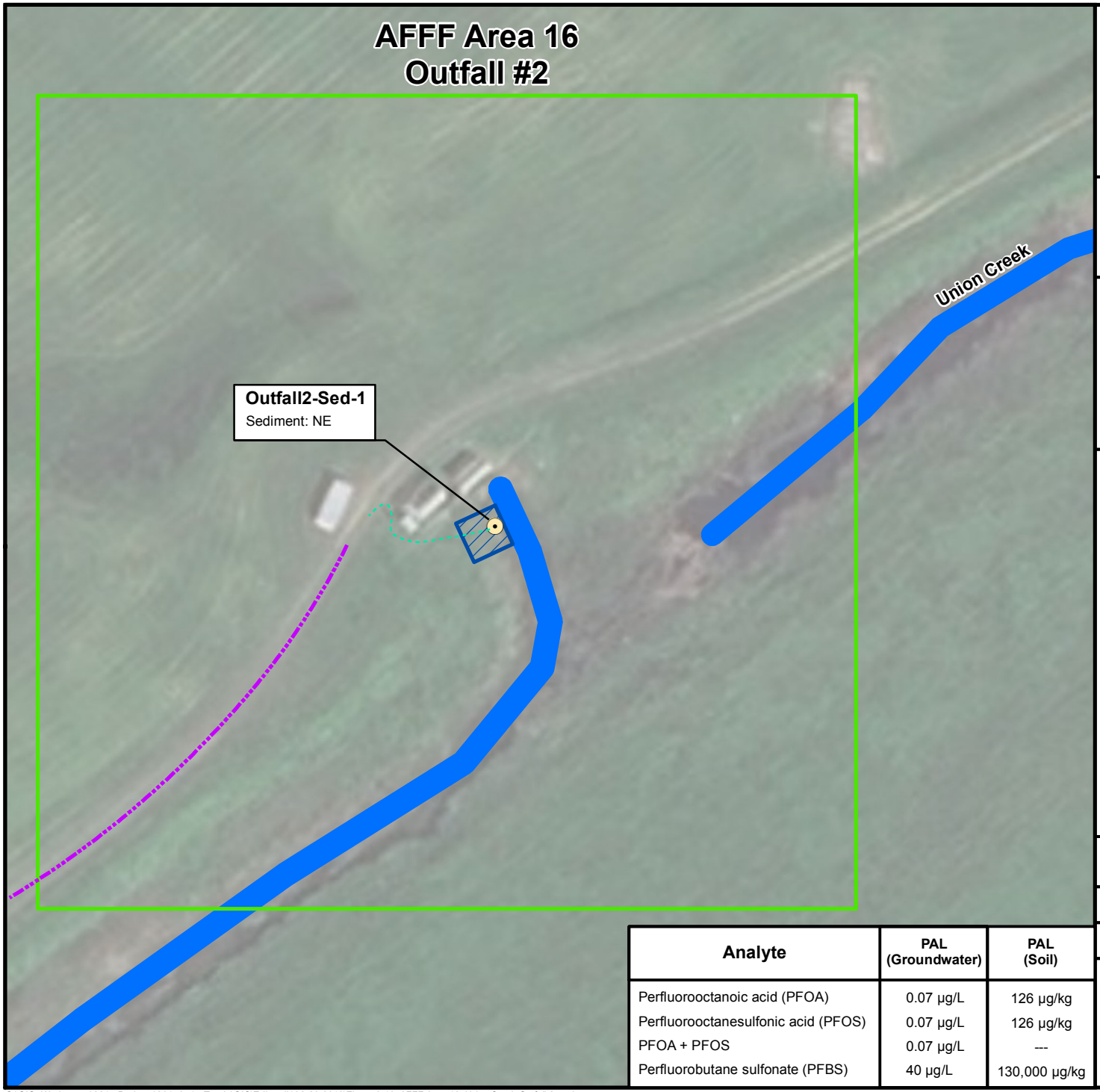


Figure 3-16
Sample Location and Axceedances
AFFF Area 16
Outfall #2
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Sediment Sample
- Work Area Footprint
- AFFF Area
- Perennial Stream
- Foot Traffic Route
- Vehicle Traffic Route

Abbreviations

EPA = Environmental Protection Agency.
AFFF = Aqueous Film Forming Foam
NE = No Exceedences
µg/kg = micrograms per kilogram
PAL = Project Action Limit
GW = Groundwater
ft bgs = feet below ground surface
ft amsl = feet above mean sea level

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Contract # W912BV-15-C-0082

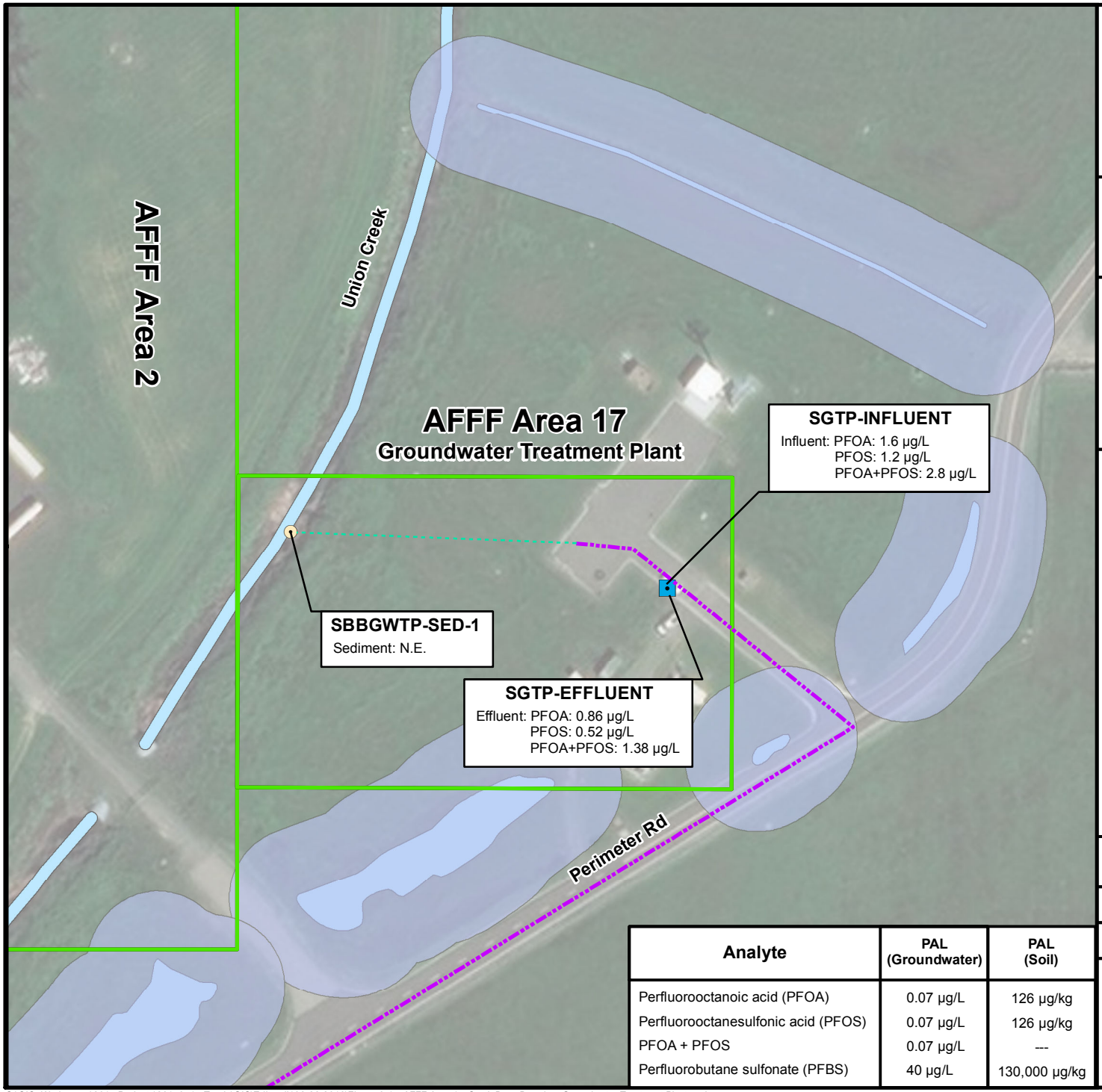
By: RJK/BCW | **6/28/2018**

N W E S

OTIE An Oneida Nation Company

0 15 30 60
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-16_AFFF Area 16_Union Creek Outfall 2.mxd



Analyte	PAL (Groundwater)	PAL (Soil)
Perfluorooctanoic acid (PFOA)	0.07 µg/L	126 µg/kg
Perfluorooctanesulfonic acid (PFOS)	0.07 µg/L	126 µg/kg
PFOA + PFOS	0.07 µg/L	---
Perfluorobutane sulfonate (PFBS)	40 µg/L	130,000 µg/kg

Figure 3-17
Sample Location and Exceedances
AFFF Area 17
South Base Boundary
Groundwater Treatment Plant
Travis Air Force Base
California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Inffluent/Effluent Sample
- Sediment Sample
- Foot Traffic Route
- Vehicle Traffic Route
- AFFF Area
- Vernal Pool Buffer (50 feet)
- Vernal Pool

Abbreviations

EPA = Environmental Protection Agency
AFFF= Aqueous Film Forming Foam
NE = No Exceedences
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
PAL = Project Action Limit

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Contract # W912BV-15-C-0082

By: RJK/BCW | **6/28/2018**

N W E S

OTIE An Oneida Nation Company

0 25 50 100
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 3-17_AFFF Area 17_South Base Boundary Groundwater Treatment Plant.mxd

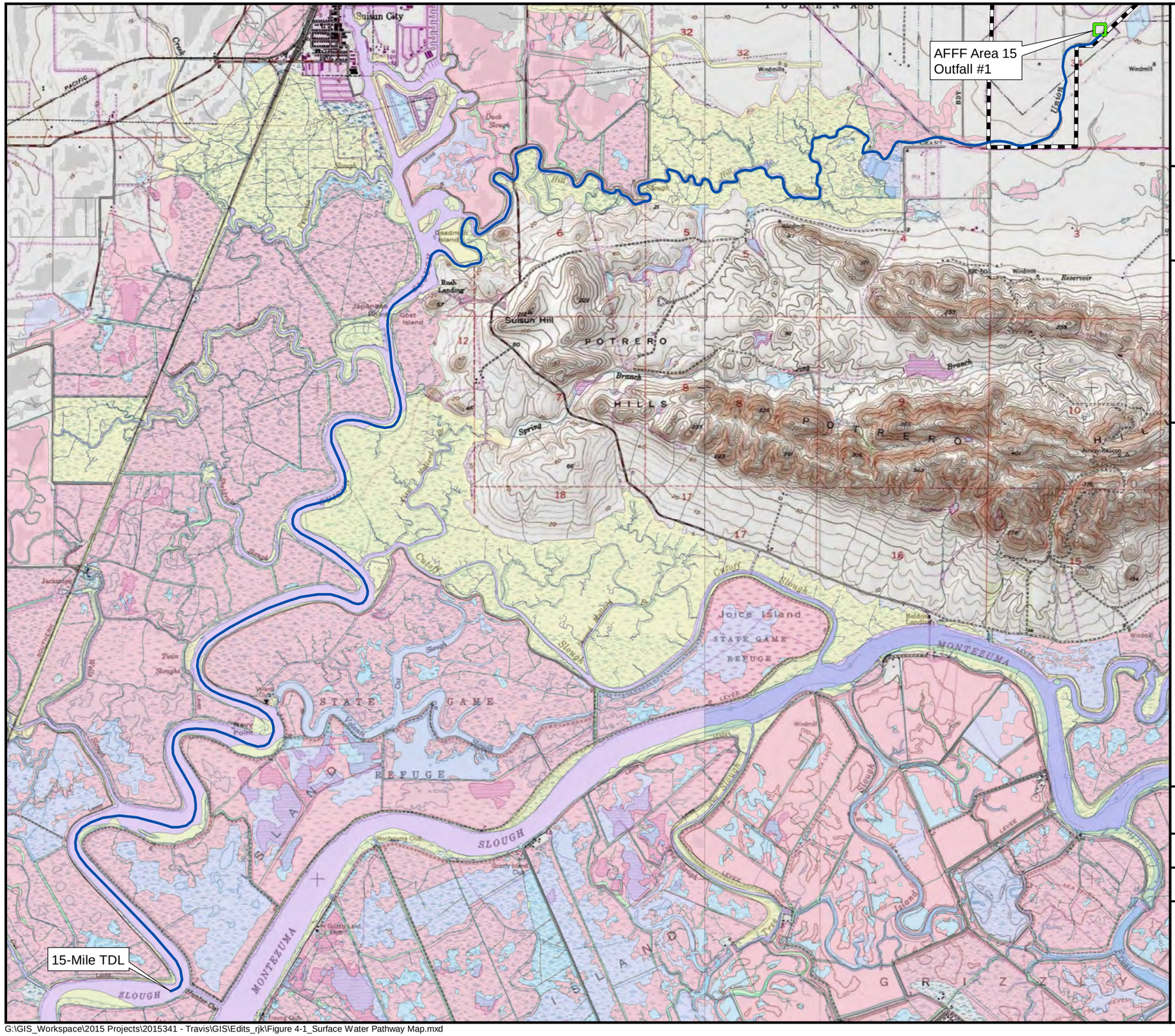


Figure 4-1
Surface Water Pathway Map
Travis Air Force Base
Solano County, California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Surface Water Pathway
- AFFF Area
- Travis AFB Boundary
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Abbreviations

AFFF = Aqueous Film Forming Foam
TDL = Target Distance Limit

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

Contract # W912BV-15-C-0082

By: RJK/BCW	2/20/2018

N W E S

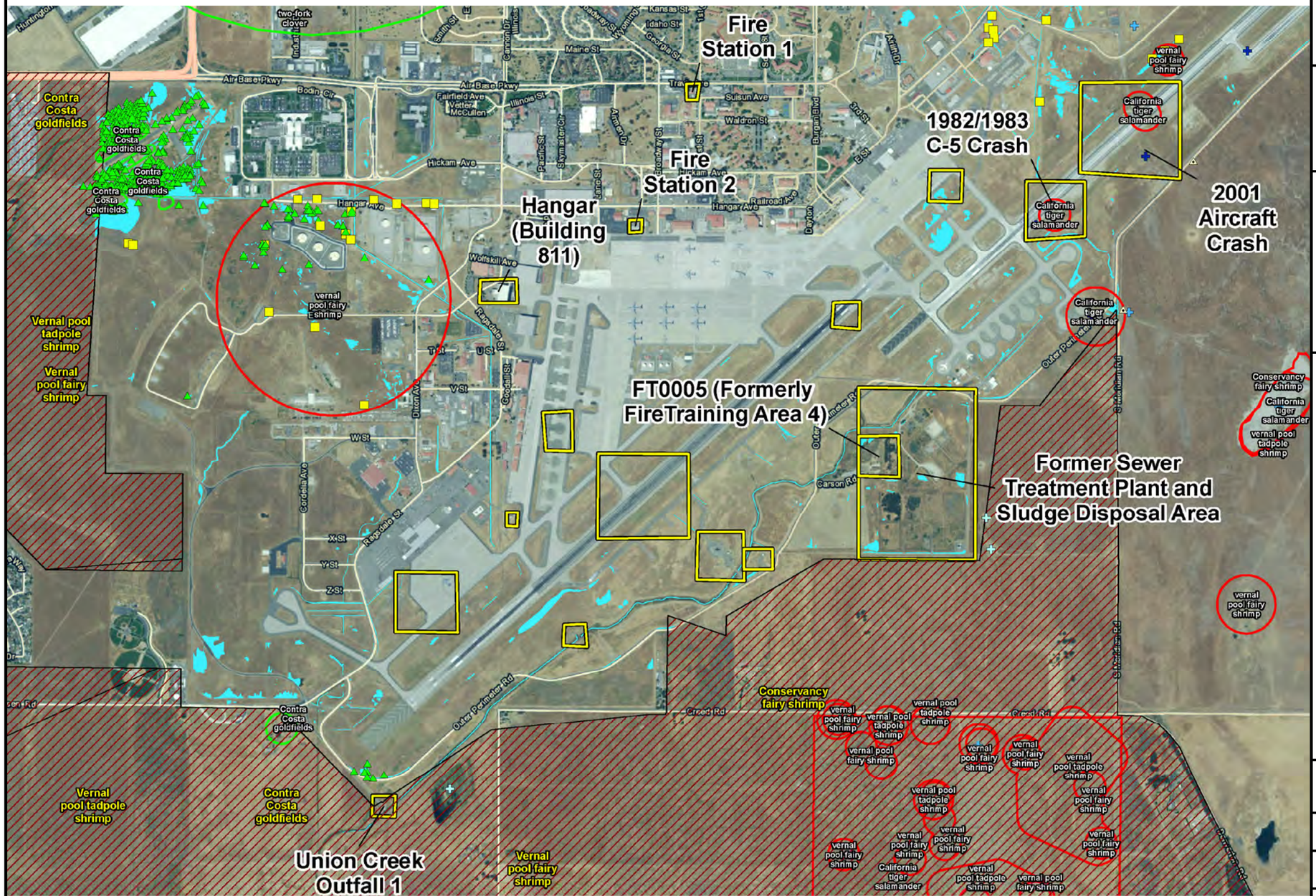
OTIE An Oneida Nation Company

0 1,500 3,000 6,000
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\Figure 4-1_Surface Water Pathway Map.mxd

Figure 4-2
Federally Protected Species in the Vicinity of the Action Area
Travis Air Force Base
Solano County, California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California



Legend

- Action Area
- USFWS Critical Habitat
- Wetlands/Vernal Pools (Travis AFB, 2017)

Federally Protected Species (CNDDB, 2016)

- Plants
- Wildlife

Special Status Species (Travis AFB, 2017)

- California tiger salamander (adult) *(Ambystoma californiense)*
- California tiger salamander (breeding pond) *(Ambystoma californiense)*
- California tiger salamander (potential breeding pond) *(Ambystoma californiense)*
- Contra Costa goldfields *(Lasthenia conjugens)*
- Vernal pool fairy shrimp *(Branchinecta lynchi)*
- Vernal pool tadpole shrimp *(Lepidurus packardi)*

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Contract # W912BV-15-C-0082

By: RJK/BCW	3/27/2018

N W E S

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0 1,000 2,000 4,000
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\02-28-2018\Figure 4-2_Federally Protected Species in the Vicinity of the Action Area.mxd

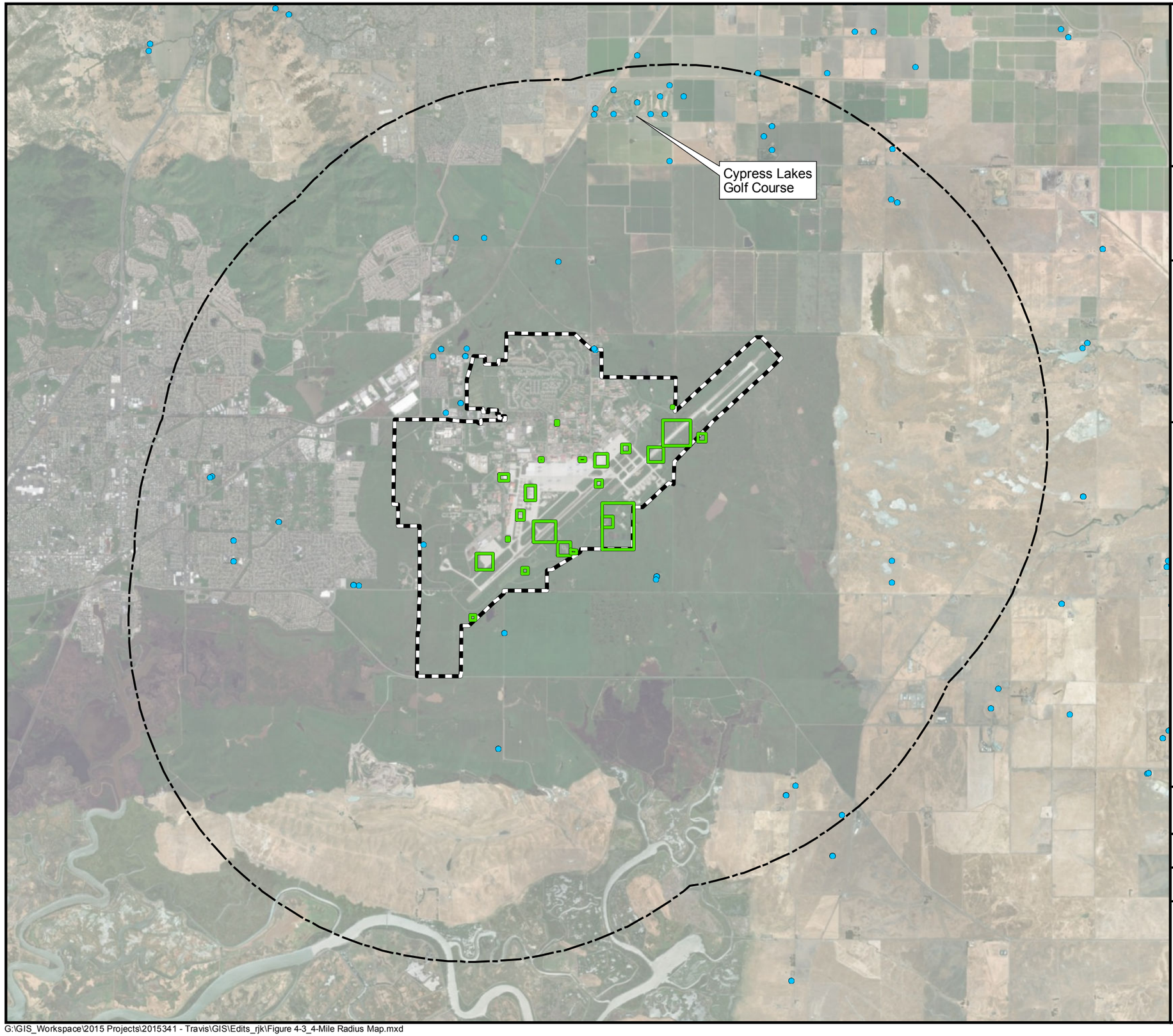


Figure 4-3
4-Mile Radius Map
Travis Air Force Base
Solano County, California

Site Inspections of Aqueous Film Forming Foam (AFFF) Areas at Travis Air Force Base California

U.S. Army Corps of Engineers
Tulsa District
for
Air Force Civil Engineer Center
2261 Hughes Avenue
Building 1, Suite 155
JBSA Lackland, Texas 78236

Legend

- Water Supply Well
- 4-Mile Radius Ring
- AFFF Area
- Travis AFB Boundary

Abbreviations

AFFF = Aqueous Film Forming Foam

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Contract # W912BV-15-C-0082

By: RJK/BCW	**3/26/2018**

N W E S

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0 3,000 6,000 12,000
Feet

G:\GIS_Workspace\2015 Projects\2015341 - Travis\GIS\Edits_rjk\Figure 4-3_4-Mile Radius Map.mxd

APPENDIX A

Field Forms

A-1 Daily Field Records

A-2 Daily PFAS Protocol Checklists

A-3 Boring Logs and Well Construction Diagrams

A-4 Photographic Log

A-5 Chain-of-custody Records

A-6 Purge Records

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APPENDIX A-1

Daily Field Records

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OTIE
Oneida Total Integrated Enterprises

REPORT OF FIELD OBSERVATIONS

Job No: 20153411-10-10014	Date: 8/24/17	M ☐	T ☐	W ☐	T ☑	F ☐	S ☐	S ☐
Client: TRAVIS AFB	Project: TRAVIS AFB AFFF							
Location: FT005	Weather: Clear, Cold, Windy							
Observer: SMFarley	Observation Period: 8/24-25/17							

Purpose: Install & Collect Soil & Grab GW Samples for Borings

Description:

MOB'D @ 8:00

PERFORMED TAILGATE

REVIEWED B.O. LIMITATIONS

WENT OVER LIMITATIONS DESCRIBED IN PFAS SAMPLING ADDENDUM

MOB'D DIRECT PUSH DRILL RIG

COLLECT 0-1.0 Soil Intervals @ all Boring LOCATIONS

DRILLED TO APPROX 10' BGS
RIG HAD DIFFICULTY REACHING TD (~15-20' BGS)
RIG HEAD BROKE @ ~10 FT BGS

STOPPED DRILLING @ ~2pm
DEMOB'D SITE
RETURN TOMORROW WITH DIFFERENT RIG

COVERED HOLE FOR SAFETY, INCLUDING BIO SPECIES THAT MAY GET TRAPPED IN BOREHOLE

MOVED 2 DRUMS to Staging Area; labelled

Mileage: | Miles:

Copy Sent to Client: Y ☐ N ☐ | Continued on Next Page | Page 1 of 1

FM03002

OTIE
Oneida Total Integrated Enterprises

REPORT OF FIELD OBSERVATIONS

Job No: 201534.1-10-10004	Date: 8/25/17	M ☐	T ☐	W ☐	T ☐	F ☒	S ☐	S ☐
Client: TRAVIS AFB	Project: TRAVIS AFB AFFF							
Location: FTDDS-3, 2, 1	Weather: WARM - COOL BREEZY							
Observer: SMF/RLP	Observation Period: 8/25/17							

Purpose: INSTALL BORINGS & COLLECT SOIL & GRAB GW Samples
MOBS TIMES LIMITED BY ~~BE~~ surf BIO RECEPTORS

Description:
MOB'D @ 10:00
PERFORMED TAILGATE
REVIEWED BIO LIMITATIONS
WENT OVER LIMITATIONS BECAUSE OF PFAS SAMPLING ADDENDUM
DVEC - DRILLED @ FTDDS-1 TO 12' BGS
COLLECTED SAMPLES @ 12'
DRILLED TO 19.5' BGS - TOP OF SATURATED CONDITIONS
COLLECTED SOIL SAMPLE
] FOR PFAS SAMPLING
COLLECTED SAMPLES FOR BUREAU GEOTECH TESTING
COMPOSITED SOIL SAMPLE ~~WITH~~ WITH SAMPLE FROM 1.0'
PLACED IN 500ML JAR surf & 2-125 mL jars
COLLECTED GRAB GW SAMPLE FROM OPEN BORING
USED PERISTALTIC PUMP W/ HDPE TUBING
FTDDS-3 - 0-1.0 COLLECTED @ ~ 11:30; FTDDS-2-1.0 COLLECTED @ ~ 12:50
FTDDS-3 DRILLED STARTING @ ~ 12:45 - DRILLED TO 12' BGS; ENTERED SATURATED CONDITIONS @ 23'
FTDDS-2 DRILLED TO 21' BGS IN SATURATED CONDITIONS

Mileage:	Miles:	
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FM03002

OTIE
Onaida Total Integrated Enterprises

REPORT OF FIELD OBSERVATIONS

Job No: 20153411-10-1004	Date: 8/25/12	M ☐	T ☐	W ☐	T ☐	F ☒	S ☐	S ☐
Client: TRAVIS AFB	Project: TRAVIS AFB AFFF							
Location: FTOOG-3 & CFTP-GW-1	Weather: WARM, BREEZY							
Observer: SMF & JOWTP-GW-1, FTOOG-3	Observation Period:							

Purpose:
INSTALL BORINGS / COLLECT SOIL & GRAB GW SAMPLES
WARM BREEZY

Description:

FTOOG-3 ~~H.S.~~ SMF @ 11.5 & 23 FT BGS
COLLECTED SAMPLES (SOIL) @ 11.5 & 21 FT BGS
SATURATED CONDITIONS @ 21' BGS
SANDY SILT
COLLECTED GROUNDWATER SAMPLES @ CFTA-GW-1 & WWTP-GW-1
INSTALLED HAND AUGER HOLES @ CFTP-1, -2, -3 @ 0-1.0 BGS
COLLECTED SOIL FOR COMPOSITING - COMPOSITED IN FIELD
INSTALLED / DEEPENED BORING CFTA-2 ~~TO~~ 11.5 & ~~15.5~~ FT BGS (WAS 15.5)
COLLECTED SOIL SAMPLES @ 11.5 & 15.5 FT BGS & 23' SMF
23 FT SMF
COLLECTED DISCRETE SOIL SAMPLES @ 1, 11.5 & 23 FOR PFAS ANALYSES OF SOIL
COLLECTED GRAB GROUNDWATER SAMPLES FOR BORINGS USING PERISTALTIC PUMP
BACKFILLED BORING W/ BENTONITE CEMENT & COVERED W/ CONE & FIBER MAT TO PREVENT ANIMALS ENTERING
HAULED DRUMS TO STAGING AREA, VIA DRUM DOLLY TRUCK
DEMOB'D @ 5PM
MOVED 6 DRUMS to Staging Area - Labelled

Mileage: | Miles:

Copy Sent to Client: Y ☐ N ☐ | Continued on Next Page | Page 2 of 2

FM03002

OTIE
Oneida Total Integrated Enterprises

REPORT OF FIELD OBSERVATIONS

Job No: 20153411-10-1004	Date: 8/28/17	M ☒	T ☐	W ☐	T ☐	F ☐	S ☐	S ☐
Client: TRANS AFB	Project: TTCANS AFB AFFF							
Location: MULTIPLE	Weather: WARM							
Observer: SMFARLEY	Observation Period: 8/28/17							

Purpose:
INSTALL & COLLECT SOIL SAMPLES FOR SOIL & GRAB GW SAMPLING

Description:
INSTALLED BORINGS @ CFTA FS1 & WWTP
COLLECTED SOIL & GRAB GW SAMPLES

SOIL BORINGS INSTALLED @ CFTA-2 @ 11 & 18 FT BGS
WET CONDITIONS @ 11 FT / SATURATED CONDITIONS @ 18 FT BGS
GW SAMPLES COLLECTED FROM EACH BORING @ COMPLETION OF DRILLING; SAMPLING PERFORMED W/ PERISTALTIC PUMP.

SOIL BORINGS INSTALLED @ CFTA-3 @ 11 & 18' BGS
GRAB GW SAMPLES COLLECTED W/ PERISTALTIC PUMP IN-STALLED IN SOIL BORING W/ PERISTALTIC PUMP
BORINGS BACKFILLED W/ BENTONITE GROUT; BORING COVERED TO PRECLUDE TRIP HAZARD & BIO. SPECIES FROM ENTERING & GETTING TRAPPED

BORINGS INSTALLED @ WWTP-CP01-1, 7, 10, & 18 FT BGS
SAMPLES FROM EQUIV DEPTH COMPOSITED; SAMPLES (DISCRETE) COLLECTED @ 1, 10 & 18 FT BGS;
GRAB GW SAMPLES COLLECTED @ END OF DRILLING USING PERISTALTIC PUMP

TRANSPORTED DRUMS TO STAGING AREA W/ DRUM HANDLING TRUCK
DRUMS LABELLED W/ MICHELA O'SULLIVANS NAME & PHONE NUMBER

MOVED 8 DRUMS to Staging Area; Labelled

Mileage: | Miles:

Copy Sent to Client: Y ☐ N ☐ | Continued on Next Page | Page 1 of 1

FM03002

OTIE

DAILY REPORT

USACE CONTRACT #:	W912BV-15-C-0082
DATE:	08/30/2017
PROJECT NUMBER:	2015341 10/1004
PROJECT LOCATION:	Travis AFB
SITE ID:	
FIELD PERSONNEL:	Fire Station #1, #2, Bldg 811 (↳ M. Wenek, S. Mackenzie, S. Farley, A. Bowerman)
CLIENT:	US Air Force
SUBCONTRACTOR:	Woodward Drilling
SUBCONTRACTOR PERSONNEL ON SITE:	Dave, Misa, Felipe
VISITOR(S) ON SITE:	Monika O'Sullivan, Gene Claire
BRIEF SUMMARY OF WORK PERFORMED:	Drill & Sample @ FS #1, Bldg 811, & FS #2

WAS A TAILGATE SAFETY MEETING HELD?	☑ YES ☐ NO	WERE THERE ANY LOST TIME ACCIDENTS?	☐ YES ☑ NO
WERE INSTRUMENT CALIBRATIONS PERFORMED?	☐ YES ☑ NO	WAS HAZARDOUS MATERIAL/WASTE RELEASED INTO THE ENVIRONMENT?	☐ YES ☑ NO

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
0730	0750	Arrive at Travis AFB Visitor Center and obtain week pass to airbase
0800	0830	Meet Steve Farley, Alex Bowerman & Shannon Mackenzie at Fire Station #1. Alex is logging FS1-2. Collect soil samples @ 0.5, 8, & 17'
0835		Mob to location FS1-3. Meet w/ the Gene Claire & Monika O'Sullivan of USAF. Collect soil samples @ 0.5, 8 & 17'
		EPA rep on-site to ask about sampling. EPA asked how many analytes are included in Maxxam list. He expressed concern w/ PVC as a authorized sampling material based on his impression of the manufacturing process. I told him PVC was on the Air Force QAPP of approved sample materials. Gene expressed concern over grout sinking.
~~1030~~ 1030 mw		Mob to Building 811. Set up on B811-2. Monika wanted to air knife these locations due to proximity of utilities in areas to Drill, but air knife is not available. Agreed to Hand auger 3 locations next to each other to triangulate.
1230		Mob to B811-1 and complete 3 soil samples & set well
1420		Collect fuel sample from B811.
1500		Mob to FS #2, on the flightline. Set up on FS2-3. Collect 3 soil samples & install temp well.
1630		Drum truck arrives to pick up drums & transport to laydown area. Gene indicated that because we were out of pallets that drums did not have to be placed onto pallets.
1730		off-site

FIELD REPRESENTATIVE SIGNATURE: SC DATE: 8/30/17

OTIE

DAILY REPORT

USACE CONTRACT #:	W912BV-15-C-0082
DATE:	08/31/2017
PROJECT NUMBER:	2015341 10/1004
PROJECT LOCATION:	Travis AFB
SITE ID:	~~Travis AFB~~ FS #1, #2, B811,
FIELD PERSONNEL:	M. Wanek, S. Mackenzie, S. Fauly
CLIENT:	USAF
SUBCONTRACTOR:	Woodward Drilling
SUBCONTRACTOR PERSONNEL ON SITE:	Dave V., Alisa, Felipé
VISITOR(S) ON SITE:	Monika O'Sullivan, Gene Claire (USAF), Oliver M. (biologist)
BRIEF SUMMARY OF WORK PERFORMED:	Drill ; Sample

WAS A TAILGATE SAFETY MEETING HELD?	☑ YES ☐ NO	WERE THERE ANY LOST TIME ACCIDENTS?	☐ YES ☑ NO
WERE INSTRUMENT CALIBRATIONS PERFORMED?	☐ YES ☑ NO	WAS HAZARDOUS MATERIAL/WASTE RELEASED INTO THE ENVIRONMENT?	☐ YES ☑ NO

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
0700	0720	Arrive on-site at drum storage/laydown area. Conduct daily Tailgate H&S meeting
0800	1000	Mob to Fire Station #1 Collect gw samples at FS1-2 and FS1-3 after measuring DTW ~10' bgs in each well. Woodward grouts both wells after sampling ; tops off FS1-1 where grout had sank ~2' bgs. Grout inspected by biologist Oliver prior to moving to Bldg 811.
1000	1100	Mob to Bldg 811, collect gw samples from temporary wells 811-1 ; 811-2. ~~Grout~~ Remove PVC casing ; grout each hole
1100	1130	Mob to Fire Station #2 ~~Collect gw samples from FS2-3 mw~~ Set up rig on FS2-2, Steve Fauly suggested he go to collect sediment samples from Outfalls 1 ; 2 ; WWTP, SBBGWTP. Monika expressed concern that samples were under ~3-5' of water and must be collected from middle of stream bed per EPA comment. Biologist Oliver also stressed that he must be with the sampler to assess pond turtle ; red-legged frog habitats for the approach/sampling point. Steve suggested he collect the samples using a hand auger
1145	1400	Steve departs site. Collects soil samples from FS2-2 and set temp. well. Water not immediately apparent in boring. Set well screen @ 15-25' & wait for water to come in.
~~1400~~	~~1600~~	Mob to ~~restaurant~~. Monika noted staining on asphalt next to boring due to historical drips from generators stored there. Monika asked that we document staining as it was not from our activity. Complete boring FS2-2 - collect 3 soil samples ; set temporary well.
~~1600~~		~~Drum truck on-site. Collect drums from FS2 ; last one from FS#1 mw~~

FIELD RESPRSENTATIVE SIGNATURE: M— W— DATE: 8/31/17

OTIE
An Oneida Nation Company

DAILY REPORT

USACE CONTRACT #: W912BV-15-C-0082 DATE: 9/1/17

PROJECT NUMBER: 2015341-10-1004 PROJECT LOCATION: Travis AFB

SITE ID: FS4 FIELD PERSONNEL:

CLIENT:

SUBCONTRACTOR:

SUBCONTRACTOR PERSONNEL ON SITE:

VISITOR(S) ON SITE:

BRIEF SUMMARY OF WORK PERFORMED:

WAS A TAILGATE SAFETY MEETING HELD? ☐ YES ☐ NO

WERE THERE ANY LOST TIME ACCIDENTS? ☐ YES ☐ NO

WERE INSTRUMENT CALIBRATIONS PERFORMED? ☐ YES ☐ NO

WAS HAZARDOUS MATERIAL/WASTE RELEASED INTO THE ENVIRONMENT? ☐ YES ☐ NO

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
~~0900~~ 0830		Arrived @ FS4 - set up @ FS4-3
0855		Sampled FS4-3-0.5 and FS4-3-0.5MS & FS4-3-0.5-MSD
0927		Sampled FS4-3-06 ①
0930		Sampled FS4-3-11 ① and FQB1-010917 2 bottles
0940		moved to & FS4-1
0952		Sampled FS4-1-0.5
1030		sampled FS4-1-06 (range from 5 to 8ft)
1035		Sampled FS4-1-11 (range from 10 to 12ft)
1111		moved to FS4-2 location
1119		Sampled FS4-2-0.5 and FS4-2-FD
1200		sampled FS4-2-06
1205		Sampled FS4-2-11

FIELD RESPRSENTATIVE SIGNATURE: DATE:

WWTT-2-6W 8/28/17

OTIE
An Oneida Nation Company

DAILY REPORT

PAGE ____ OF ____

USACE CONTRACT #: W912BV-15-C-0082 DATE: 9/1/17

PROJECT NUMBER: 20153411-10 - Travis AFB PROJECT LOCATION: Travis AFB

SITE ID: FS2 FIELD PERSONNEL: SEE Below

CLIENT:

SUBCONTRACTOR:

SUBCONTRACTOR PERSONNEL ON SITE:

VISITOR(S) ON SITE:

BRIEF SUMMARY OF WORK PERFORMED:

WAS A TAILGATE SAFETY MEETING HELD? ☐ YES ☐ NO WERE THERE ANY LOST TIME ACCIDENTS? ☐ YES ☐ NO

WERE INSTRUMENT CALIBRATIONS PERFORMED? ☐ YES ☐ NO WAS HAZARDOUS MATERIAL/WASTE RELEASED INTO THE ENVIRONMENT? ☐ YES ☐ NO

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
1035		FS2-3-W11 sampled @ 1035
		drillers abandoning FS2-3 - Mark, Rob, Ryan + Monika move onto FS2-2 + FS2-1.
1055		FS2-2-W10 @ 1055 + MS/MSD
		hole FS-1 cleared by Ryan
		* note all well depths are from ground surface *
1115		FS2-1-W16 @ 1115
1125		- Drillers making 2nd batch of grout
		FS2-3 keeps swallowing grout - pest extra bags (4) in hole to fill + mix w/ water in hole
1227		leaving FS2 to 1986 C141B crash site to drop off GW Sampling supplies for other group -
1240		Arrive @ 1986 C141B
		Crew has finished drilling - water sampled and abandoning wells.
		sampled 1986 C141B-1, 2, + 3 groundwater
1350		leaving for site 86 C 141B - to sample gw + grout
		arrive @ 1400
		1986C141B-1-W10 @ 1405
1410		grouting
		leaving site @ 1430 - for lay down yard to write up COC.s

FIELD RESPRSENTATIVE SIGNATURE: _____ DATE: 9/1/17

OTIE

DAILY REPORT

PAGE _____ OF _____

USACE CONTRACT #: W912BV-15-C-0082 DATE: 9/1/17

PROJECT NUMBER: 201534/ PROJECT LOCATION: Travis AFB

SITE ID: FS2/1986CL41B/ FIELD PERSONNEL:

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
0645		Arrive @/ Visitors Ctr. - no pass info for Rob K. Sponsored by Alecia -
0715		meet w/ group - OTIE, Drillers, Base Personnel
0730		Tailgate meeting - HSP - stress the heat wave + hydration
0820		Large group went to FS4 to drill - Rob K stayed at staging area to supervise IDW inventory and movement - Gene states pallets are not necessary for drums - just containment - Chris and Mike moved/rearranged drums - all H_2O drums go containment pad
0910		Finished moving IDW drums - called Mark - stated he'll pick up up - on standby
0955		Mark returns w/ Monika + ~~Alex~~ Ryan - leaving truck @ IDW staging area - leaving w/ Mark, Monika + ~~Alex~~ Ryan to Former FS2 - Bldg 660 - Arrive 1011
1005		- water sampling + boring abandonment - Loading wells for sample w/ SS bailer - due to sediment load burning out/clogging pump motor

HOURS WORKED

FIELD PERSONNEL	RK/AG/MW/SM/AB		
SUBCONTRACTOR PERSONNEL			

EQUIPMENT / SUPPLIES

Personel (Drillers)

Rob Keller	Dave Vanstar
Alecia George	Phillipe Guerrero
Mark Wanek	~~Carlos~~ Christophe Renaud
Alex Bowerman	Mike Wilcox
Sharon Mackenzie	Juan Clica
Oliver Miano	Gene Claire (AFCEC)
Ryan Cochendoet	
Monica O'Sullivan	

FIELD RESPRSENTATIVE SIGNATURE: _____ DATE: _____

30 - 125mL
82 - 500mL

OTIE

DAILY REPORT

PAGE 1 OF ____

USACE CONTRACT #:	W912BV-15-C-0082
DATE:	9-3-17
PROJECT NUMBER:	2015341 10/1004
PROJECT LOCATION:	Travis AFB
SITE ID:	2001 Crash
FIELD PERSONNEL:	A. Bowerman, S. Mackenzie
CLIENT:	US Air Force
SUBCONTRACTOR:	Woodward Drilling
SUBCONTRACTOR PERSONNEL ON SITE:	Dave, Philipé, Masd
VISITOR(S) ON SITE:	
BRIEF SUMMARY OF WORK PERFORMED:	Boring 4 locations, Logging soil, sampling soil and groundwater

WAS A TAILGATE SAFETY MEETING HELD?	☒ YES ☐ NO	WERE THERE ANY LOST TIME ACC'DENTS?	☐ YES ☒ NO
WERE INSTRUMENT CALIBRATIONS PERFORMED?	☐ YES ☒ NO	WAS HAZARDOUS MATERIAL/WASTE RELEASED INTO THE ENVIRONMENT?	☐ YES ☒ NO

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
0840		arrived @ 2001Crash-1-0.5 @ 0850
		hand auger to 5'
0900		started using 4" Augers and drill rig
0955		stopped drilling @ 35' no water
		pulled out augers, put WL meter down boring, no water. Bagged up boring soil in separate Bags
1020		arrived @ 2001Crash-3-0.5 @ 1030 FD
1030		started drilling 4" augers
1050		hit water @ 9'.0
		2001Crash-3-06 @ 1050
1100		2001Crash-3-09 @ 1100 MS/MSD
1139		arrived @ 2001Crash-4-0.5 took surface sample
1145		Started drilling
1200		2001Crash-4-7.5 @ 1200 stopped drilling
1210		2001Crash-4-11.5 @ 1210
1236		arrived @ 2001Crash-2-0.5 @ 1236
1240		Started drilling
1230		Went over to 2001Crash-1 measured WL 0.0
1400		stopped drilling no water. went to 35' and dry
		sampled 2001Crash-2-7.5 @ 1400
1407		sampled 2001Crash-2-25 @ 1407
1430		sampled 2001Crash-1-7.5 @ 0930
		sampled 2001Crash-1-25 @ 0945

FIELD RESPRSENTATIVE SIGNATURE: _____ DATE: _____

OTIE

DAILY REPORT

USACE CONTRACT #:	W912BV-15-C-0082	DATE:	9/13/17
PROJECT NUMBER:	2015341-10-1004	PROJECT LOCATION:	Travis AFB
SITE ID:	82/83C5	FIELD PERSONNEL:	AG / RK / mark wanek
CLIENT:			
SUBCONTRACTOR:			
SUBCONTRACTOR PERSONNEL ON SITE:	Olive Duder (Biologist)		Monika O'Sullivan (AFCEC)
VISITOR(S) ON SITE:			
BRIEF SUMMARY OF WORK PERFORMED:	drilling @ 82/83C5 soil boring / temp wells		

WAS A TAILGATE SAFETY MEETING HELD?	☒ YES ☐ NO	WERE THERE ANY LOST TIME ACCIDENTS?	☐ YES ☐ NO
WERE INSTRUMENT CALIBRATIONS PERFORMED?	☐ YES ☒ NO	WAS HAZARDOUS MATERIAL/WASTE RELEASED INTO THE ENVIRONMENT?	☐ YES ☐ NO

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
0630		Arrive on base
0730		tailgate safety meeting
0830		head to flightline -
0840		arrive @ 82/83C5 site - set up holes and drill rig set up on 82/83C5-1
0905		sample [82/83C5-1-0.5]
0922		using string hammer on drill rig
0923		stopped work to fix cable
0929		resumed drilling
0945		sampled [82/83C5-1-07] soil from 6-8 feet
0952		sampled [82/83C5-1-12] soil from 11-13 feet
~~1000~~ 0955		stopped drilling - installing temp. well
1000		mark wanek went w/ driller to 82/83C5-2 took shallow sample
1005		sampled [82/83C5-2-0.5]
1030		mark heading to other drill rig to get drum labels and paperwork
1035		arrived @ 82/83C5-2
~~1045~~		~~stop work (drillers)~~ AG
1045		stop work
1131		begin drilling
1135		sample [82/83C5-2-07] soil from 6-8ft
1200		sample [82/83C5-2-18] soil from 17-19ft also sampled [82/83C5-2-FD]
		sampled [82/83C5-3-0.5] & took ms/msd sample

FIELD RESPRSENTATIVE SIGNATURE: _____ DATE: _____

4 of 9

9/3/17

OTIE

DAILY REPORT

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
1240		moving to 82/83 CS-3 - taking a heat break for the drillers
1300		started drilling 82/83 CS-3
1315		Sample [82/83 CS-3-8] 8' soil from 7-9 feet
1325		Sample [82/83 CS-3-14] soil from 13-14ft
1330		installing temporary well
1355		sampled [FRB-1]
1410		Sample [82/83 CS-1-W13] and [82/83 CS-1-WFD]
1430		Sample [82/83 CS-2-W12]
PM 1500		Sample [82/83 CS-3-W13] and MS/MSD
1510		moved to 2001 Aircraft Crash
~~1525~~ 1530		Sample [2001 Crash-3-W08] and MS/MSD
~~1540~~		~~Sample 2001 Crash-1-W~~ AC-
~~1540~~		~~Sample~~ [2001 Crash-1-W22] not enough water to Sample. water @ 21.5 and bottom of hole @ 22.25. Hole collapsed from 35'ft bgs.
~~1540~~		2001 Crash-2-W15 - not enough water in the well to take a sample w/ bailer.
1553		
1601		Sample [2001 Crash-4-W12] and [2001 Crash-4-WFD]

#83 1-12.54 TO 2-12.32 3-12.53

HOURS WORKED

FIELD PERSONNEL			
SUBCONTRACTOR PERSONNEL			

EQUIPMENT / SUPPLIES

FIELD RESPRSENTATIVE SIGNATURE: _____ DATE: _____

9/3/17

OTIE

DAILY REPORT

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
1608		decon bailer. waiting on drillers to pick up last drum and to abandon their temp. well
1610		driving to all the holes to make sure the grout hasn't dropped.
1630		back @ 2001 Crash #1 - location needs more grout.
1645		leaving flight line
1700		Arrive back @ staging area
1730		leaving base

HOURS WORKED			
FIELD PERSONNEL			
SUBCONTRACTOR PERSONNEL			

EQUIPMENT / SUPPLIES	

FIELD RESPRSENTATIVE SIGNATURE: _____ DATE: _____

OTIE

DAILY REPORT

USACE CONTRACT #: W912BV-15-C-0082 DATE: 9/4/17

PROJECT NUMBER: 2015341-10-1004 PROJECT LOCATION: Travis AFB

SITE ID: Late 1980's C-141B Crash FIELD PERSONNEL:

CLIENT:

SUBCONTRACTOR:

SUBCONTRACTOR PERSONNEL ON SITE:

VISITOR(S) ON SITE:

BRIEF SUMMARY OF WORK PERFORMED:

WAS A TAILGATE SAFETY MEETING HELD? ☐ YES ☐ NO

WERE THERE ANY LOST TIME ACCIDENTS? ☐ YES ☐ NO

WERE INSTRUMENT CALIBRATIONS PERFORMED? ☐ YES ☐ NO

WAS HAZARDOUS MATERIAL/WASTE RELEASED INTO THE ENVIRONMENT? ☐ YES ☐ NO

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
0630		arrive on base - waiting for drillers to get on base (@ the contractor gate)
0730		drillers arrive on site - tailgate safety meeting
0800		other team going to site. Robert and Alexia staying @ staging area to ~~mark~~ correctly mark IDW drums and watch drillers place on pallets
~~0845~~		
0845		mark called - drillers getting short flightline training so that we can get ~~SITES~~ areas sampled
0920		Arrive @ flightline - drillers taking short flightline training
0945		proceeding onto flightline
0950		arrive @ site
1000		Sampling [Late 80's -3-0.5] attempted to hand auger to 5 feet. Only able to get to ~ 2.5 feet.
1020		Starting up drill ~~rig~~ rig
1040		Sampling [Late 80's -3-06] and ms/msd soil from 5-7 feet bgs
1050		Sampled [Late 80's - 3-12]
1100		finished drilling hole - pulling auger and setting temporay well
1156		setting drill rig @ 2014 E75 Crash Site
1200		Sample [2014E75-1-0.5] and ms/msd

FIELD RESPRSENTATIVE SIGNATURE: _____ DATE: _____

9/4/17

5/9

OTIE

DAILY REPORT

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
~~1200~~	1205	Kestrel wind meter used to monitor wind speed - maximum gusts @ 19.4 - rig max speed is ~~20~~ 30-35
1201		begin drilling @ 6ft after hand auger
1220		Sampled 2014E75-1-06 soil from 5-7 feet
1245		sampled 2014E75-1-13 soil from 12-14 ft
1230		spoke w/ Oscar, PFAS samples now need to be taken for IDW samples. Once Mark knows how many IDW samples are needed he will call Oscar to discuss how many PFAS IDW samples are needed.
1310		Finished drilling @ 2014E75 crash site - packing supplies to head to next site
1324		arrived @ ~~site~~ area 1988C-5 Fire
1400		set up on 88C5-3
1405		sampled 88C5-3-0.5 ms/msd
1420		finished hand augering - started drill rig
1435		sampled 88C5-3-05
1440		sampled 88C5-3-09

HOURS WORKED			
FIELD PERSONNEL			
SUBCONTRACTOR PERSONNEL			

EQUIPMENT / SUPPLIES	

FIELD RESPRSENTATIVE SIGNATURE: _____ DATE: _____

9/4/17

OTIE

DAILY REPORT

USACE CONTRACT #: W912BV-15-C-0082 DATE:

PROJECT NUMBER: 2015341-10-1004 PROJECT LOCATION: Travis AFB

SITE ID: FIELD PERSONNEL:

CLIENT:

SUBCONTRACTOR:

SUBCONTRACTOR PERSONNEL ON SITE:

VISITOR(S) ON SITE:

BRIEF SUMMARY OF WORK PERFORMED:

WAS A TAILGATE SAFETY MEETING HELD? ☐ YES ☐ NO

WERE THERE ANY LOST TIME ACCIDENTS? ☐ YES ☐ NO

WERE INSTRUMENT CALIBRATIONS PERFORMED? ☐ YES ☐ NO

WAS HAZARDOUS MATERIAL/WASTE RELEASED INTO THE ENVIRONMENT? ☐ YES ☐ NO

START TIME	STOP TIME	DESCRIPTION OF ACTIVITIES; REMARKS
1445		installed temporary well @ 88C5-3
1505		sampled 88C5-13W06
1515		2 drill rigs going back to lay down yard. Drillers bringing back truck to pick up drums.
		Gene taking other team to sample other 4 wells at other 2 sites.
1552		drillers finished w/ 88C5-1 grouting - starting grout on 88C5-3
1620		leaving 88C5 site moving to 2014E75
1630		arrived @ ~~88~~ 2014E75
		- sampled EQB2-090417 sampled off of hand auger.

RESPRSENTATIVE ATURE: DATE:

APPENDIX A-2

Daily PFAS Protocol Checklists

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Attachment 1 to SOP OTIE-01
Daily PFC Protocol Checklist

Date: 04/30/17 Team Supervisor: Mark Wanek

Installation Name: TRAVIS AFB Site Name: Fire Station #1

The following list of Field Clothing, Materials, Equipment, and PPE is prohibited on PFC field sites:

- ☑ Clothing or boots containing Gore-Tex™
- ☑ Materials containing Tyvek®
- ☑ Clothing that has been washed and cleaned with fabric softeners
- ☑ Any cosmetics, moisturizers, hand cream, or other related products
- ☑ Unauthorized sunscreen or insect repellant
- ☑ Teflon® containing materials
- ☑ Waterproof field books
- ☑ Plastic clipboards, binders, spiral hard cover notebooks, or adhesives (Post-It Notes)
- ☑ Chemical (blue) ice packs. Coolers must be filled with regular ice only.
- ☑ Food or drink with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

Required Materials and Equipment:

- ☑ Safety boots made from ~~polyurethane and PVC~~ Leather
- ☑ Sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ Sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- ☑ Caps lined or unlined and made of HDPE or polypropylene
- ☑ Water proof or resistant gear made of polyurethane and PVC only (N/A)
- ☑ "PFC-free" water for decontamination of sample equipment. No other water sources to be used.
- ☑ Alconox and Liquinox to be used as decontamination materials

Noncompliance with any of the above shall be described by the Field Team Supervisor below including actions taken to address the issues prior to the commencement of work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

N/A

Team Supervisor Name: Mark Wanek

Team Supervisor Signature: [signature] Time: 0830

Attachment 1 to SOP OTIE-01
Daily PFC Protocol Checklist

Date: 08-31-2017 Team Supervisor: Mark Wenck

Installation Name: Travis AFB Site Name: Fire Station #2

The following list of Field Clothing, Materials, Equipment, and PPE is prohibited on PFC field sites:

☑ Clothing or boots containing Gore-Tex™

☐ Materials containing Tyvek®

☑ Clothing that has been washed and cleaned with fabric softeners

☑ Any cosmetics, moisturizers, hand cream, or other related products

☑ Unauthorized sunscreen or insect repellant

☑ Teflon® containing materials

☑ Waterproof field books

☑ Plastic clipboards, binders, spiral hard cover notebooks, or adhesives (Post-It Notes)

☑ Chemical (blue) ice packs. Coolers must be filled with regular ice only.

☑ Food or drink with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

Required Materials and Equipment:

☑ Safety boots made from ~~polyurethane and PVC~~ Leather

☑ Sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene

☑ Sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE

☑ Caps lined or unlined and made of HDPE or polypropylene

☑ Water proof or resistant gear made of polyurethane and PVC only (N/A)

☑ "PFC-free" water for decontamination of sample equipment. No other water sources to be used.

☑ Alconox and Liquinox to be used as decontamination materials

Noncompliance with any of the above shall be described by the Field Team Supervisor below including actions taken to address the issues prior to the commencement of work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

None

Team Supervisor Name: Mark Wenck

Team Supervisor Signature: [signature] Time: 0730

Attachment 1 to SOP OTIE-01
Daily PFC Protocol Checklist

Date: 09/01/2017 Team Supervisor: Mark Wonek

Installation Name: Travis AFB Site Name: Fire Station #4

The following list of Field Clothing, Materials, Equipment, and PPE is prohibited on PFC field sites:

☐ Clothing or boots containing Gore-Tex™

☐ Materials containing Tyvek®

☐ Clothing that has been washed and cleaned with fabric softeners

☐ Any cosmetics, moisturizers, hand cream, or other related products

☐ Unauthorized sunscreen or insect repellant

☐ Teflon® containing materials

☐ Waterproof field books

☐ Plastic clipboards, binders, spiral hard cover notebooks, or adhesives (Post-It Notes)

☐ Chemical (blue) ice packs. Coolers must be filled with regular ice only.

☐ Food or drink with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

Required Materials and Equipment:

☐ Safety boots made from polyurethane and PVC

☐ Sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene

☐ Sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE

☐ Caps lined or unlined and made of HDPE or polypropylene

☐ Water proof or resistant gear made of polyurethane and PVC only

☐ "PFC-free" water for decontamination of sample equipment. No other water sources to be used.

☐ Alconox and Liquinox to be used as decontamination materials

Noncompliance with any of the above shall be described by the Field Team Supervisor below including actions taken to address the issues prior to the commencement of work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

Team Supervisor Name: Mark Wonek

Team Supervisor Signature: [signature] Time: 0710

Attachment 1 to SOP OTIE-01
Daily PFC Protocol Checklist

Date: 9/03/2017 Team Supervisor: Mark Wanek

Installation Name: Travis AFB Site Name: 1982/1983 C-5 Crash

The following list of Field Clothing, Materials, Equipment, and PPE is prohibited on PFC field sites:

- [x] Clothing or boots containing Gore-Tex™
- [x] Materials containing Tyvek®
- [x] Clothing that has been washed and cleaned with fabric softeners
- [x] Any cosmetics, moisturizers, hand cream, or other related products
- [x] Unauthorized sunscreen or insect repellant
- [x] Teflon® containing materials
- [x] Waterproof field books
- [x] Plastic clipboards, binders, spiral hard cover notebooks, or adhesives (Post-It Notes)
- [x] Chemical (blue) ice packs. Coolers must be filled with regular ice only.
- [x] Food or drink with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

Required Materials and Equipment:

- [x] Safety boots made from ~~polyurethane and PVC~~ Leather
- [x] Sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- [x] Sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- [x] Caps lined or unlined and made of HDPE or polypropylene
- [x] Water proof or resistant gear made of polyurethane and PVC only (N/A)
- [x] "PFC-free" water for decontamination of sample equipment. No other water sources to be used.
- [x] Alconox and Liquinox to be used as decontamination materials

Noncompliance with any of the above shall be described by the Field Team Supervisor below including actions taken to address the issues prior to the commencement of work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

None

Team Supervisor Name: Mark Wanek

Team Supervisor Signature: [signature] Time: 0630

Attachment 1 to SOP OTIE-01
Daily PFC Protocol Checklist

Date: 9/04/2017 Team Supervisor: Mark Wanek

Installation Name: Travis AFB Site Name: ~~Late~~ 1980s C141B Crash

The following list of Field Clothing, Materials, Equipment, and PPE is prohibited on PFC field sites:

☒ Clothing or boots containing Gore-Tex™

☒ Materials containing Tyvek®

☒ Clothing that has been washed and cleaned with fabric softeners

☒ Any cosmetics, moisturizers, hand cream, or other related products

☒ Unauthorized sunscreen or insect repellant

☒ Teflon® containing materials

☒ Waterproof field books

☒ Plastic clipboards, binders, spiral hard cover notebooks, or adhesives (Post-It Notes)

☒ Chemical (blue) ice packs. Coolers must be filled with regular ice only.

☒ Food or drink with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

Required Materials and Equipment:

☒ Safety boots made from ~~polyurethane and PVC~~ Leather

☒ Sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene

☒ Sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE

☒ Caps lined or unlined and made of HDPE or polypropylene

☒ Water proof or resistant gear made of polyurethane and PVC only (N/A)

☒ "PFC-free" water for decontamination of sample equipment. No other water sources to be used.

☒ Alconox and Liquinox to be used as decontamination materials

Noncompliance with any of the above shall be described by the Field Team Supervisor below including actions taken to address the issues prior to the commencement of work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

None

Team Supervisor Name: Mark Wanek

Team Supervisor Signature: [signature] Time: 0645

Attachment 1 to SOP OTIE-01
Daily PFC Protocol Checklist

Date: 9/05/2017 Team Supervisor: Mark Wandt

Installation Name: Travis AFB Site Name: Nozzle Spray Test Area

The following list of Field Clothing, Materials, Equipment, and PPE is prohibited on PFC field sites:

☒ Clothing or boots containing Gore-Tex™

☒ Materials containing Tyvek®

☐ Clothing that has been washed and cleaned with fabric softeners

☒ Any cosmetics, moisturizers, hand cream, or other related products

☒ Unauthorized sunscreen or insect repellant

☒ Teflon® containing materials

☒ Waterproof field books

☒ Plastic clipboards, binders, spiral hard cover notebooks, or adhesives (Post-It Notes)

☒ Chemical (blue) ice packs. Coolers must be filled with regular ice only.

☒ Food or drink with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

Required Materials and Equipment:

☑ Safety boots made from ~~polyurethane and PVC~~ (Leather)

☑ Sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene

☑ Sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE

☑ Caps lined or unlined and made of HDPE or polypropylene

☑ Water proof or resistant gear made of polyurethane and PVC only (N/A)

☑ "PFC-free" water for decontamination of sample equipment. No other water sources to be used.

☑ Alconox and Liquinox to be used as decontamination materials

Noncompliance with any of the above shall be described by the Field Team Supervisor below including actions taken to address the issues prior to the commencement of work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

Team Supervisor Name: Mark Wandt

Team Supervisor Signature: [signature] Time: 0800

APPENDIX A-3

Boring Logs and Well Construction Diagrams

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Oneida Total Integrated Enterprises
1030 Central Parkway South
San Antonio, TX 78232
Telephone: (210) 490-4865

BORING NUMBER 2001Crash-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/3/17 **COMPLETED** 9/3/17
GROUND ELEVATION 62.05 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING Dry
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING NA

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION		WELL DIAGRAM
0		2001CRASH-1-0.5		ML		Sandy SILT (ML) with gravels up to 1 inch. Greyish-brown (10YR, 5/2). Dry. Loose.		Dry Hole - No Well Installed
5						- Becomes yellowish-brown (10YR, 4/4), mottled with greyish-brown (10YR, 5/2). Medium dense. Dry to damp.		
		2001CRASH-1-7.5		ML		- Changes to light yellowish-brown (10YR 6/4). Dry to damp.		
							52.6	
10				SM		Silty SAND (SM). Yellowish-brown (10YR, 5/4). Loose. Dry to damp.	51.1	
				ML		Sandy SILT (ML). Yellowish-brown (10YR, 5/4). Medium dense. Dry to damp.		
15							47.1	
				SM		Silty SAND (SM). Yellowish-brown (10YR, 5/6). Medium dense. Damp.	46.1	
				ML		Sandy SILT (ML). Mottled yellowish-brown (10YR, 5/6) and greyish-brown (10YR 5/2). Dry to damp.		
20						- Becomes yellowish-brown (10YR 5/4). Dry to damp.		
						- Becomes dark yellowish-brown (10YR, 4/4). Damp.		
							38.1	
25				SM		Silty SAND (SM). Yellowish-brown (10YR, 5/4). Medium dense. Dry to damp.		

(Continued Next Page)

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\IO-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

Oneida Total Integrated Enterprises
1030 Central Parkway South
San Antonio, TX 78232
Telephone: (210) 490-4865

BORING NUMBER 2001Crash-1

CLIENT US Air Force **PROJECT NAME** Site Inspection of Aqueous Film Forming Foam

PROJECT NUMBER C/N W912BV-15-C-0082 **PROJECT LOCATION** Travis AFB

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG		MATERIAL DESCRIPTION		WELL DIAGRAM
25									(CONTINUED)
		2001CRASH-1-25					Silty SAND (SM). Yellowish-brown (10YR, 5/4). Medium dense. Dry to damp. *(continued)*		
30						34.0		28.1	
35				ML		35.0	Sandy SILT (ML). Mottled dark yellowish-brown (10YR, 4/4) and dary grey (10YR, 4/1). Medium dense. Dry to damp.	27.1	

Bottom of borehole at 35.0 feet.

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

Oneida Total Integrated Enterprises
1030 Central Parkway South
San Antonio, TX 78232
Telephone: (210) 490-4865

BORING NUMBER 2001Crash-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/3/17 **COMPLETED** 9/3/17
GROUND ELEVATION 62.30 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING Dry
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING NA

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		2001CRASH-2-0.5		ML		Sandy SILT (ML) with gravels. Grayish-brown (10YR 5/2). Loose/disturbed. Dry.	Dry Hole - No Well Installed
5						No recovery -(Gravel sluff from surface)	
		2001CRASH-2-7.5				- Becomes yellowish-brown (10YR, 5/6). Medium dense. Dry to damp.	
					7.8		54.5
				SM		Silty SAND (SM). Yellowish-brown (10YR, 5/6). Medium dense. Dry to damp.	
10					11.0		51.3
						No sample from 11-13' due to gravel/cobble. Difficult drilling.	
					13.0		49.3
						Silty SAND (SM). Brown (10YR, 5/3). Dry to damp.	
						Approximately 0.25 ft thick silt lense (ML). Dark yellowish-brown.	
15						- Becomes moist	
						- Becomes damp	
					19.0		43.3
20				ML		Sandy SILT (ML). Mottled yellowish-brown (10YR, 5/4) and pale brown (10YR, 6/3). Dry to damp. Medium dense.	
					22.0		40.3
				SM		Silty SAND (SM). Grayish-brown (10YR 5/2). Medium dense. Damp.	
						- Becomes moist	
					24.0		38.3
25						Sandy SILT (ML). Dark yellowish-brown (10YR, 4/4). Medium dense. Dry to damp.	

(Continued Next Page)

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:18 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

Oneida Total Integrated Enterprises
1030 Central Parkway South
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Telephone: (210) 490-4865

BORING NUMBER 2001Crash-2

CLIENT US Air Force **PROJECT NAME** Site Inspection of Aqueous Film Forming Foam

PROJECT NUMBER C/N W912BV-15-C-0082 **PROJECT LOCATION** Travis AFB

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25						(CONTINUED)	
		2001CRASH-2-25		ML		Sandy SILT (ML). Dark yellowish-brown (10YR, 4/4). Medium dense. Dry to damp. *(continued)*	
						26.0	
				SM		Silty SAND (SM). Yellowish-brown (10YR, 5/4). Medium dense. Damp.	
						- Same as above, with pockets of higher silt content.	
30						- Becomes grayish-brown (10YR, 5/2). Medium dense. Damp.	
						- Becomes moist - Becomes damp	
						Sandy SILT (SM) with large gravels up to 2 inches. Light yellowish-brown (10YR, 6/4). Loose. Dry. Micaceous. Possibly fractured or weathered rock.	
35						Silty SAND (SM). Grayish-brown (10YR, 5/2). Loose. Moist to wet.	
						37.0	
						36.3	
						25.3	

Bottom of borehole at 37.0 feet.

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER 2001Crash-3

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/3/17 **COMPLETED** 9/3/17
GROUND ELEVATION 63.31 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 9
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING Not Measured

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		2001CRASH-3-0.5 2001CRASH-3-FD		ML		Sandy Silt (ML) with gravel up to 1 inch. Gayish-brown (10YR, 5/2). Dry. Medium dense.	
5		2001CRASH-3-06		ML			2-inch Sch. 40 Blank PVC casing
						8.0 (55.3) - No recovery between 8 and 9 ft.	
		2001CRASH-3-09		ML		9.0 (54.3) Sandy SILT (ML). Mottled dark yellowish-brown (10YR, 4/4) and greyish-brown (10YR, 5/2). Medium dense. Wet. - Same as above	
10							
15							0.010-inch slotted 2" sch. 40 PVC screen
						17.0 (46.3) Bottom of borehole at 17.0 feet.	End Cap

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER 2001Crash-4

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/3/17 **COMPLETED** 9/3/17
GROUND ELEVATION 61.87 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 12
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING Not Measured

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		2001CRASH-4-0.5		ML		Sandy SILT (ML) with gravels up to 2 inches. Grayish-brown (10YR, 5/2). Loose. Dry.	
5						- Becomes dark yellowish-brown (10YR, 4/4). Dry to damp. Medium dense. Sample mostly contains sluff from above.	2-inch Sch. 40 Blank PVC casing
		2001CRASH-4-7.5		ML		- Same as above	
10							
		2001CRASH-4-11.5		ML		- Same as above, but becomes saturated.	
15						- Becomes mottled dark yellowish-brown (10YR, 4/4) and dark brown (10YR, 3/3). Wet. Medium dense.	0.010-inch slotted 2" sch. 40 PVC screen
						16.0 / 45.9	
				SM		Silty SAND (SM). Mottled dark yellowish-brown (10YR, 4/4) and greyish-brown (10YR, 5/2). Medium dense. Wet.	
						19.0 / 42.9	End Cap

Bottom of borehole at 19.0 feet.

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BORING NUMBER 2014E75-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/4/17 **COMPLETED** 9/4/17
GROUND ELEVATION 50.36 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 12
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 12.5

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		2014E75-1-0.5		SC		Brown (10YR, 4/3) CLAY/SAND (SC) loam. Moderately sorted. Poorly graded. Hard packed.	
5		2014E75-1-06		SC			2-inch Sch. 40 Blank PVC casing
					6.5	43.9	
				CL		Brown (10YR, 4/3) CLAY (CL). Soft. Medium plasticity. Dry (friable). Sand with sorted fine grains.	
10						- Becomes blue-green with hydrocarbon staining and strong hydrocarbon odor.	
		2014E75-1-13		CL		- Same as above, but becomes very moist.	
15							0.010-inch slotted 2" sch. 40 PVC screen
						- Hydrocarbon odor is gone. Minimal staining.	
20					20.0	30.4	End Cap

Bottom of borehole at 20.0 feet.

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BORING NUMBER 2014E75-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/4/17 **COMPLETED** 9/4/17
GROUND ELEVATION 50.00 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 10.8
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 11.5

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		2014E75-2-0.5		ML		- Hand auger to 6 ft. Sandy SILT (ML). Dark yellowish-brown (10YR, 4/6). Loose/disturbed. Dry.	
5		2014E75-2-5.5 2014E75-2-FD				- same as above, but becomes medium dense.	2-inch Sch. 40 Blank PVC casing
						7.1	42.9
				SM		Silty SAND (SM). Dark yellowish-brown (10YR 3/6). Loose to medium dense. Moist.	
10		2014E75-2-10.5				- Becomes saturated. Petroleum odor. Silty SAND (SM). Greenish-black (GLEY 1, 2.5/1). Loose to medium dense. Saturated. Strong petroleum odor.	
						12.5	37.5
				ML		Sandy SILT (ML). Very dark greenish-grey (GLEY 1, 3/1 10Y). Medium dense. Strong petroleum odor. Last split spoon 11 - 13 ft bgs.	
15							0.010-inch slotted 2" sch. 40 PVC screen
20						20.0	End Cap
							30.0

Bottom of borehole at 20.0 feet.

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BORING NUMBER 2014E75-3

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 10/23/17 **COMPLETED** 10/23/17
GROUND ELEVATION 48.83 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 14
LOGGED BY Robert Kelley **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING Not Measured

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		2014E75-3-0.5 2014E75-DUP-0.5		SC		Brown (10YR, 4/3) CLAY/SAND (SC). Moderately sorted. Poorly graded. Dry. Hard packed.	
5		2014E75-3-5.5				- Becomes light brown (7.5YR, 6/3) CLAY/SAND loam. Moderately sorted. Poorly graded. Dry.	2-inch Sch. 40 Blank PVC casing
					6.5		42.3
				CL		Brown (10YR, 4/3) CLAY (CL). Soft. Medium plasticity. Dry. Sand with well sorted fine grains.	
10							
		2014E75-3-13.5				- Petroleum odor and staining at 13 ft.	
15				CL			0.010-inch slotted 2" sch. 40 PVC screen
20					20.0		End Cap 28.8

Bottom of borehole at 20.0 feet.

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BORING NUMBER 811-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/31/17 **COMPLETED** 8/31/17
GROUND ELEVATION 52.90 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 22
LOGGED BY Mark Wanek, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 10

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		811-1-0.5		GM		Silty gravel	
						1.5 — 51.4	
				ML		Sandy silt	
5						-Becomes yellowish brown (10YR, 5/6)	2-inch Sch. 40 Blank PVC casing
						-sand content decreases. Abundant bioturbation.	
						-Becomes sandy	
		811-1-08		ML			
10						10.5 — 42.4	
				CL		CLAY (CL) with sand. Grayish-brown. Moist. Medium stiff. Low plasticity. Slow dilatancy	
						-Becomes sandy	
						-Trace rounded gravel	
15						16.2 — 36.7	
				SM		16.8 Yellowish-brown (10YR,5/6) SILTY SAND. Fine. Moist. Medium dense. — 36.1	
				ML		Brownish-yellow (10YR, 6/6) variated with graish-brown SILT (ML) with trace sand.	
20						21.5 — 31.4	
		811-1-22		SM		Silty SAND (SM). Yellowish-brown (10YR, 5/6). Dense. - Becomes wet at 22 ft	0.010-inch slotted 2" sch. 40 PVC screen
25							

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ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER 811-1

CLIENT US Air Force **PROJECT NAME** Site Inspection of Aqueous Film Forming Foam

PROJECT NUMBER C/N W912BV-15-C-0082 **PROJECT LOCATION** Travis AFB

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25						(CONTINUED)	
						Silty SAND (SM). Yellowish-brown (10YR, 5/6). Dense. *(continued)*	
						27.0	25.9 End Cap
						Bottom of borehole at 27.0 feet.	

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER 811-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/30/17 **COMPLETED** 8/30/17
GROUND ELEVATION 52.39 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 24
LOGGED BY Mark Wanek, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 10

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0							
		811-2-0.5 811-2-FD		GM		Silty GRAVEL with sand (GM). Dark grayish-brown (10YR, 4/2).	
5						5.5 46.9	2-inch Sch. 40 Blank PVC casing
				SM		Silty fine SAND (SM). Dark yellowish-brown (10YR, 4/4). Moist. Dense. Few root casts and bioturbation apparent. Fine to course sand grains.	
		811-2-07				- at 7 ft silt decreases (0,80,20,0).	
10						12.0 40.4	
				ML		Sandy SILT (ML) with trace gravels. Moist. Dense. Yellowish-brown (10YR, 5/6).	
15						- Little sand at 16 ft	
						19.5 32.9	
20				SM		Silty SAND (SM). Yellowish-brown (10YR, 5/6). Moist. Medium dense (0,60,40,0).	0.010-inch slotted 2" sch. 40 PVC screen
		811-2-23 811-2-FD2				- Increase in silt content at 22.5 ft.	
25						- Becomes saturated at 24 ft.	

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ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER 811-2

CLIENT US Air Force **PROJECT NAME** Site Inspection of Aqueous Film Forming Foam

PROJECT NUMBER C/N W912BV-15-C-0082 **PROJECT LOCATION** Travis AFB

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25						(CONTINUED)	
				ML		25.3 SILT (ML) with little fine sand. Dark yellowish-brown (10YR, 4/6). Moist. Dense. 27.1	End Cap
						27.5 - Becomes sandy at 27 ft. 24.9	
						Bottom of borehole at 27.5 feet.	

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\IO-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER 82/83C5-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/3/17 **COMPLETED** 9/3/17
GROUND ELEVATION 58.13 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 13
LOGGED BY Robert Kelley **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING Not Measured

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		82/83 C5-1-0.5		SC		Light Brown (7.5YR, 6/3) CLAY/SAND (SC). Dry organics-grasses.	
5						5.5 — 52.6	2-inch Sch. 40 Blank PVC casing
		82/83 C5-1-07		CL		Dark Brown (7.5YR, 3/2) CLAY (CL) with medium to low plasticity. Soft. Moist. -Hydrocarbon stains at 6.5 ft. - Becomes dark green. Medium to low plasticity. Medium stiff. Moist. Approximately 25 percent fine grains. -More hydrocarbon staining at 8.5 ft.	
10							
		82/83 C5-1-12				-Same as above, light brown (7.5YR, 6/3). Hydrocarbon staining gone.	
						13.0 — 45.1	
				SP SC		Poorly graded SAND with clay (SP-SC). Brown (10YR, 4/3), medium coarse to fine. Becomes saturated. Poorly graded. Approximately 10% fines.	0.010-inch slotted 2" sch. 40 PVC screen
15							
20						20.0 — 38.1	End Cap

Bottom of borehole at 20.0 feet.

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER 82/83C5-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/3/17 **COMPLETED** 9/3/17
GROUND ELEVATION 58.61 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 20
LOGGED BY Robert Kelley **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 12

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		82/83 C5-2-0.5		SC		Light brown (7.5YR, 6/3) CLAY/SAND (SC). Dry organics - grasses. Hard packed soil.	
6.0							
		82/83 C5-2-07		CL		Dark brown (7.5YR, 3/2) CLAY (CL). Low to medium plasticity. Dense. Moist.	
52.6							
15.0				CH		Brown (10YR, 4/3) CLAY (CH). High plasticity. Soft. Very moist.	
43.6							
		82/83 C5-2-18 82/83 C5-2-FD					
21.0				SP SC		Poorly graded SAND with clay (SP-SC). Brown (10YR, 4/3). Medium coarse to fine. Poorly sorted. Approximately 10 percent fines. Wet.	
37.6							

2-inch Sch. 40 Blank PVC casing
0.010-inch slotted 2" sch. 40 PVC screen
End Cap
Bentonite Chips

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER 82/83C5-2

CLIENT US Air Force **PROJECT NAME** Site Inspection of Aqueous Film Forming Foam

PROJECT NUMBER C/N W912BV-15-C-0082 **PROJECT LOCATION** Travis AFB

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25							(CONTINUED)
				SP SC		Poorly graded SAND with clay (SP-SC). Brown (10YR, 4/3). Medium coarse to fine. Poorly sorted. Approximately 10 percent fines. Wet. *(continued)*	
					28.0		30.6

Bottom of borehole at 28.0 feet.

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:26 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER 82/83C5-3

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/3/17 **COMPLETED** 9/3/17
GROUND ELEVATION 59.66 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 13
LOGGED BY Robert Kelley **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Projected from 82/83C5-2, 425' southwest
AFTER DRILLING Not Measured

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		82/83 C5-3-0.5				Light brown (7.5YR, 6/3) CLAY/SAND (SC). Dry organics - grasses. Hard packed soil.	
6.0				CL		Dark brown (7.5YR, 3/2) CLAY (CL). Low to medium plasticity. Dense. Moist.	2-inch Sch. 40 Blank PVC casing
53.7							
		82/83 C5-3-8					
15.0				CH		Brown (10YR, 4/3) CLAY (CH). High plasticity. Soft. Very moist.	0.010-inch slotted 2" sch. 40 PVC screen
44.7							
		82/83 C5-3-14					
21.0				SP SC		Poorly graded SAND with clay (SP-SC). Brown (10YR, 4/3). Medium coarse to fine. Poorly sorted. Approximately 10 percent fines. Wet.	End Cap
38.7							Bentonite Chips

(Continued Next Page)

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:26 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

Oneida Total Integrated Enterprises
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Telephone: (210) 490-4865

BORING NUMBER 82/83C5-3

CLIENT US Air Force **PROJECT NAME** Site Inspection of Aqueous Film Forming Foam

PROJECT NUMBER C/N W912BV-15-C-0082 **PROJECT LOCATION** Travis AFB

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25							(CONTINUED)
						Poorly graded SAND with clay (SP-SC). Brown (10YR, 4/3). Medium coarse to fine. Poorly sorted. Approximately 10 percent fines. Wet. *(continued)*	
					28.0	31.7	

Bottom of borehole at 28.0 feet.

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BORING NUMBER 86C141B-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/31/17 **COMPLETED** 8/31/17
GROUND ELEVATION 45.52 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 11.7
LOGGED BY Mark Wanek, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 9.8

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		86C141B-1-0.5		ML		Sandy SILT (ML). Dark yellowish-brown (10YR 4/4). Dry.	
						- Becomes moist	
5						- Becomes dark yellowish-brown (10YR, 4/4)	2-inch Sch. 40 Blank PVC casing
						- Becomes olive brown (2.5, 4/3). Strong staining. Petroleum odor.	
		86C141B-1-09		ML		- Becomes sandy, dark olive-gray (5Y, 3/2). Very strong petroleum odor.	
10							
						11.3 — 34.3	
		86C141B-1-12		SM		Silty SAND (SM). Olive (5Y, 4/4). Staining. Petroleum odor. Moist. Medium Dense.	
						- Becomes saturated at 11.7 ft	
						12.5 — 33.0	
				ML		Dark yellowish-brown (10YR, 4/6) sandy SILT (ML). Moist. Medium dense.	
15							0.010-inch slotted 2" sch. 40 PVC screen
						- Sand content increases	
						- Overdrill to 20 ft	
20						20.0 — 25.5	End Cap

Bottom of borehole at 20.0 feet.

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BORING NUMBER 88C5-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/4/17 **COMPLETED** 9/4/17
GROUND ELEVATION 54.30 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 9
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 6.1

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		88C5-1-0.5		ML		Sandy SILT (ML). Dark yellowish-brown (10YR, 4/6). Loose/disturbed. Dry.	
						- Becomes damp	
5		88C5-1-5.5					2-inch Sch. 40 Blank PVC casing
					6.0	48.3	
				CL		Clay with sand (CL). Mottled dark yellowish-brown (10YR, 4/6) and grayish-brown (10YR, 5/2). Moist.	
					7.5	46.8	
				ML	8.0	Sandy SILT (ML). Mottled yellowish-red (5YR, 4/6) and pale brown (10YR, 6/3). Moist. Medium dense. 46.3	
		88C5-1-8.5		CL	8.8	CLAY with sand (CL). Dark greenish-grey (GLEY 1, 5GY 4/1). Moist. 45.6	
10				SM		Sand with CLAY (SM). Dark greenish-gray (GLEY 1, 5GY 4/1). Medium dense. - Becomes saturated at 9 ft.	
15							0.010-inch slotted 2" sch. 40 PVC screen
					19.4	34.9	End Cap

Bottom of borehole at 19.4 feet.

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BORING NUMBER 88C5-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 10/23/17 **COMPLETED** 10/23/17
GROUND ELEVATION 53.03 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 5.5
LOGGED BY Robert Kelley **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 5.8

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		88C5-2-0.5 88C5-DUP-0.5		SC		Light brown (7.5YR, 6/3) clayey SAND (SC). Dry organics. Dry. Sand - Fine grained. Loose. Well sorted. Fines - Low plasticity. Soft.	
5		88C5-2-5.5		CL	5.0	Dark brown (7.5YR, 3/2) CLAY (CL). Mild to low plasticity. Soft. Very moist to wet.	2-inch Sch. 40 Blank PVC casing
10					11.8	Brown (10YR, 4/3) to dark gray (7.5YR, 4/1). Medium to low plasticity. Soft. Medium stiff. Saturated with sand (approximately 25 percent). Well sorted. Loose.	0.010-inch slotted 2" sch. 40 PVC screen
							End Cap

48.0
41.2

Bottom of borehole at 11.8 feet.

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BORING NUMBER 88C5-3

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/4/17 **COMPLETED** 9/4/17
GROUND ELEVATION 54.16 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 10.3
LOGGED BY Robert Kelley **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 6.1

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		88C5-3-0.5		CL		Light brown (7.5YR, 6/3) SAND/CLAY (CL). Medium sorted. Poorly graded. Dry. Hard packed.	2-inch Sch. 40 Blank PVC casing
4.5							
5		88C5-3-05		SC		Dark brown (7.5YR, 3/2) clayey SAND (SC). Medium sorted. Poorly graded fine grains. Loose. Very moist.	
49.7							
10		88C5-3-09					0.010-inch slotted 2" sch. 40 PVC screen
15							End Cap
15.0							39.2

Bottom of borehole at 15.0 feet.

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BORING NUMBER CFTA-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 10/24/17 **COMPLETED** 10/24/17
GROUND ELEVATION 39.54 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 18
LOGGED BY Robert Kelley **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 12

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		CFTA-1-1.0		SC		Clayey SAND (SC) with gravel. Light brown (7.5YR, 6/3). Well sorted, poorly graded. Dry.	
5				CL		5.0 — Dark brown silty CLAY (CL) with sand-sized fragments. Hard - Becomes reddish-brown. Heavily crumbled at 8.9 ft	34.5 — 2-inch Sch. 40 Blank PVC casing
10		CFTA-1-10.5		SC		11.5 — Reddish-brown SAND with clay. Soft	28.0
15		CFTA-1-16.5				- Becomes moist.	0.010-inch slotted 2" sch. 40 PVC screen
20				SP		18.0 — Sand with pebbles. Loose. White staining.	21.5
						22.0	17.5 — End Cap

Bottom of borehole at 22.0 feet.

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BORING NUMBER CFTA-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/25/17 **COMPLETED** 8/25/17
GROUND ELEVATION 41.54 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 17.5
LOGGED BY Steve Farley, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING Not Measured

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0							
		CFTA-2-1.0		GM		Road base. Silty GRAVEL (GM).	
						2.5 / 39.0	
				ML		Clayey SILT (ML). Dry.	
5						- With gravel	2-inch Sch. 40 Blank PVC casing
						7.0 / 34.5	
				CL		Silty CLAY (CL). Reddish-brown (2.5YR, 4/3). Occasional mica. Soft. Moist.	
10							
		CFTA-2-11.5		CL			
15							
						- Sandy layer approximately 1 inch thick. Slightly moist to wet.	
						- Minor mottling. Moist.	
20							0.010-inch slotted 2" sch. 40 PVC screen
						22.0 / 19.5	
				SC		Silty, clayey, SAND (SC). Fine sand layer. Wet.	
		CFTA-2-23.5					
25							

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BORING NUMBER CFTA-2

CLIENT US Air Force **PROJECT NAME** Site Inspection of Aqueous Film Forming Foam

PROJECT NUMBER C/N W912BV-15-C-0082 **PROJECT LOCATION** Travis AFB

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25						(CONTINUED)	
					27.0	Silty, clayey, SAND (SC). Fine sand layer. Wet. *(continued)*	14.5 End Cap

Bottom of borehole at 27.0 feet.

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BORING NUMBER CFTA-3

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/25/17 **COMPLETED** 8/25/17
GROUND ELEVATION 39.47 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 19
LOGGED BY Steve Farley, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING Not Measured

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						Road base/gravel (GM) access road.	
		CFTA-3-1.0		GM			
						2.5	
				ML		Clayey SILT (ML). Brown (10YR, 4/3). Occasional gravel up to 1 inch in diameter (possible road base). Dry.	
						37.0	
5						- Becomes dark gray (10YR, 4/1). Dry	2-inch Sch. 40 Blank PVC casing
						9.0	
						30.5	
10				CL		Silty CLAY (CL). Reddish-brown (2.5YR, 4/3). Moist. Core easily broken by hand.	
		CFTA-3-11.0				- occasional mica in clay.	
15						- moisture content increases.	0.010-inch slotted 2" sch. 40 PVC screen
						- Silty clay to clayey silt. Moisture increases.	
		CFTA-3-18.0				- Saturated sandy interval.	
20							
						22.0	
						17.5	End Cap
						Bottom of borehole at 22.0 feet.	

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BORING NUMBER FS1-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/28/17 **COMPLETED** 8/28/17
GROUND ELEVATION 64.50 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 10
LOGGED BY Steve Farley, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Projected from FS1-2, 92 ft south
AFTER DRILLING Not Measured

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						Silty clay with plus or minus 5 percent fine sand. Mottled brown (10YR, 4/3). Dry to damp.	
5				CL			2-inch Sch. 40 Blank PVC casing
10						- Becomes mottled brown (10YR, 4/3)/reddish brown (2.5YR, 4/3). Damp. Slightly increasing silt content. Easily fractured cores, slightly micaceous.	
15				SP		16.0 / 48.5 Poorly graded (medium) sand (SP). Moist.	0.010-inch slotted 2" sch. 40 PVC screen
				CL		17.0 / 47.5 Silty CLAY (CL) with sand	
20						21.0 / 43.5	End Cap

Bottom of borehole at 21.0 feet.

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BORING NUMBER FS1-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/30/17 **COMPLETED** 8/30/17
GROUND ELEVATION 62.44 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 19
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 15

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		FS1-2-0.5		CL		Silty clay with plus or minus 5 percent fine sand. Mottled brown (10YR, 4/3). Dry to damp.	
5							2-inch Sch. 40 Blank PVC casing
		FS1-2-08				- Becomes mottled brown (10YR, 4/3)/reddish brown (2.5YR, 4/3). Damp. Slightly increasing silt content. Easily fractured cores, slightly micaceous.	
10							
15						-Static water level at 15 ft	0.010-inch slotted 2" sch. 40 PVC screen
						16.0 — 46.4	
				SP		Poorly graded (medium) sand (SP). Moist.	
		FS1-2-17				17.0 — 45.4	
				CL		Silty CLAY (CL) with sand	
20						- Becomes saturated at 19 ft	End Cap
						21.0 — 41.4	

Bottom of borehole at 21.0 feet.

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BORING NUMBER FS1-3

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/30/17 **COMPLETED** 8/30/17
GROUND ELEVATION 63.50 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 17
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 15

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		FS1-3-0.5		CL		Silty clay (CL) with plus or minus 5 percent fine sand. Light reddish-brown (2.5YR, 4/3). Tight. Dry to damp. Easily fractured cores.	
5						-Slight increase in fine sand content. Dry to damp.	2-inch Sch. 40 Blank PVC casing
10		FS1-3-08		CL	10.0	53.5	
				SC	12.0	Fine SAND with silt and clay (SC). Light reddish brown (2.5YR, 6/3). Loose. Dry to damp. 51.5	
15				CL	16.0	Silty CLAY (CL) with plus or minus 5 percent fine sand. Mottled light reddish brown (2.5YR, 6/3) plus olive green (5GY, 4/4). Damp to moist. - Becomes saturated at 15 ft 47.5	0.010-inch slotted 2" sch. 40 PVC screen
20		FS1-3-17		SP	20.0	Sand (SP). Poorly graded. Mottled reddish-brown (2.5YR, 4/3) and olive green (5GY, 4/4). - Becomes saturated at 17 ft 43.5	End Cap

Bottom of borehole at 20.0 feet.

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BORING NUMBER FS2-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/31/17 **COMPLETED** 8/31/17
GROUND ELEVATION 58.21 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 12.5
LOGGED BY Mark Wanek, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 15.7

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						0.4 Asphalt/concrete 57.8	
		FS2-1-0.5		CL		Sandy CLAY (CL) with trace gravel. Very dark grayish-brown (10YR, 3/2). Dry. Dense.	
5						- Becomes olive-brown (2.5YR, 4/3).	2-inch Sch. 40 Blank PVC casing
		FS2-1-07				7.3 - Becomes dark yellowish-brown (10YR 4/4). 50.9	
				SC		Clayey SAND (SC). Dark yellowish brown (10YR, 9/4) and olive brown (2.5Y, 4/2) variegated sand and clay laminations. 5 - 10 mm thick.	
						8.8 49.5	
				CL		CLAY (CL). Dark yellowish-brown (10YR, 4/4). Laminated.	
10						- Becomes Sandy	
		FS2-1-12		CL		- Becomes wet	
15						- Becomes very dark grayish-brown (10YR, 3/2)	0.010-inch slotted 2" sch. 40 PVC screen
20						- Becomes strong brown (7.5YR, 5/8) with mineral staining.	
						21.0 37.2	End Cap

Bottom of borehole at 21.0 feet.

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BORING NUMBER FS2-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/31/17 **COMPLETED** 8/31/17
GROUND ELEVATION 59.06 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 12
LOGGED BY Mark Wanek, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 10.2

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						0.4 Asphalt 58.7	
		FS2-2-0.5	☒	CL		- Very dark grayish-brown (10YR, 3/2) sandy CLAY (CL) with trace gravel. Dry. Dense.	
5							2-inch Sch. 40 Blank PVC casing
		FS2-2-07	☒	CL		- Fill-native interface - Becomes laminated, dark yellowish-brown (10YR, 4/4).	
10						11.5 47.6	
		FS2-2-11	☒	SC		Clayey SAND (SC). Yellowih-brown (10YR, 5/6). Moist to wet. Finely laminated. Variegated coloring.	
						12.8 46.3	
				CL		Lean CLAY (CL). Yellowish-brown (10YR, 5/6). Moist.	
15						- Becomes brown (10YR, 4/3).	0.010-inch slotted 2" sch. 40 PVC screen
20				CL			End Cap
25							

(Continued Next Page)

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

Oneida Total Integrated Enterprises
1030 Central Parkway South
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Telephone: (210) 490-4865

BORING NUMBER FS2-2

CLIENT US Air Force **PROJECT NAME** Site Inspection of Aqueous Film Forming Foam

PROJECT NUMBER C/N W912BV-15-C-0082 **PROJECT LOCATION** Travis AFB

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25						(CONTINUED)	
30				CL		Lean CLAY (CL). Yellowish-brown (10YR, 5/6). Moist. *(continued)*	Hydrated Bentonite Chips
					30.5	28.6	

Boring completed to 30.5 on 8-31-2017. Bottom of boring filled with hydrated bentonite chips and temporary well set to 22 ft TD.

Bottom of borehole at 30.5 feet.

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER FS2-3

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/30/17 **COMPLETED** 8/30/17
GROUND ELEVATION 58.87 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 15
LOGGED BY Mark Wanek, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 11.3

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		FS2-3-01	☒	CL		Dark grayish-brown (10YR, 4/2) lean CLAY (CL) with trace sand. Dry. Hard. Medium toughness. Slow dilatancy - Becomes moist	
5						- Becomes dark yellowish-brown (10YR, 4/4). - Becomes sandy	2-inch Sch. 40 Blank PVC casing
				SM		7.5 — Silty SAND (SM). Dark yellowish-brown (10YR, 4/6). Fine sand with trace coarse sand grains. — 51.4	
10		FS2-3-11	☒	ML		10.5 — Sandy SILT (ML). Dark yellowish-brown (10YR, 4/6). — 48.4	
15		FS2-3-14.5	☒	SM		14.5 — Silty SAND (SM). Yellowish-Brown (10YR, 5/6). Moist. Dense. (0, 80, 20, 0) - Becomes wet at 15 ft bgs — 44.4 - Increase in silt (0, 70, 30, 0)	0.010-inch slotted 2" sch. 40 PVC screen
20						- No samples collected between 19 and 22.5 ft	
						22.5 — 36.4	End Cap

Bottom of borehole at 22.5 feet.

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BORING NUMBER FS4-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/1/17 **COMPLETED** 9/1/17
GROUND ELEVATION 36.66 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 12
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 9.0

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		FS4-1-0.5		ML		Sandy SILT (ML). Dark yellowish-brown (10YR, 4/4). Medium dense. Dry.	
5		FS4-1-06		ML		- Becomes dark yellowish-brown (10YR 4/6). Medium dense. Dry to damp.	2-inch Sch. 40 Blank PVC casing
10		FS4-1-11		SM		Measured DTW = 9.0' - Change in moisture from damp to moist. Silty SAND (SM). Dark yellowish-brown (10YR 4/6). Medium dense. Moist to wet.	
						12.0	
				ML		Sandy SILT (ML). Dark yellowish-brown (10YR 4/6). Medium dense. Wet. Slight hydrocarbon odor.	
15						- Color change to yellowish-brown (10YR 5/6).	0.010-inch slotted 2" sch. 40 PVC screen
						19.4	
						24.7	
						17.3	End Cap

Bottom of borehole at 19.4 feet.

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\IO-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER FS4-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/1/17 **COMPLETED** 9/1/17
GROUND ELEVATION 37.34 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 12
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 10.8

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		FS4-2-0.5 FS4-2-FD		ML		Sandy SILT (ML). Dark yellowish-brown (10YR, 4/4). Dry. Medium dense.	
5		FS4-2-06				- Becomes dark yellowish-brown (10YR, 4/6). Medium dense. Dry to damp. Small amount of very dark brown (10YR, 2/2) mottling. - Moisture changes to damp	2-inch Sch. 40 Blank PVC casing
10		FS4-2-11				- Static water level at 10.83 ft - Same as above, but also has additional very pale brown mottling. Moist. - Becomes wet.	
						14.0 — 23.3	
15				SM		Silty SAND (SM). Dark yellowish-brown (10YR, 4/6). Medium dense. 15.0 — 22.3	0.010-inch slotted 2" sch. 40 PVC screen
				ML		Sandy SILT (ML). Dark yellowish-brown (10YR, 4/6). Medium dense. Wet.	
						19.3 — 18.0	End Cap

Bottom of borehole at 19.3 feet.

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BORING NUMBER FS4-3

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/1/17 **COMPLETED** 9/1/17
GROUND ELEVATION 39.48 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 12
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 11.5

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		FS4-3-0.5		ML		SILT (ML) with plus or minus 5 percent fine sand. Dark yellowish-brown (10YR, 4/4). Dry to damp. Medium dense.	
5		FS4-3-06		ML			2-inch Sch. 40 Blank PVC casing
					8.5		31.0
				SM	9.0	Silty SAND (SM). Dark yellowish-brown (10YR, 4/4). Dry to damp.	30.5
10		FS4-3-11		ML		Sandy SILT (ML). Dark yellowish-brown (10YR, 4/4). Medium dense. - Change to moist - At 11.48 = water stabilized in casing - DTW stabilized in casing at 11.48' - Becomes wet.	
15						- Becomes dark yellowish-brown (10YR, 4/6). Wet/Saturated. Medium dense.	0.010-inch slotted 2" sch. 40 PVC screen
					19.2		20.3 End Cap

Bottom of borehole at 19.2 feet.

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BORING NUMBER FT005-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/24/17 **COMPLETED** 8/24/17
GROUND ELEVATION 45.59 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD DPT
AT TIME OF DRILLING 25
LOGGED BY Steve Farley, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Continuous Core
AFTER DRILLING 12

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0							
		FT005-1-1.0		GM		Sandy GRAVEL - Gravelly SAND (GM). Road or pavement base. Loose.	
5						- Color varies from brown (10YR, 4/3) to gray (5Y, 6/1) to green. Pebbles up to 1/2 inch to 3/4 of an inch in diameter. 40.6	2-inch Sch. 40 Blank PVC casing
				CL		CLAY (CL). Moist inside core. Green to brown (10YR, 4/3). Stiff. Can't deform with fingernail.	
10						- Slight increase in moisture	
		FT005-1-12					
15						- Same as above with black (10YR, 2/1) mottling.	
						17.5 28.1	
				SP		Loose SAND (SP). Slightly moist.	
						19.0 26.6	
20		FT005-1-19.5		CL		CLAY (CL). Moist inside core. Green to brown (10YR, 4/3) with black mottling. Stiff. Can't deform with fingernail.	0.010-inch slotted 2" sch. 40 PVC screen
						22.0 23.6	
				SM		Silty SAND (SM) grading to Sandy SILT.	
25						- Becomes loose. Slightly moist.	
						25.0 20.6	

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ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER FT005-1

CLIENT US Air Force **PROJECT NAME** Site Inspection of Aqueous Film Forming Foam

PROJECT NUMBER C/N W912BV-15-C-0082 **PROJECT LOCATION** Travis AFB

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25							(CONTINUED)
				CL		Silty CLAY (CL). Stiff. Encountered refusal. Broke hammer on rig.	End Cap

Borehole was terminated at 26 ft on 8/25/2017. Sampling will occur next day with different rig.

Bottom of borehole at 26.0 feet.

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BORING NUMBER FT005-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/24/17 **COMPLETED** 8/24/17
GROUND ELEVATION 41.98 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 19
LOGGED BY Steve Farley, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 11.5

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		FT005-2-1.0		CL		Mottled silty CLAY (CL). Reddish-brown (2.5YR, 4/3). Dense.	
5						- At 7 ft, becomes slightly moist. Can be deformed with finger.	2-inch Sch. 40 Blank PVC casing
10		FT005-2-12				- At 9 ft, core easily broken. Increasing silt content.	
						13.0 — 29.0	
15				ML		Sandy silt (ML). Dark gray (5Y, 4/1) to greenish	
						19.0 — 23.0	
20		FT005-2-21		SM		Silty SAND (SM). Loose. Reddish-brown (2.5YR, 4/3). Saturated.	0.010-inch slotted 2" sch. 40 PVC screen
25						- Water inside auger at 24 ft.	

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ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER FT005-2

CLIENT US Air Force **PROJECT NAME** Site Inspection of Aqueous Film Forming Foam

PROJECT NUMBER C/N W912BV-15-C-0082 **PROJECT LOCATION** Travis AFB

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25						(CONTINUED)	
				SM	26.0	Silty SAND (SM). Loose. Reddish-brown (2.5YR, 4/3). Saturated. *(continued)* 16.0	End Cap

Bottom of borehole at 26.0 feet.

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER FT005-3

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/25/17 **COMPLETED** 8/25/17
GROUND ELEVATION 45.00 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 21
LOGGED BY Steve Farley, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 11

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						Silty CLAY (CL). Reddish-brown (2.5YR, 4/3). Mottled.	
		FT005-3-1.0		CL			
5							2-inch Sch. 40 Blank PVC casing
						- Becomes slightly moist. Easily deformed.	
10							
		FT005-3-11.5				- Increasing silt content.	
15						- Mica visible	
					15.5	29.5	
				ML		Sandy SILT (ML). Dark green.	
						- Becomes moist.	
20							0.010-inch slotted 2" sch. 40 PVC screen
						- Becomes wet	
		FT005-3-23			23.5	21.5	
				SM		Silty SAND (SM). Saturated.	
25							

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ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER FT005-3

CLIENT US Air Force **PROJECT NAME** Site Inspection of Aqueous Film Forming Foam

PROJECT NUMBER C/N W912BV-15-C-0082 **PROJECT LOCATION** Travis AFB

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
25						(CONTINUED)	
				SM		Silty SAND (SM). Saturated. *(continued)*	
						- Water inside augers.	
						- Becomes loose.	End Cap
					29.0	16.0	
						Bottom of borehole at 29.0 feet.	

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:26 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER Late80s-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/4/17 **COMPLETED** 9/4/17
GROUND ELEVATION 40.00 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 14.5
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 9.4

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		LATE80S-1-0.5 LATE80S-1-FD		ML		Sandy SILT. Dark yellowish-brown (10YR, 4/4). Loose/disturbed. Dry.	
5						5.0	
				CL		Sandy CLAY (CL). Very dark brown (10YR 2/2). Medium dense. Damp. 35.0	2-inch Sch. 40 Blank PVC casing
						6.0 34.0	
		LATE80S-1-07		ML		Sandy SILT (ML). Dark yellowish-brown (10YR, 4/6). Medium dense. Damp.	
10						Lens of silty SAND (SM). Dark yellowish-brown (10YR, 4/6). Damp.	
						- Becomes moist	
						11.8 28.2	
				SM		Lens of silty SAND (SM) 27.5	
						12.5	
				ML		Sandy SILT (ML). Dark yellowish-brown (10YR, 4/6). Medium dense. Damp.	
		LATE80S-1-14				14.5 25.5	0.010-inch slotted 2" sch. 40 PVC screen
15				SM		Silty SAND (SM). Dark yellowish-brown (10YR, 4/6). Medium dense. Wet.	
							End Cap
20						21.0 19.0	

Bottom of borehole at 21.0 feet.

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BORING NUMBER Late80s-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 10/23/17 **COMPLETED** 10/23/17
GROUND ELEVATION 39.04 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 6.5
LOGGED BY Robert Kelley **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 8.9

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		LATE80S-2-0.5		SC		Clayey SAND (SC) with gravel. Light brown (7.5YR, 6/3). Hard packed. Dry. Poorly sorted with subrounded gravel. Gravel increases with depth.	2-inch Sch. 40 Blank PVC casing
5							
					6.0		33.0
				GP		Poorly graded GRAVEL with trace clay (GP). Brown (10YR, 4/3). Subrounded with less than 5 percent fines.	
		LATE80S-2-7.0		CH	7.0	Fat CLAY (CH). Brown (10YR, 4/3). High plasticity. Stiff. Wet.	32.0
10						- Static water level at 9 ft.	0.010-inch slotted 2" sch. 40 PVC screen
					12.7		26.3 End Cap

Bottom of borehole at 12.7 feet.

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BORING NUMBER Late80s-3

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/4/17 **COMPLETED** 9/4/17
GROUND ELEVATION 40.13 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 13
LOGGED BY Robert Kelley **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 11.1

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		LATE80S-3-0.5		SC		Clayey SAND (SC). Brown (10YR, 4/3). Hard. Dry. Poorly graded.	
5		LATE80S-3-06		CH		6.5 — 33.6: High Plasticity CLAY (CH). Stiff. High plasticity. Dry. Less than 5% sandy material..	2-inch Sch. 40 Blank PVC casing
10		LATE80S-3-12		CL		8.5 — 31.6: Lean CLAY (CL). Soft. very plastic. Moist. Soft. - Becomes wet	0.010-inch slotted 2" sch. 40 PVC screen
15							
20						20.0	20.1: End Cap

Bottom of borehole at 20.0 feet.

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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BORING NUMBER Late80s-4

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 10/23/17 **COMPLETED** 10/23/17
GROUND ELEVATION 41.97 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 14
LOGGED BY Robert Kelley **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 12.7

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		LATE80S-4-0.5		SC		Clayey SAND (SC) with trace gravel. Light brown (7.5YR, 6/3). Hard packed. Well graded.	
5		LATE80S-4-5.5		CL		CLAY (CL) with sand. Light brown (7.5YR, 6/3). Stiff. Low plasticity. Dry.	2-inch Sch. 40 Blank PVC casing
10							
15		LATE80S-4-13		CL		- Becomes wet.	0.010-inch slotted 2" sch. 40 PVC screen
20							End Cap

5.0
37.0
20.0
22.0

Bottom of borehole at 20.0 feet.

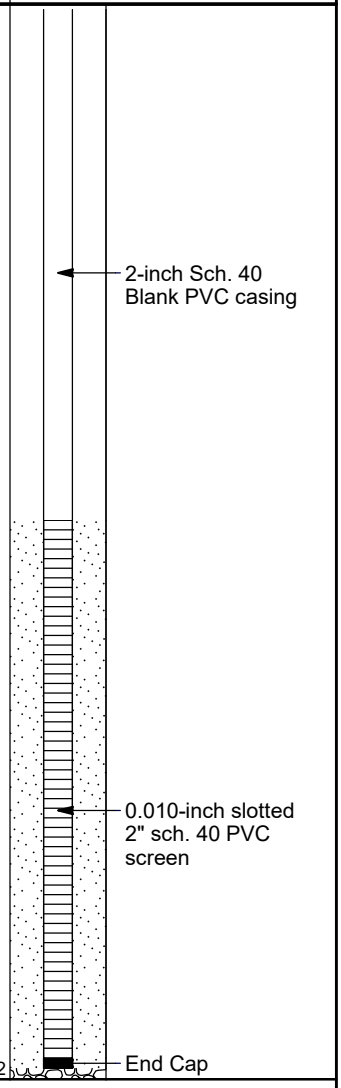
ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\IO-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

Oneida Total Integrated Enterprises
1030 Central Parkway South
San Antonio, TX 78232
Telephone: (210) 490-4865

BORING NUMBER NOZ-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/5/17 **COMPLETED** 9/5/17
GROUND ELEVATION 35.17 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 12
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 13.9

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION
0		NOZ-1-0.5		ML		Sandy SILT (ML) with gravels up to 1/2 inches. Yellowish-brown (10YR, 5/4). Dry. Loose/disturbed.
5						
10		NOZ-1-08		ML		- Becomes dark yellowish brown (10YR, 4/4). Medium dense. Damp.
15		NOZ-1-11.5 NOZ-1-FD		ML		- Becomes wet. - Decreased sand
20					20.0	Bottom of borehole at 20.0 feet.



ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

Oneida Total Integrated Enterprises
1030 Central Parkway South
San Antonio, TX 78232
Telephone: (210) 490-4865

BORING NUMBER NOZ-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/5/17 **COMPLETED** 9/5/17
GROUND ELEVATION 37.24 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 12
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 15.6

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		NOZ-2-0.5		ML		Sandy SILT (SM). Yellowish-brown (10YR, 5/6). Loose/disturbed. Dry.	
5					5.0	Rock in sampler at 5 ft. No recovery. 32.2	2-inch Sch. 40 Blank PVC casing
		NOZ-2-07		ML	7.0	- Becomes dark yellowish-brown (10YR, 4/4). Medium dense. Damp. 30.2	
10		NOZ-2-11.5		ML		- Becomes moist. - Becomes wet.	
15							0.010-inch slotted 2" sch. 40 PVC screen
20					20.0	17.2	End Cap

Bottom of borehole at 20.0 feet.

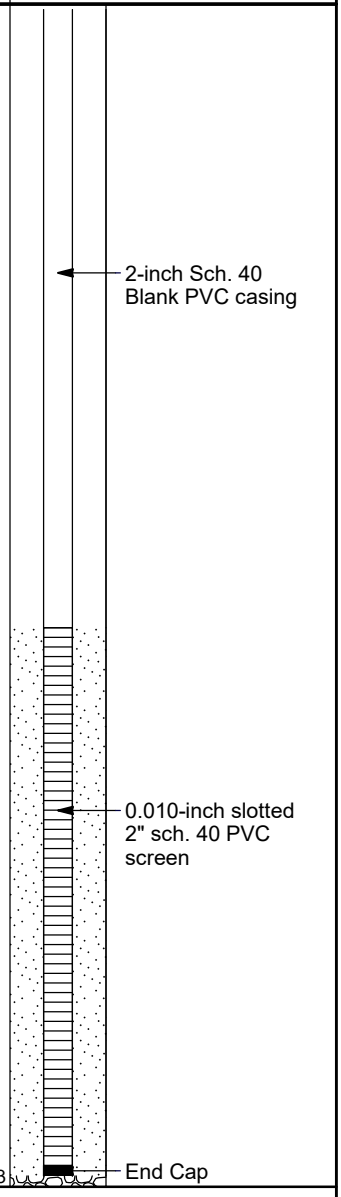
ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

Oneida Total Integrated Enterprises
1030 Central Parkway South
San Antonio, TX 78232
Telephone: (210) 490-4865

BORING NUMBER NOZ-3

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 9/5/17 **COMPLETED** 9/5/17
GROUND ELEVATION 38.30 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 14
LOGGED BY Alex Bowerman, PE **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING 14.8

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION
0		NOZ-3-0.5		ML		Sandy SILT (ML). Yellowish-brown (10YR 5/6). Dry with gravel.
5						- Gravels up to 1/2 inch. Dark yellowish-brown (10YR, 3/4). Medium dense.
		NOZ-3-7.5		ML		- Becomes very dark brown (10YR, 2/2). Dense. Damp.
10						- Becomes mottled very dark brown (10YR, 2/2) and dark yellowish-brown (10YR, 4/4). Damp. Medium dense.
						- Becomes yellowish-brown (10YR, 5/4). Damp.
		NOZ-3-13.5		ML		- Becomes moist
15						- Becomes wet.
20						
					22.0	Bottom of borehole at 22.0 feet.



WELL DIAGRAM

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

Oneida Total Integrated Enterprises
1030 Central Parkway South
San Antonio, TX 78232
Telephone: (210) 490-4865

BORING NUMBER WWTP-1

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/28/17 **COMPLETED** 8/28/17
GROUND ELEVATION 40.36 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 18
LOGGED BY Steve Farley, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING Not Measured

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						Silty CLAY (CL). Reddish-brown (2.5YR, 4/3) with black (10YR, 2/1). Occasional rock fragments. Shiny. Dry.	
		WWTP-1-1.0	⊠	CL			
5							2-inch Sch. 40 Blank PVC casing
						- Becomes dark reddish-brown (2.5YR, 3/3). Occasional grains of rock approximately 1 - 2 mm. and mica. Soft.	
10		WWTP-1-10	⊠	CL			
						- Same as above with increased staining. Becomes moist. Soft. Easily deformed with fingers.	
15							0.010-inch slotted 2" sch. 40 PVC screen
		WWTP-1-16	⊠	SM	16.0	24.4	
						Sand with silt (SM). Dark reddish-brown (2.5YR, 4/3) with black (10YR, 2/1) staining. Wet.	
20					20.0	20.4	End Cap

Bottom of borehole at 20.0 feet.

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\O-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

Oneida Total Integrated Enterprises
1030 Central Parkway South
San Antonio, TX 78232
Telephone: (210) 490-4865

BORING NUMBER WWTP-2

CLIENT US Air Force
PROJECT NAME Site Inspection of Aqueous Film Forming Foam
PROJECT NUMBER C/N W912BV-15-C-0082
PROJECT LOCATION Travis AFB
DATE STARTED 8/28/17 **COMPLETED** 8/28/17
GROUND ELEVATION 42.49 ft **HOLE SIZE** 8
DRILLING CONTRACTOR Woodward Drilling Co.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING 10
LOGGED BY Steve Farley, PG **REVIEWED BY** Mark Wanek, PG
AT END OF DRILLING
NOTES Mod Cal, Continuous Core
AFTER DRILLING Not Measured

DEPTH (ft)	PID (ppm)	SAMPLE ID	SAMPLES	USCS Symbol	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0		WWTP-2-1.0		CL		Silty CLAY (CL). Gray. Dry. Soft.	
5							2-inch Sch. 40 Blank PVC casing
10		WWTP-2-10		SM		- Black (10YR, 2/1) mottling.	
					10.0	32.5	
						Silty SAND (SM). Reddish-brown (2.5YR, 4/3). Dry to moist.	
						- Becomes wet.	
						- Becomes coarse.	
15		WWTP-2-16		SM			0.010-inch slotted 2" sch. 40 PVC screen
						- Same as above, but water increases with depth.	
20						- Coarse sand layer with silt. Wet.	
						- Saturated sand to clayey sand.	
					22.0	20.5	End Cap
						Bottom of borehole at 22.0 feet.	

ENVIRONMENTAL BH - GINT STD US.GDT - 2/27/18 18:16 - \\SANTABARBARADC\PROJECTS.SBACE-TULSA\PFCS 2015341\IO-LOGS_FINAL\TRAVIS SI\TRAVIS SI LOGS LV.GPJ

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APPENDIX A-4

Photographic Log

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Photo 1: Photo of IDW laydown area with secondary containment for liquid investigative-derived waste (IDW).



Photo 2: Staging drums of soil IDW on wooden pallets at laydown area. Note liquid IDW in secondary containment at right of photo.



Photo 3: View of a temporary well after the PVC casing was removed and before it was properly abandoned. Note fabric used as a cover to avoid entrapment of fauna.



Photo 4: Subcontractor drilling crew abandoning a temporary groundwater well in accordance with Solano County guidelines.

APPENDIX A-5

Chain-of-Custody Records

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OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 8/29/2017

PAGE: 1 OF 2

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S) (SIGNATURE): STEVE PARCLEY
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY):
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	<-- Preservative / Remarks
	CFTA-1-1.0	8/25/17	11:15	SOIL	X				
	CFTA-2-1.0	8/25/17	10:20		X				
	CFTA-2-11.5	8/25/17	14:00		X				
	CFTA-2-23.5	8/25/17	15:05		X				
	CFTA-3-1.0	8/25/17	10:55		X				
	CFTA-3-11	8/28/17	10:05		X				
	~~CFTA~~ CFTA 3-18	8/28/17	10:35		X				
	FS1-1-12	8/28/17	15:05		X				
	FS1-1-18	8/28/17	15:10		X				
	FS1-1-1.0	8/28/17	13:30		X				

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

Relinquished by: (Signature) STEPHEN PARCLEY	Received by: (Signature) FED EX	Date: 8/29/17	Time: 18:30
Relinquished by: (Signature)	Received by: (Signature) MATTHEW TOWER KATCHME	Date: 2017/08/30	Time: 14:25
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

30-Aug-17 14:25
Stephanie Pollen
B7I9016

GK1 ENV-685

temps: 2.8/2.7/3.2
custody seals present & intact
NM# 39725

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 8/29/17

PAGE: 2 OF 2

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com MQuillin@otie.com	SAMPLER(S): (SIGNATURE)
TEL: 925-906-9698	FAX: 925-906-9678		SDG #

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified
	FTOO5-1-1.0	8/24/17	10:30	SOIL	X			
	FTOO5-1-12	8/24/17	13:20					
	FTOO5-1-19.5	8/25/17	8:05					
	FTOO5-2-1.0	8/24/17	12:23					
	FTOO5-2-12	8/25/17	12:40					
	FTOO5-2-21	8/25/17	12:52					
	FTOO5-3-1.0	8/24/17	10:55					
	FTOO5-3-11.5	8/25/17	9:39					
	FTOO5-3-23	8/25/17	10:05	↓	↓			

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

<-- Preservative

Remarks

Relinquished by: (Signature) STEPHEN FARLEY	Received by: (Signature) FED EX	Date: 8/29/17	Time:
Relinquished by: (Signature)	Received by: (Signature) MAYFLOWER TRANSIT	Date: 2017/08/30	Time: 14:25
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

temps: 2.8/2.2/3.2 MM# 397825

Custody seals present & intacted.

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 8/29/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S) (SIGNATURE):
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY):

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:

H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	NA	<-- Preservative / Remarks
	WWTP-1-1.0	8/28/17	8:10	Soil	X		1	X		
	WWTP-1-10	8/28/17	9:44	Soil	X		1	X		
	WWTP-1-16	8/28/17	10:30	Soil	X		1	X		
	WWTP-2-1.0	8/28/17	10:54	Soil	X		1	X		
	WWTP-2-10	8/28/17	14:00	Soil	X		1	X		
	WWTP-2-16	8/28/17	15:05	Soil	X		1	X		

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

Relinquished by: (Signature) Scott Thompson	Received by: (Signature) Fed Ex	Date: 8/29/17	Time: 13:30
Relinquished by: (Signature)	Received by: (Signature) MAXXAM ANALYTICS	Date: 2017/08/30	Time: 14:25
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

30-Aug-17 14:25
Stephanie Pollen
B719019

GK1 ENV-685

MM# 397825 temps 3.4/3.7/4.2
custody seals present & intacted.

ATR

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 2

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S) (SIGNATURE): Alicia Ortega
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative
								NA	NA	Remarks
	EQB3-090517	9/5/17	0738	WQ	X		2	X		boiler
	NOZ-1-0.5	"	0825	SO	X		1		X	
	NOZ-1-08	"	0900	SO	X		1		X	
	NOZ-1-11.5	"	0909	SO	X		1		X	
	NOZ-1-FD	"	0909	SO	X		1		X	
	NOZ-2-0.5	"	0925	SO	X	AC	1		X	
	NOZ-2-07	"	0950	SO	X		1		X	
	NOZ-2-11.5	"	0955	SO	X		1		X	
	NOZ-3-0.5	"	1020	SO	X		1		X	
	NOZ-3-7.5	"	1055	SO	X		1		X	
	NOZ-3-13.5	"	1100	SO	X		1		X	

07-Sep-17 15:11

Stephanie Pollen

B7J4892

TSP ENV-1261

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Alicia Ortega	FedEx	9/5/17	1630
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Tamara Townsend Stanley	2017/09/07	15:11
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

Rel'd to AC TX

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 2 OF 2

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Albie Gudez
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY):

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative	Remarks
	NOZ-3-W19	9/5/17	1200	WG	X		2	X			
	NOZ-2-W16	"	1153	WG	X		2	X			
	NOZ-1-W14	"	1137	WG	X		2	X			
	EQB4-090517	"	1220	WQ	X		2	X			bailer

Relinquished by: (Signature) Albie Gudez	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Jennifer Tanner	Date: 9/6/17	Time: 1511
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Re/a to AC TR

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10995
CITY: Walnut Creek STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678 E-MAIL: MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
	SAMPLER(S): (SIGNATURE) Allie Gredge
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified (T)	ASTM D7968-14 Modified (NA)	<-- Preservative / Remarks
	88CS-3-0.5	9/4/17	1405	SO	X		3		X	MS / MSD
	88CS-3-05	"	1435	SO	X		1		X	
	88CS-3-09	"	1440	SO	X		1		X	
	88CS-1-0.5	"	1355	SO	X		1		X	
	88CS-1-5.5	"	1430	SO	X		1		X	
	88CS-1-8.5	"	1438	SO	X	AG	1		X	
	EQBQ-090417	"	1630	WQ	X		2	X		hand auger
	88CS-3-W06	"	1505	WG	X		2	X		
	88CS-1-W06	"	1500	WG	X		2	X		

AG

Relinquished by: (Signature) Allie Gredge	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tanvir Sidhu	Date: 2017/09/07	Time: 15:11
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

07-Sep-17 15:11

Stephanie Pollen

B7J4895

TSP ENV-126'1

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

Re/- to Re-

07-Sep-17 15:11

Stephanie Pollen

B7J4898

OTIE — An Oneida Nation Company

Maxxam Ar

TSP ENV-1261

CHAIN OF CUSTODY RECORD

DATE: 9/5/17 PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Albert Arriaga	SDG #:
TEL: 925-906-9698 FAX: 925-906-9678	MQuillin@otie.com		

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY): ☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified											<-- Preservative / Remarks
								T	NA											
	Late 80s-3-0.5	9/4/17	1000	SO	X		1		X											
	Late 80s-3-06	"	1040	SO	X		3		X											ms/msd
	Late 80s-3-12	"	1050	SO	X		1		X											
	Late 80s-1-0.5	"	1020	SO	X		1		X											
	Late 80s-1-07	"	1105	SO	X		1		X											
	Late 80s-1-14	"	1110	SO	X	AC	1		X											
	Late 80s-1-FD	"	1020	SO	X		1		X											
	Late 80s-1-W09	"	1555	WG	X		2	X												
	Late 80s-3-W11	"	1600	WG	X		2	X												

Relinquished by: (Signature) Albert Arriaga	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tan 1:8h Tan 1:12 SEN 44	Date: 20170902	Time: 15:11
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Rel to AECOM

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

OTIE
An Oneida Nation Company

Maxxam Analytic

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

CHAIN OF CUSTODY RECORD

DATE: 9/5/17
PAGE: 1 OF 2

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alicia George
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
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- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative
									MA	Remarks
	2001Crash-1-0.5	9/3/17	0850	SO	X		1		X	
	2001 Crash-1-7.5	"	0930	SO	X		1		X	
	2001 Crash-1-.25	"	0945	SO	X		1		X	
	2001Crash-3-0.5	"	1030	SO	X		1		X	
	2001Crash-3-FD	"	1030.	SO	X		1		X	
	2001 Crash-3-06	"	1050	SO	X	AG	1		X	
	2001 Crash-3-09	"	1100	SO	X		1		X	
	2001 Crash-4-0.5	"	1139	SO	X		3		X	MS/MSD
	2001 Crash-4-7.5	"	1200	SO	X		1		X	
	2001 Crash-4-11.5	"	1210	SO	X		1		X	
	2001 Crash-2-0.5	"	1236	SO	X		1		X	

Relinquished by: (Signature) Alicia George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tanvir Bal Tanvir Bal	Date: 9/6/17	Time: 15:11
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

07-Sep-17 15:11
Stephanie Pollen
B7J4905

TSP ENV-1261

10 MCTR

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 2 OF 2

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Albie George	SDG #:
TEL: 925-906-9698 FAX: 925-906-9678	MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY):
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

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-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative / Remarks
								NA	NA	
	2001Crash-2-7.5	9/3/17	1400	SO	X		1		X	
	2001Crash-2-25	"	1407	SO	X		1		X	
	2001Crash-4-W12	"	1601	WG	X		2	X		
	2001Crash-4-WFD	"	1601	WG	X		2	X		
	2001Crash-3-W08	"	1530	WG	X		6	X		MS/MSD
						AG				
		AG								

Relinquished by: (Signature) Albie George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tanvir Tanvir Singh	Date: 2017/09/07	Time: 15:11
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Rel. to ALTS

07-Sep-17 15:11

Stephanie Pollen

B7J4910

TSP ENV-1071

OTIE
An Oneida Nation Company

Maxxam Analyti

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alberto Arteaga
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	* COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative
	WWTP-2-W10	8/28/17	1655	WG	X		2	X		NA
						AG			AG	

Remarks

Relinquished by: (Signature) Alberto Arteaga	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tammie Terrill SENWW	Date: 20170909/03	Time: 15:11
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Ref to ACZ

OTIE
An Oneida Nation Company

Maxxam Analytics

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

CHAIN OF CUSTODY RECORD

DATE: 9/5/17
PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10995
CITY: Walnut Creek STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678 E-MAIL: MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
	SAMPLER(S): (SIGNATURE) Alicia Gudiel
	SDG #

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative / Remarks
								T	NA	
	2014E75-1-0.5	9/4/17	1200	SO	X		3		X	MS/MSD
	2014E75-1-06	"	1220	SO	X		1		X	
	2014E75-1-13	"	1245	SO	X		1		X	
	2014E75-2-0.5	"	1205	SO	X		1		X	
	2014E75-2-5.5	"	1215	SO	X		1		X	
	2014E75-2-10.5	"	1249	SO	X		1		X	
	2014E75-2-FD	"	1215	SO	X		1		X	
	2014E75-2-W11	"	1530	WG	X		2	X		
	2014E75-1-W12	"	1540	WG	X		2	X		

Relinquished by: (Signature) Alicia Gudiel	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tanvir Sekhon Tanvir Sekhon	Date: 2017/09/07	Time: 15:11
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

07-Sep-17 15:11
Stephanie Pollen
B7J4915

TSP ENV-1120

Refer to AC/TR

07-Sep-17 15:11

Stephanie Pollen

B7J4920

TSP ENV-1120

OTIE — An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alicia Gurrez
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative / Remarks
								NA	NA	
	FSI-3-0.5	8/30/17	0835	SO	X		1		X	
	FSI-3-08	"	0935	SO	X		1		X	
	FSI-3-17	"	0942	SO	X		1		X	
	FSI-2-0.5	"	0800	SO	X		1		X	
	FSI-2-08	"	0855	SO	X		1		X	
	FSI-2-17	"	0900	SO	X		1		X	
	FSI-1-W10	8/28/17	1610	WG	X		2	X		
	FSI-2-W10	8/31/17	0750	WG	X		2	X		
	FSI-3-W10	8/31/17	0826	WG	X		2	X		

Relinquished by: (Signature) Alicia Gurrez	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tanvir Tanvir Singh	Date: 2017/09/07	Time: 1521
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Re/on to ALTR

International Solid Sample

Heat Treat Required

High Risk material

Controlled Storage and Disposal

07-Sep-17 15:11

Stephanie Pollen

B7J4922

OTIE — An Oneida Nation Company

Maxxam Analytic

TSP ENV-1120

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 2

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10995
CITY: Walnut Creek STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678 E-MAIL: MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
	SAMPLER(S) (SIGNATURE): Alicia Quiroga
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

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N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative	Remarks
	FS4-3-0.5	9/1/17	0855	SO	X		3		X		MS / MSD
AG	~~EQBI-090117~~	~~9/1/17~~	0930	WQ	X		2	X			~~w/ TRIZMA~~ AG
	FS4-3-06	"	0927	SO	X		1		X		
	FS4-3-11	"	0930	SO	X		1		X		
	FS4-1-0.5	"	0952	SO	X		1		X		
	FS4-1-06	"	1030	SO	X		1		X		
	FS4-1-11	"	1035	SO	X	AG	1		X		
	FS4-2-0.5	"	1119	SO	X		1		X		
	FS4-2-06	"	1200	SO	X		1		X		
	FS4-2-11	"	1205	SO	X		1		X		
	FS4-2-FD	"	1119	SO	X		1		X		

Relinquished by: (Signature) Alicia Quiroga	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) TAN 1/2 B A TAN 1/2 SEN 44	Date: 2017/09/07	Time: [illegible]
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

rel to ALTK

International Solid Sample

Heat Treat Required

High Risk material

Controlled Storage and Disposal

17

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 2 OF 2

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alicia Gudiego	SOG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

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S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative / Remarks
	FS4-1-W09	9/1/17	1300	WG	X		2	X		
	FS4-3-W12	"	1305	WG	X		2	X		
	FS4-2-W11	"	1315	WG	X		2	X		
	FS4-2-WFD	"	1315	WG	X		2	X		
	FS4-SED-1	"	1345	SE	X		3		X	ms/msd
		AG				AG				

Relinquished by: (Signature) Alicia Gudiego	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tanvir Sidhu	Date: 2017/09/07	Time: 15:11
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

12/a to ACTL

OTIE
An Oneida Nation Company

Maxxam Analytics

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

CHAIN OF CUSTODY RECORD

DATE: 9/5/17
PAGE: 1 OF 2

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10995
CITY: Walnut Creek STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678 E-MAIL: MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
	SAMPLER(S): (SIGNATURE) Adrie Arteaga
	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY):
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Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative	Remarks
								NA	NA		
	FS2-3-W11	9/1/17	1035	WG	X		2	X			
	FS2-3-W10	"	1055	WG	X		6	X			MS/MSD
	FS2-1-W16	"	1115	WG	X		2	X			
	FS2-3-01	8/30/17	1510	SO	X		1		X		
	FS2-3-11	"	1540	SO	X		1		X		
	FS2-3-14.5	"	1555	SO	X	AG	1		X		
	FS2-1-0.5	8/31/17	1205	SO	X		1		X		
	FS2-1-07	"	1210	SO	X		1		X		
	FS2-1-12	"	1230	SO	X		1		X		
	FS2-2-0.5	"	1030	SO	X		1		X		
	FS2-2-07	"	1040	SO	X		1		X		

Relinquished by: (Signature) Adrie Arteaga	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tanvir Sidhu TANVIR SIDHU	Date: 2017/09/07	Time: 15
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

07-Sep-17 15:11
Stephanie Pollen
B7J4924

TSP ENV-1120

1.4/12/2.9 4.0/2.9/1.4
3.3/2.9/12/1.9/2.1/1.1

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 2 OF 2

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO: 10995
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S) (SIGNATURE): Albert Arteaga	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY):
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative
									NA	Remarks
	FS2-2-11	8/31/17	1047	SO	X		1		X	
						AG				
		AG								

Relinquished by: (Signature) Albert Arteaga	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tammie Jennings	Date: 2017/09/06	Time: 1511
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

OTIE
An Oneida Nation Company

Maxxam Ar

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

CHAIN OF CUSTODY RECORD

DATE: 9/5/17
PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alicia Gudger
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY):
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	PFAS EPA 537 mod.										<-- Preservative / Remarks
								NA	NA	T										
	1986C141B-1-W10	9/1/17	1405	WG	X		2	X		X										
	86C141B-1-09	8/31/17	1453	SO	X		1		X											
	86C141B-1-12	"	1455	SO	X		1		X											
	86C141B-1-0.5	"	1435	SO	X		1		X											
	EQB1-090117	9/1/17	0930	WQ	X		2			X										bailer
						AG														

Relinquished by: (Signature) Alicia Gudger	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: ~~13~~ 1630
Relinquished by: (Signature)	Received by: (Signature) Tanvir Singh	Date: 2017.9.07	Time: 15:11
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

07-Sep-17 15:11
Stephanie Pollen
B7J4941

TSP ENV-1132

1.4/1.4/2.9 4.0/2.9/2.9
3.8/2.9/1.2 1.9/2.1/1.1
seal intact

OTIE
An Oneida Nation Company

Maxxam Analytic

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

CHAIN OF CUSTODY RECORD

DATE: 9/5/17
PAGE: 1 OF 2

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10995
CITY: Walnut Creek STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678 E-MAIL: MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
	SAMPLER(S): (SIGNATURE) Allaire Gridley
	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified (168)	ASTM D7968-14 Modified (144)	PFAS EPA 537 Modified	<-- Preservative / Remarks
	82/83C5-1-0.5	9/3/17	0905	SO	X		1		X		
	82/83C5-1-07	"	0945	SO	X		1		X		
	82/83C5-1-12	"	0952	SO	X		1		X		
	82/83C5-2-0.5	"	1005	SO	X		1		X		
	82/83C5-2-07	"	1135	SO	X	AB	1		X		
	82/83C5-2-18	"	1200	SO	X		1		X		
	82/83C5-2-FD	"	1200	SO	X		1		X		
	82/83C5-23-0.5	"	1200	SO	X		3		X		MS/MSD
	82/83C5-3-8	"	1315	SO	X		1		X		
	FRB-1	"	1355	WQ	X		2	X			
	82/83C5-1-W13	"	1410	WG	X		2			X	

Relinquished by: (Signature) Allaire Gridley	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tamika Tamika SEN 44	Date: 2017/09/07	Time: 15:11
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

07-Sep-17 15:11
Stephanie Pollen
B7J4943

TSP ENV-1132

2 d/c to ACTIX

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 2 OF 2

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alvin Buenaz	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678 E-MAIL: MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY):
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	PFAS EPA 537 mod	<-- Preservative / Remarks
								WA		T	
	82/83CS-1-WFD	9/3/17	1410	WG	X		2			X	
	82/83CS-2-W12	"	1430	WG	X		2			X	
	82/83CS-3-W13	"	1500	WG	X		6	X			MS/MSD
	82/83CS-3-14	"	1325	SO	X		1		X		
						AG				AG	

AG

Relinquished by: (Signature) Alvin Buenaz	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tanvir Singh	Date: 20171907	Time: 1521
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Ref to AC 712

OTIE
An Oneida Nation Company

Maxxam Analyt

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 2

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10995
CITY: Walnut Creek STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678 E-MAIL: MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS	SAMPLER(S): (SIGNATURE) Alicia Gurrola
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY): ☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___	SDG #:
SPECIAL INSTRUCTIONS: -OTIE specific EDDs - level III data package unless otherwise noted.	REQUESTED ANALYSIS

Relinquished by commercial carrier: FedEx

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH
<-- Preservative

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	Remarks
	B811-1-0.5	8/30/17	1245	SO	X		1		X	
	B811-1-08	"	1340	"	X		1		X	
	B811-1-22	"	1345	"	X		1		X	
	B811-2-0.5	"	1130	"	X		1		X	
	B811-2-07	"	1200	"	X	AC	1		X	
	B811-2-23	"	1215	"	X		1		X	
	B811-SED-1	"	1420	SE	X		1		X	
	B811-SED-FD	"	1420	SE	X		1		X	
	B811-2-FD	"	1130	SO	X		1		X	
	B811-2-FD2	"	1215	SO	X		1		X	
	B811-1-W10	8/31/17	0918	WG	X		2	X		

NA = NATHA

AC

	Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Alicia Gurrola	FedEx	9/5/17	1630
	Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
		Tanvir Sekhon	2017/09/07	1511
	Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Rd'd to AC TIR

07-Sep-17 15:11
Stephanie Pollen
B7J4949

TSP ENV-1132

10

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 9/5/17
PAGE: 2 OF 2

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10995
CITY: Walnut Creek STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678 E-MAIL: MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
	SAMPLER(S): (SIGNATURE) Albie Bedrege
	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative	Remarks
	B811-2-W10	8/31/17	0905	WG	X		2	X		NA	

Relinquished by: (Signature) Albie Bedrege	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) Tanvir Singh	Date: 2017.09.07	Time: 15:11
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Rdm to ACTIR

AIR

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 10/24/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez AG	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S) (SIGNATURE): Allen George
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY):
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ____/____/____

SPECIAL INSTRUCTIONS:
OTIE specific EDDs
level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH
<-- Preservative

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	Remarks
								NA	NA	
	CFTA-1-10.5	10/24/17	1137	SO	X		1	X		
	CFTA-1-16.5	"	1150	SO	X		1	X		

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

25-Oct-17 14:15
Stephanie Pollen
B7N7570
SEL ENV-965

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Allen George	Fed Ex	10/24/17	1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	GP Guerra 2.1/10.1 25		14:15
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Custody Seal Intact 2.1/1.3/1.6

#1 366026

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 10/24/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10995
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez AG
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S) (SIGNATURE): Allie George
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY):

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	
								n/a	n/a	<-- Preservative
	2014E75-3-0.5	10/23/17	1335	SO	X		1	X		
	2014E75-3-5.5	"	1443	SO	X		3	X		MS / MSD
	2014E75-DUP-0.5	"	1335	SO	X		1	X		
	2014E75-3-13.5	"	1455	SO	X		1	X		
	2014E75-3-13	"	1520	WG	X		1		X	

Relinquished by commercial carrier:

Preservation Codes:

H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Remarks

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

25-Oct-17 14:15
Stephanie Pollen
B7N7579
SEL ENV-965

Relinquished by: (Signature) Allie George	Received by: (Signature) Fed Ex	Date: 10/24/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature) GP Gurnetcho	Date: 31A/10/25	Time: 14:15
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Custod Seal Intact 2.1 | 1.5 | 1.6

366086

OTIE
An Oneida Nation Company

Maxxam Analytics AIR

CHAIN OF CUSTODY RECORD

DATE: 10/23/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez AG	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S) (SIGNATURE): AG ~~A Gage~~ Alexis Gudger 10/23/17
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS
OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified N/A	ASTM D7968-14 Modified N/A	<-- Preservative / Remarks
	Late 80s-2-0.5	10/23/17	0910	SO	X		1	X		
	Late 80s-2-7.0	"	0950	SO	X		1	X		
	Late 80s-4-0.5	"	1043	SO	X		1	X		
	Late 80s-4-5.5	"	1136	SO	X		1	X		
	Late 80s-4-13	"	1140	SO	X		1	X		
	Late 80s-2-W09	"	1146	WG	X		1		X	
	Late 80s-4-W13	"	1210	WG	X		1		X	

25-Oct-17 14:15
Stephanie Pollen
B7N7589
SEL ENV-965

Relinquished by (Signature): Alexis Gudger	Received by (Signature): FedEx	Date: 10/24/17	Time: 1615
Relinquished by (Signature):	Received by (Signature): GP GURPREET KAUR	Date: 2017/10/25	Time: 14:15
Relinquished by (Signature):	Received by (Signature):	Date:	Time:

Custody Seal #'s 2111516

#1 366080

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

OTIE
An Oneida Nation Company

AIR
Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 10/24/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10995
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez AG	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S) (SIGNATURE): Alicia Gurrola
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY):
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
- OTIE specific EDDs
- level III data package unless otherwise noted

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968 14 Modified	<-- Preservative	Remarks
	SSCS-2-0.5	10/23/17	1406	SO	X		1	X			
	SSCS-Dup-0.5	"	1406	SO	X		1	X			
	SSCS-2-5.5	"	1615	SO	X		1	X			
	SSCS-2-W6.0	"	1650	W6	X		1		X		
	SSCS-2-WFD	"	1650	W6	X		1		X		

25-Oct-17 14:15
Stephanie Pollen
B7N7605
SEL ENV-965

Relinquished by: (Signature) Alicia Gurrola	Received by: (Signature) FedEx	Date: 10/24/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature) GP Gurpa	Date: 10/25/17	Time: 14:15
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

Custody Seal Intact 2.1 | 1.5 | 1.6

3660 G

AIR

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 05 SEPT. 2017

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10995
CITY: Walnut Creek STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678 SSharma ~~MQuillin~~@otie.com	LAB CONTACT / QUOTE NO: Stephanie Pollen / B64666
SAMPLER(S) (SIGNATURE):	SDG #:

TURNAROUND TIME
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	<-- Preservative	Remarks
								N/A		
	WWTP-SED-1	9/05/2017	0945	SOLID	✓		1	X		Matrix code is "SE"
	SBBGWTP-SED-1	9/05/2017	1030	SOLID	✓		1	X		Matrix Code is "SE"
	Outfall 2-SED-1	9/05/2017	1050	SOLID	✓		1	X		Matrix code is "SE"
	Outfall 1-SED-1	9/05/2017	1130	SOLID	✓		1	X		Matrix code is "SE"

08-Sep-17 14:00
Stephanie Pollen
B7J6133
GK1 ENV-1122

Relinquished by: (Signature) Mark Wanek	Received by: (Signature) PARAMJEET SINGH	Date: 2017/09/08	Time: 14:00
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

2.1/2.0/2.1

OTIE
An Oneida Nation Company

Maxxam Analytics

CHAIN OF CUSTODY RECORD

DATE: 12/13/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10995
CITY: Walnut Creek STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678 E-MAIL: MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
	SAMPLER(S): (SIGNATURE) Scott Thompson
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ____ / ____ / ____

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative / Remarks
								N/A		
	SGTP-INFLUENT	12/13/2017	13:50	water	X		2	X		
	SGTP-EFFLUENT	12/13/2017	13:25	water	X		2	X		

Relinquished by: (Signature) Scott Thompson	Received by: (Signature) FedEX	Date: 12-13-17	Time: 15:00
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alexia Gudge
	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative	Remarks
								NA	NA	NA	NA		
	FS2-CP01-0.5	8/31/17	1205	SO		X	2	X	X	X	X		
	FS2-CP01-07	"	1210	SO		X	2	X	X	X	X		
	FS2-CP01-12	"	1230	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Alexia Gudge	Received by: (Signature) FedEx	Date: 9/5/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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OTIE
An Oneida Nation Company

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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678	LAB CONTACT / QUOTE NO.: Angela Miller/37016
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	SAMPLER(S): (SIGNATURE) Alicia George
	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com
								NA	NA	NA	NA
	CFTA-CP01 - 03 01	8/25/17	1115	SO		X	2	X	X	X	X
	CFTA-CP01-12	"	1400	SO		X	2	X	X	X	X
	CFTA-CP01-20	8/28/17	1035	SO		X	2	X	X	X	X

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

<-- Preservative
Remarks

Relinquished by: (Signature) Alicia George	Received by: (Signature) FedEx	Date: 9/5/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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OTIE
An Oneida Nation Company

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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alicia George
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative	Remarks
								NA	NA	NA	NA		
	B11-CP01-0.5	8/30/17	1245	SO		X	2	X	X	X	X		
	B11-CP01-08	"	1340	SO		X	2	X	X	X	X		
	B11-CP01-23	"	1345	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Alicia George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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OTIE
An Oneida Nation Company

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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alecia George
	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative	Remarks
	86B141C-CP01-0.5	8/31/17	1435	SO		X	2	X	X	X	X		
	86B141C-CP01-09	"	1453	SO		X	2	X	X	X	X		
	86B141C-CP01-12	"	1455	SO		X	2	X	X	X	X		

NA

Relinquished by: (Signature) Alecia George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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OTIE
An Oneida Nation Company

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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	PO NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S) (SIGNATURE): Albain George
	SDG #

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl, NA = Not Applicable
N = HNO_3, T = Trizma
S = H_2SO_4, B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
								NA	NA	NA	NA	
	FS4-CP01-0.5	9/1/17	1119	SO		X	2	X	X	X	X	
	FS4-CP01-06	"	1200	SO		X	2	X	X	X	X	
	FS4-CP01-11	"	1205	SO		X	2	X	X	X	X	

AG

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Relinquished by: (Signature) Albain George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	
ADDRESS: 1777 N. California Blvd., Suite 310	
CITY: Walnut Creek STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com, MQuillin@otie.com
TEL: 925-906-9698 FAX: 925-906-9678	
CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
SAMPLER(S): (SIGNATURE) Alecia George	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative	Remarks
								NA	NA	NA	NA		
	NOZ-CP01 – 0.5	9/5/17	1020	SO		X	2	X	X	X	X		
	NOZ-CP01 – 7.5	"	1055	SO		X	2	X	X	X	X		
	NOZ-CP01-12	"	1100	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Alecia George	Received by: (Signature) FedEx	Date: 9/5/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Albie Gudge
	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
								NA	NA	NA	NA	
	82/83CS-CP01-0.5	9/3/17	1200	SO		X	2	X	X	X	X	
	82/83CS-CP01-7.5	9/3/17	1315	SO		X	2	X	X	X	X	
	82/83CS-CP01-14	11	1410	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Albie Gudge	Received by: (Signature) Fed Ex	Date: 9/5/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alicia Groye
	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Con	<-- Preservative
								NA	NA	NA	NA	Remarks
	2014E75-CP01-0.5	9/4/17	1205	SO		X	2	X	X	X	X	
	2014E75-CP01-06	"	1220	SO		X	2	X	X	X	X	
	2014E75-CP01-11.5	"	1249	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Alicia Groye	Received by: (Signature) FedEx	Date: 9/5/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alecia George	SDG #:
TEL: 925-906-9698 FAX: 925-906-9678	MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
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- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Con	<-- Preservative	Remarks
								NA	NA	NA	NA		
	Late 80s-CP01 - 0.5	9/4/17	1020	SO		X	2	X	X	X	X		
	Late 80s-CP01 - 6.5	"	1105	SO		X	2	X	X	X	X		
	~~Lat8~~ Late 80s-CP01 - 11.5	"	1110	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Alecia George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: : Oscar Martinez
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alexis George
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
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- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: FedEx

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Con	<-- Preservative
								NA	NA	NA	NA	Remarks
	SSCS-CP01-0.5	9/4/17	1405	SO		X	2	X	X	X	X	
	SSCS-CP01-05	"	1435	SO		X	2	X	X	X	X	
	SSCS-CP01-09	"	1440	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Alexis George	Received by: (Signature) FedEx	Date: 9/5/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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OTIE
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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	
ADDRESS: 1777 N. California Blvd., Suite 310	
CITY: Walnut Creek STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com, MQuillin@otie.com
TEL: 925-906-9698 FAX: 925-906-9678	
CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
SAMPLER(S): (SIGNATURE) Allaire Gregg	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Con
								NA	NA	NA	NA
	2001 Crash – CP01. 0.5	9/3/17	1236	SO		X	2	X	X	X	X
	2001 Crash- CP01- 07	"	1400	SO		X	2	X	X	X	X
	2001 Crash- CP01- 12	"	1407	SO		X	2	X	X	X	X

Relinquished by commercial carrier: FedEx

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

<-- Preservative

Remarks

Relinquished by: (Signature) Allaire Gregg	Received by: (Signature) FedEx	Date: 9/5/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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37016 1644341 9182848-53

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CHAIN OF CUSTODY RECORD

DATE: 8/29/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE)	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

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REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative Remarks
	FT005-CP01-11.5	8/28/17	11:35									
	FT005-CP01-19.5	8/28/17	12:52									
	WWTP-CP01-1.0	8/28/17	12:30									
	WWTP-CP01-10	8/28/17	14:45									
	WWTP-CP01-16	8/28/17	15:20									
	FT005-CP01-1.0	8/24/17	12:52									

Relinquished by: (Signature) Stephen Stanley	Received by: (Signature) FED EX	Date: 8/29/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 8/30/17	Time: 935

37016 1844343 9182856-C1

OTIE
An Oneida Nation Company

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CHAIN OF CUSTODY RECORD

DATE: 8/29/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE)	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
	FTOO5-CPO1-11.5	8/28/17	11:35									
	FTOO5-CPO1-19.5	8/28/17	12:52									
	WWTP-CPO1-1.0	8/28/17	12:30									
	WWTP-CPO1-10	8/28/17	14:45									
	WWTP-CPO1-16	8/28/17	15:20									
	FTOO5-CPO1-1.0	8/24/17	12:50									

Relinquished by: (Signature) Stephen Stanley	Received by: (Signature) EED EK	Date: 8-29-17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 8/30/17	Time: 935

090117-02

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

37016/1845990/9191168-70

CHAIN OF CUSTODY RECORD

DATE: 9-1-17

PAGE: 1 6 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE)	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
	FS1-CP01-0.5	8.30.17	1300	S		X	2	X	X		X	
	FS1-CP01-07	↓	1330	S		X	2	X	X		X	
	FS1-CP01-17	↓	1400	S		X	2	X	X		X	

Relinquished by: (Signature) Sharon Mukerjee	Received by: (Signature)	Date: 9/1/17	Time: 700
Relinquished by: (Signature)	Received by: (Signature) EX	Date: 01 SEP 17	Time: 1638
Relinquished by: (Signature)	Received by: (Signature)	Date: 9.5.17	Time: 855

090117-02

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

37016/1845991/9191171-73

CHAIN OF CUSTODY RECORD

DATE: 9-1-17

PAGE: 16 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE)	SDG #:
TEL: 925-906-9698 FAX: 925-906-9678	MQuillin@otie.com		

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative	Remarks
	FS1-CP01-0.5	8.30.17	1300	S		X	2	X	X		X		
	FS1-CP01-07	↓	1330	S		X	2	X	X		X		
	FS1-CP01-17	↓	1400	S		X	2	X	X		X		

Relinquished by: (Signature) Sharon Mankenji	Received by: (Signature)	Date: 9/1/17	Time: 700
Relinquished by: (Signature) A. Miller	Received by: (Signature) FEX	Date: 01 SEP 17	Time: 1636
Relinquished by: (Signature)	Received by: (Signature)	Date: 9.5.17	Time: 855

37016 | 1846763 | 9193947-49

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678 E-MAIL: MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
	SAMPLER(S): (SIGNATURE) Alexia George
	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
								NA	NA	NA	NA	
	FS2-CP01-0.5	8/31/17	1205	SO		X	2	X	X	X	X	
	FS2-CP01-07	"	1210	SO		X	2	X	X	X	X	
	FS2-CP01-12	"	1230	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Alexia George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

37016 | 1846764 | 9193950-52

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alicia George
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: FedEx

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative	Remarks
								NA	NA	NA	NA		
	CFTA-CP01-01	8/25/17	1115	SO		X	2	X	X	X	X		
	CFTA-CP01-12	"	1400	SO		X	2	X	X	X	X		
	CFTA-CP01-20	8/28/17	1035	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Alicia George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

37016 | 1846765 | 9193953-55

OTIE
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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Albert George	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: FedEx

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
								NA	NA	NA	NA	
	B11-CP01-0.5	8/30/17	1245	SO		X	2	X	X	X	X	
	B11-CP01-08	"	1340	SO		X	2	X	X	X	X	
	B11-CP01-23	"	1345	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Albert George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

37016 | 1846766 | 9193956-58

OTIE
An Oneida Nation Company

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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alecia George
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr
							NA	NA	NA	NA	NA
	86B141C-CP01-0.5	8/31/17	1435	SO		X	2	X	X	X	X
	86B141C-CP01-09	"	1453	SO		X	2	X	X	X	X
	86B141C-CP01-12	"	1455	SO		X	2	X	X	X	X

Relinquished by commercial carrier: Fed Ex

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

<-- Preservative

Remarks

Relinquished by: (Signature) Alecia George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

37016 | 1846767 | 9193959-61

OTIE
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Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alain George
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative
								NA	NA	NA	NA	Remarks
	FS4-CP01-0.5	9/1/17	1119	SO		X	2	X	X	X	X	
	FS4-CP01-06	11	1200	SO		X	2	X	X	X	X	
	FS4-CP01-11	11	1205	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Alain George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

37016 | 1846768 | 9193962-64

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alberia Gooye
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs
-level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: FedEx

Preservation Codes:

H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative	Remarks
								NA	NA	NA	NA		
	NOZ-CP01 - 0.5	9/5/17	1020	SO		X	2	X	X	X	X		
	NOZ-CP01 - 7.5	"	1055	SO		X	2	X	X	X	X		
	NOZ - CP01 - 12	"	1100	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Alberia Gooye	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

OTIE
An Oneida Nation Company

37016 | 1846770 | 9193977-79

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Albert George
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

-level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr												
								NA	NA	NA	NA												
	82/83CS-CP01-0.5	9/3/17	1200	SO		X	2	X	X	X	X												
	82/83CS-CP01-7.5	9/3/17	1315	SO		X	2	X	X	X	X												
	82/83CS-CP01-14	11	1410	SO		X	2	X	X	X	X												

Relinquished by commercial carrier: FedEx

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

<-- Preservative

Remarks

Relinquished by: (Signature) Albert George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

OTIE
An Oneida Nation Company

37016 | 1846771 | 9193980-82

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alicia Arroyo
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs
-level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr
								NA	NA	NA	NA
	2014E75-CP01-0.5	9/4/17	1205	SO		X	2	X	X	X	X
	2014E75-CP01-06	"	1220	SO		X	2	X	X	X	X
	2014E75-CP01-11.5	"	1249	SO		X	2	X	X	X	X

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

<-- Preservative

Remarks

Relinquished by: (Signature) Alicia Arroyo	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

37016 | 1846772 | 9193983-85

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alicia George
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
-level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative	Remarks
								NA	NA	NA	NA		
	Late 80s-CP01-0.5	9/4/17	1020	SO	X	X	2	X	X	X	X		
	Late 80s-CP01-6.5	"	1105	SO		X	2	X	X	X	X		
	~~Late~~ Late 80s-CP01-11.5	"	1110	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Alicia George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 750

37016 | 1846773 | 9193986-88

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Allegia George	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
-level III data package unless otherwise noted.

REQUESTED ANALYSIS

| Lab Use | SAMPLE ID | SAMPLING DATE | TIME | MATRIX | GRAB | COMP. | No. of containers | Grain Size | pH | Moisture | TOC Solids/Sludges Corr | | | | |

37016 | 1846774 | 9193989-91

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Allaire George
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs
-level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	Remarks
							NA	NA	NA	NA		<-- Preservative
	2001 Crash - CP01. 0.5	9/3/17	1236	SO		X	2	X	X	X	X	
	2001 Crash - CP01 - 07	"	1400	SO		X	2	X	X	X	X	
	2001 Crash - CP01 - 12	"	1407	SO		X	2	X	X	X	X	

Relinquished by commercial carrier: FedEx

Preservation Codes:

H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Relinquished by: (Signature) Allaire George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 10/05/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Patsy Condley
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: **17-10-0568**

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges	SW8260B	SW8015-GRO	SW8015-DRO/MO	CAM 17 metals	SM5310C or SW9040A	SW1010A	<-- Preservative / Remarks
1	TRIP BLANK 100517	10/05/17	0900	W			2					X	X	X	X	X	X	NOT FIELD Filtered
2	IDW - Decon A		1000	W		X	11											
3	IDW - Decon B		1010	W			11											
4	IDW - DRUM A		1021	S			6											
5	IDW - DRUM B		1032				6											
6	IDW - DRUM C		1041				6											
7	IDW - DRUM D		1050				6											
8	IDW - DRUM E		1108				6											
9	IDW - DRUM F		1119				6											

pH 10-05-17

Relinquished by: (Signature) P. Cr	Received by: (Signature) Tom Malloy ECI	Date: 10/6/17	Time: 0905
Relinquished by: (Signature) Tom Malloy to GSO 10/6/17 1730	Received by: (Signature) [signature] SGS	Date: 10/7/17	Time: 1030
Relinquished by: (Signature) -	Received by: (Signature)	Date:	Time:

Return to Contents

OTIE
An Oneida Nation Company

Maxxam Analyti

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

CHAIN OF CUSTODY RECORD

DATE: 09-21-2017
PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10995
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Stephanie Pollen / B64666
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Shawn Markenjo
TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS	SDG #:
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY): ☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___	REQUESTED ANALYSIS
SPECIAL INSTRUCTIONS: -OTIE specific EDDs - level III data package unless otherwise noted.	Relinquished by commercial carrier:

Preservation Codes: H = HCl; N = HNO_3; S = H_2SO_4; NA = Not Applicable; T = Trizma; B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	PFAS EPA 537 Modified	ASTM D7968-14 Modified	<-- Preservative	Remarks
	IDW-DRUM1-10	9.12.17	1630	S		1-10	1	X			
	IDW-DRUM11-20	↓	1635	↓		11-20	↓	X			
	IDW-DRUM21-30		1640			21-30		X			
	IDW-DRUM31-40		1645			31-40		X			
	IDW-DRUM41-50		1650			41-50		X			
	IDW-DRUM51-57	↓	1655	↓		51-57	↓	X			
	IDW-DECON1-10	9.12.17	1700	W		1-10	2	X			
	IDW-DECON11-19	↓	1705	↓		11-19	2	X			

22-Sep-17 15:49
Stephanie Pollen
B7K8496
SEL ENV-1077

Relinquished by: (Signature) Shawn Markenjo	Received by: (Signature) Matthew Trafecanty 2017/09/22 15:49	Date: 9-21-2017	Time: 1730
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

mm# 366056 temps: 1.7/2.5/2.7
custodies present & intacted.

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APPENDIX A-6

Purge Records

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Water Sampling Field Data Sheet

Project No.: 2015341-10-1004	Sample ID: CFTA-GW-1
Purged By: Scott Thompson	Site Name: Current Fire Training area
Sampled By: Scott Thompson	Location: Travis AFB
Media Type: [X] Groundwater [ ] Surface Water [ ] Effluent	
Other: Lock No.	

Casing Diameter (D inches): 4"	Well Integrity/Const.:
Casing Elevation (feet/ASL):	Volume in Casing (gallons):
Depth to Water before Purge (feet): 15.225	Calc Purge (gals) 0.04 x H(ft.) x D^2(in.):
Depth of Well (feet): 21.660	Actual Purge (gallons):
Depth to Water at End of Purge (feet): 15.355	Depth to Water at Sampling (feet):
Water Column (H = TD – DTW)	(All depths are from top of casing unless otherwise indicated)
Date Purged: 8-25-17 Start: 9:40	End: 10:48
Date Sampled: 8-25-17 Start: 10:45	End: 10:50

Time	Volume (gal.)	Temp (°C)	pH (+/ -0.1)	ORP (mV) (+/-10mv)	Specific Conductance (mS/cm) (+/-3%)	Turbidity (NTU) (+/-10%)	DO (mg/L) (+/-10%)	Color (Visual)	Depth to Water (+/-0.33ft)
10:10	0.25	18.64	6.98	97	1.80	96.5	35.4	clear	15.285
10:15	0.5	18.44	6.96	89	1.80	94.8	27.6		15.318
10:20	0.75	18.17	6.96	87	1.80	61.0	14.8		15.334
10:25	1.0	17.91	6.95	85	1.80	30.7	9.86		15.349
10:30	1.25	18.00	6.95	86	1.80	15.5	9.74		15.355
10:35	1.5	17.95	6.95	87	1.80	0.0	9.55		15.355
10:40	1.75	17.93	6.94	87	1.80	0.0	9.45	↓	15.355
10:45	-Sample								

Odor at Sample: NA Head Space Reading: NA Flow Rate: ~200 ml/min

Purging Equipment		Sampling Equipment	
[ ] Disposable Bailer	[ ] Bailer (PVC)	[ ] Disposable Bailer	[ ] Bailer (PVC)
[ ] Peristaltic Pump	[ ] Bailer (Teflon)	[ ] Peristaltic Pump	[ ] Bailer (Teflon)
[X] Submersible Pump	[ ] Bailer (Stainless Steel)	[X] Submersible Pump	[ ] Bailer (Stainless Steel)
[ ] Bladder Pump	[ ] Dedicated	[ ] Bladder Pump	[ ] Dedicated
Other:		Other:	

Comments:

Turbidity reading in error → NOT 0.0 NTU but very clear

Weather at purge: Sunny HOT Weather at sample: Sunny HOT

Meter Calibration at Purge	Date:	Time:	Meter Ser.#	Temp.:
Location of Calibration:				
Meter Calibration at Sample	Date:	Time:	Meter Ser.#	Temp.:
Location of Calibration:				
Signature:		Reviewed By:		

Water Sampling Field Data Sheet

Project No.: 2015341-10-1004	Sample ID: WWTP-GW-1
Purged By: Scott Thompson	Site Name: Former Sewage Treatment Plant
Sampled By: Scott Thompson	Location: Travis AFB
Media Type: ☒ Groundwater ☐ Surface Water ☐ Effluent	
Other: Lock No.	

Casing Diameter (D inches): 2"	Well Integrity/Const.:
Casing Elevation (feet/ASL):	Volume in Casing (gallons):
Depth to Water before Purge (feet): 13.275	Calc Purge (gals) 0.04 x H(ft.) x D^2(in.):
Depth of Well (feet): 32.250	Actual Purge (gallons):
Depth to Water at End of Purge (feet): 13.358	Depth to Water at Sampling (feet):
Water Column (H = TD – DTW)	(All depths are from top of casing unless otherwise indicated)
Date Purged: 8/25/17 Start: 12:30	End: 13:15
Date Sampled: 8/25/17 Start: 13:20	End: 13:22

Time	Volume (gal.)	Temp (°C)	pH (+/ -0.1)	ORP (mV) (+/-10mv)	Specific Conductance (mS/cm) (+/-3%)	Turbidity (NTU) (+/-10%)	DO (mg/L) (+/-10%)	Color (Visual)	Depth to Water (+/-0.33ft)
12:40	0.25	18.76	6.82	167	0.987	0.0	1.93	Brown/clear	13.292
12:45	0.5	18.65	6.80	169	0.991	0.0	0.50	↓	13.314
12:50	0.75	18.55	6.81	170	0.991	0.0	0.35		13.329
12:55	1.0	18.54	6.80	171	0.991	0.0	0.30		13.341
13:00	1.25	18.55	6.80	176	0.991	0.0	0.21		13.350
13:05	1.5	18.56	6.79	182	0.991	0.0	0.19		13.354
13:10	1.75	18.55	6.79	184	0.991	0.0	0.18	↓	13.358
13:15	2.0	18.56	6.78	182	0.991	0.0	0.17	clear brown tint	13.358
13:20	- sample								

Odor at Sample: NA Head Space Reading: NA Flow Rate: ~200 mL/min

Purging Equipment		Sampling Equipment	
☐ Disposable Bailer	☐ Bailer (PVC)	☐ Disposable Bailer	☐ Bailer (PVC)
☐ Peristaltic Pump	☐ Bailer (Teflon)	☐ Peristaltic Pump	☐ Bailer (Teflon)
☒ Submersible Pump	☐ Bailer (Stainless Steel)	☒ Submersible Pump	☐ Bailer (Stainless Steel)
☐ Bladder Pump	☐ Dedicated	☐ Bladder Pump	☐ Dedicated
Other:		Other:	

Comments: Turbidity in error, not 0.0 NTU but very clear with brown tint at sample

Weather at purge: sunny - HOT Weather at sample: sunny - HOT

Meter Calibration at Purge	Date:	Time:	Meter Ser.#	Temp.:
Location of Calibration:				
Meter Calibration at Sample	Date:	Time:	Meter Ser.#	Temp.:
Location of Calibration:				
Signature:		Reviewed By:		

APPENDIX B

Analytical Data Reports

(on CD-ROM)

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/21
Report #: R4724863
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7I9014
Received: 2017/08/30, 14:25

Sample Matrix: Water
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	9	2017/09/06	2017/09/13	CAM SOP-00894	EPA 537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
21 Sep 2017 09:56:29

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7I9014
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF WATER

Maxxam ID		FAT190					FAT191				
Sampling Date		2017/08/25 10:45					2017/08/25 13:20				
COC Number		na					na				
	UNITS	CFTA-GW-1	DL	LOD	LOQ	QC Batch	WWTP GW-1	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/L	0.89	0.0032	0.010	0.020	5150764	0.010 U	0.0032	0.010	0.020	5150764
8:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0036	0.010	0.020	5150764	0.010 U	0.0036	0.010	0.020	5150764
Perfluorobutanoic acid	ug/L	0.28	0.0043	0.010	0.020	5150764	0.024	0.0043	0.010	0.020	5150764
Perfluorobutane Sulfonate (PFBS)	ug/L	0.61	0.0048	0.010	0.020	5150764	0.027	0.0048	0.010	0.020	5150764
Perfluorodecane Sulfonate	ug/L	0.010 U	0.0046	0.010	0.020	5150764	0.010 U	0.0046	0.010	0.020	5150764
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.14	0.0033	0.010	0.020	5150764	0.017 J	0.0033	0.010	0.020	5150764
Perfluorohexanoic Acid (PFHxA)	ug/L	1.3 (1)	0.029	0.10	0.20	5150764	0.024	0.0029	0.010	0.020	5150764
Perfluorohexane Sulfonate (PFHxS)	ug/L	2.9 (1)	0.034	0.10	0.20	5150764	0.17	0.0034	0.010	0.020	5150764
Perfluorononanoic Acid (PFNA)	ug/L	0.010 U	0.0038	0.010	0.020	5150764	0.010 U	0.0038	0.010	0.020	5150764
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.0036	0.010	0.020	5166638	0.010 U	0.0036	0.010	0.020	5150764
Perfluoropentanoic Acid (PFPeA)	ug/L	0.56	0.0027	0.010	0.020	5150764	0.019 J	0.0027	0.010	0.020	5150764
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	5166638	0.010 U	0.0038	0.010	0.020	5166638
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0033	0.010	0.020	5166638	0.010 U	0.0033	0.010	0.020	5166638
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0043	0.010	0.020	5150764	0.010 U	0.0043	0.010	0.020	5150764
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.0040	0.010	0.020	5150764	0.010 U	0.0040	0.010	0.020	5150764
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.0028	0.010	0.020	5150764	0.010 U	0.0028	0.010	0.020	5150764
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.28	0.0046	0.010	0.020	5150764	0.043	0.0046	0.010	0.020	5150764
Perfluorooctane Sulfonate (PFOS)	ug/L	0.60	0.0026	0.010	0.020	5150764	0.15	0.0026	0.010	0.020	5150764
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	61				5150764	76				5150764
13C2-8:2 Fluorotelomer sulfonate	%	50				5150764	76				5150764
13C2-Perfluorodecanoic acid	%	52				5150764	77				5150764
13C2-Perfluorododecanoic acid	%	57				5150764	63				5150764
13C2-Perfluorohexanoic acid	%	84				5150764	75				5150764
13C2-perfluorotetradecanoic acid	%	67				5166638	65				5166638
13C2-Perfluoroundecanoic acid	%	61				5150764	71				5150764
13C4-Perfluorobutanoic acid	%	63				5150764	77				5150764
13C4-Perfluoroheptanoic acid	%	62				5150764	74				5150764
13C4-Perfluorooctanesulfonate	%	64				5150764	84				5150764

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7I9014
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF WATER

Maxxam ID		FAT190					FAT191				
Sampling Date		2017/08/25 10:45					2017/08/25 13:20				
COC Number		na					na				
	UNITS	CFTA-GW-1	DL	LOD	LOQ	QC Batch	WWTP GW-1	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	54				5150764	78				5150764
13C5-Perfluorononanoic acid	%	57				5150764	76				5150764
13C5-Perfluoropentanoic acid	%	57				5150764	78				5150764
13C8-Perfluorooctane Sulfonamide	%	64				5166638	61				5150764
18O2-Perfluorohexanesulfonate	%	89				5150764	79				5150764

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7I9014
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF WATER

Maxxam ID		FAT192				FAT193				
Sampling Date		2017/08/25 08:20				2017/08/25 13:15				
COC Number		na				na				
	UNITS	FT005-1-GW	DL	LOD	LOQ	FT005-2-GW	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/L	2.9 (1)	0.032	0.10	0.20	3.8 (1)	0.032	0.10	0.20	5150764
8:2 Fluorotelomer sulfonate	ug/L	0.62 (1)	0.036	0.10	0.20	0.10 U (1)	0.036	0.10	0.20	5150764
Perfluorobutanoic acid	ug/L	2.6 (1)	0.043	0.10	0.20	1.9 (1)	0.043	0.10	0.20	5150764
Perfluorobutane Sulfonate (PFBS)	ug/L	4.7 (1)	0.048	0.10	0.20	5.1 (1)	0.048	0.10	0.20	5150764
Perfluorodecane Sulfonate	ug/L	0.10 U (1)	0.046	0.10	0.20	0.10 U (1)	0.046	0.10	0.20	5150764
Perfluoroheptanoic Acid (PFHpA)	ug/L	5.5 (1)	0.033	0.10	0.20	4.1 (1)	0.033	0.10	0.20	5150764
Perfluorohexanoic Acid (PFHxA)	ug/L	27 (2)	0.29	1.0	2.0	21 (2)	0.29	1.0	2.0	5150764
Perfluorohexane Sulfonate (PFHxS)	ug/L	51 (2)	0.34	1.0	2.0	34 (2)	0.34	1.0	2.0	5150764
Perfluorononanoic Acid (PFNA)	ug/L	0.26 (1)	0.038	0.10	0.20	0.12 J (1)	0.038	0.10	0.20	5150764
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.78 (1)	0.036	0.10	0.20	0.12 J (1)	0.036	0.10	0.20	5150764
Perfluoropentanoic Acid (PFPeA)	ug/L	11 (2)	0.27	1.0	2.0	9.7 (2)	0.27	1.0	2.0	5150764
Perfluorotetradecanoic Acid	ug/L	0.10 U (3)	0.038	0.10	0.20	0.10 U (3)	0.038	0.10	0.20	5166631
Perfluorotridecanoic Acid	ug/L	0.10 U (3)	0.033	0.10	0.20	0.10 U (3)	0.033	0.10	0.20	5166631
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.10 U (1)	0.043	0.10	0.20	0.10 U (1)	0.043	0.10	0.20	5150764
Perfluorodecanoic Acid (PFDA)	ug/L	0.10 U (1)	0.040	0.10	0.20	0.10 U (1)	0.040	0.10	0.20	5150764
Perfluorododecanoic Acid (PFDoA)	ug/L	0.10 U (1)	0.028	0.10	0.20	0.10 U (1)	0.028	0.10	0.20	5150764
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	32 (2)	0.46	1.0	2.0	11 (2)	0.46	1.0	2.0	5150764
Perfluorooctane Sulfonate (PFOS)	ug/L	26 (2)	0.26	1.0	2.0	3.3 (1)	0.026	0.10	0.20	5150764
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	92				77				5150764
13C2-8:2 Fluorotelomer sulfonate	%	98				77				5150764
13C2-Perfluorodecanoic acid	%	77				67				5150764
13C2-Perfluorododecanoic acid	%	83				76				5150764
13C2-Perfluorohexanoic acid	%	85				76				5150764
13C2-perfluorotetradecanoic acid	%	86				83				5166631
13C2-Perfluoroundecanoic acid	%	81				80				5150764

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
(2) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).
(3) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7I9014
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF WATER

Maxxam ID		FAT192				FAT193				
Sampling Date		2017/08/25 08:20				2017/08/25 13:15				
COC Number		na				na				
	UNITS	FT005-1-GW	DL	LOD	LOQ	FT005-2-GW	DL	LOD	LOQ	QC Batch
13C4-Perfluorobutanoic acid	%	96				85				5150764
13C4-Perfluoroheptanoic acid	%	86				78				5150764
13C4-Perfluorooctanesulfonate	%	77				80				5150764
13C4-Perfluorooctanoic acid	%	82				75				5150764
13C5-Perfluorononanoic acid	%	87				80				5150764
13C5-Perfluoropentanoic acid	%	90				73				5150764
13C8-Perfluorooctane Sulfonamide	%	64				53				5150764
18O2-Perfluorohexanesulfonate	%	80				87				5150764

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF WATER

Maxxam ID		FAT194					FAT195				
Sampling Date		2017/08/25 11:25					2017/08/28 09:05				
COC Number		na					na				
	UNITS	FT005-3-GW	DL	LOD	LOQ	QC Batch	CFTA-1-GW	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/L	0.0097 J	0.0035	0.011	0.022	5150764	0.054	0.0032	0.010	0.020	5150764
8:2 Fluorotelomer sulfonate	ug/L	0.011 U	0.0040	0.011	0.022	5150764	0.010 U	0.0036	0.010	0.020	5150764
Perfluorobutanoic acid	ug/L	0.011 J	0.0047	0.011	0.022	5150764	0.049	0.0043	0.010	0.020	5150764
Perfluorobutane Sulfonate (PFBS)	ug/L	0.020 J	0.0053	0.011	0.022	5150764	0.079	0.0048	0.010	0.020	5150764
Perfluorodecane Sulfonate	ug/L	0.011 U	0.0051	0.011	0.022	5150764	0.010 U	0.0046	0.010	0.020	5150764
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.018 J	0.0036	0.011	0.022	5150764	0.033	0.0033	0.010	0.020	5150764
Perfluorohexanoic Acid (PFHxA)	ug/L	0.071	0.0032	0.011	0.022	5150764	0.12	0.0029	0.010	0.020	5150764
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.17	0.0037	0.011	0.022	5150764	0.60	0.0034	0.010	0.020	5150764
Perfluorononanoic Acid (PFNA)	ug/L	0.011 U	0.0042	0.011	0.022	5150764	0.010 U	0.0038	0.010	0.020	5150764
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.014 J	0.0036	0.010	0.020	5166638	0.0062 J	0.0036	0.010	0.020	5150764
Perfluoropentanoic Acid (PFPeA)	ug/L	0.033	0.0030	0.011	0.022	5150764	0.058	0.0027	0.010	0.020	5150764
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	5166638	0.010 U	0.0038	0.010	0.020	5166631
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0033	0.010	0.020	5166638	0.010 U	0.0033	0.010	0.020	5166631
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.011 U	0.0047	0.011	0.022	5150764	0.010 U	0.0043	0.010	0.020	5150764
Perfluorodecanoic Acid (PFDA)	ug/L	0.011 U	0.0044	0.011	0.022	5150764	0.010 U	0.0040	0.010	0.020	5150764
Perfluorododecanoic Acid (PFDoA)	ug/L	0.011 U	0.0031	0.011	0.022	5150764	0.010 U	0.0028	0.010	0.020	5150764
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.093	0.0051	0.011	0.022	5150764	0.062	0.0046	0.010	0.020	5150764
Perfluorooctane Sulfonate (PFOS)	ug/L	0.072	0.0029	0.011	0.022	5150764	0.20	0.0026	0.010	0.020	5150764
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	73				5150764	120				5150764
13C2-8:2 Fluorotelomer sulfonate	%	69				5150764	101				5150764
13C2-Perfluorodecanoic acid	%	68				5150764	97				5150764
13C2-Perfluorododecanoic acid	%	58				5150764	74				5150764
13C2-Perfluorohexanoic acid	%	76				5150764	105				5150764
13C2-perfluorotetradecanoic acid	%	58				5166638	63				5166631
13C2-Perfluoroundecanoic acid	%	62				5150764	83				5150764
13C4-Perfluorobutanoic acid	%	83				5150764	103				5150764
13C4-Perfluoroheptanoic acid	%	76				5150764	104				5150764
13C4-Perfluorooctanesulfonate	%	71				5150764	111				5150764
13C4-Perfluorooctanoic acid	%	69				5150764	114				5150764
13C5-Perfluorononanoic acid	%	62				5150764	105				5150764

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QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
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RESULTS OF ANALYSES OF WATER

Maxxam ID		FAT194					FAT195				
Sampling Date		2017/08/25 11:25					2017/08/28 09:05				
COC Number		na					na				
	UNITS	FT005-3-GW	DL	LOD	LOQ	QC Batch	CFTA-1-GW	DL	LOD	LOQ	QC Batch
13C5-Perfluoropentanoic acid	%	73				5150764	103				5150764
13C8-Perfluorooctane Sulfonamide	%	67				5166638	77				5150764
18O2-Perfluorohexanesulfonate	%	71				5150764	100				5150764

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Sampler Initials: SF

RESULTS OF ANALYSES OF WATER

Maxxam ID		FAT196					FAT197				
Sampling Date		2017/08/25 15:30					2017/08/28 11:23				
COC Number		na					na				
	UNITS	CFTA-2-GW	DL	LOD	LOQ	QC Batch	CFTA-3-GW	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/L	2.9 (1)	0.032	0.10	0.20	5150764	0.13	0.0042	0.013	0.026	5150764
8:2 Fluorotelomer sulfonate	ug/L	0.0081 J	0.0043	0.012	0.024	5150764	0.013 U	0.0047	0.013	0.026	5150764
Perfluorobutanoic acid	ug/L	0.37	0.0052	0.012	0.024	5150764	0.31	0.0056	0.013	0.026	5150764
Perfluorobutane Sulfonate (PFBS)	ug/L	0.89	0.0058	0.012	0.024	5150764	1.1	0.0062	0.013	0.026	5150764
Perfluorodecane Sulfonate	ug/L	0.012 U	0.0055	0.012	0.024	5150764	0.013 U	0.0060	0.013	0.026	5150764
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.26	0.0040	0.012	0.024	5150764	0.25	0.0043	0.013	0.026	5150764
Perfluorohexanoic Acid (PFHxA)	ug/L	2.6 (1)	0.029	0.10	0.20	5150764	1.3 (1)	0.029	0.10	0.20	5150764
Perfluorohexane Sulfonate (PFHxS)	ug/L	5.5 (1)	0.034	0.10	0.20	5150764	4.2 (1)	0.034	0.10	0.20	5150764
Perfluorononanoic Acid (PFNA)	ug/L	0.013 J	0.0046	0.012	0.024	5150764	0.013 U	0.0049	0.013	0.026	5150764
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.041	0.0043	0.012	0.024	5150764	0.013 U	0.0047	0.013	0.026	5150764
Perfluoropentanoic Acid (PFPeA)	ug/L	0.91	0.0032	0.012	0.024	5150764	1.0	0.0035	0.013	0.026	5150764
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	5166638	0.010 U	0.0038	0.010	0.025	5166631
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0033	0.010	0.020	5166638	0.010 U	0.0033	0.010	0.025	5166631
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.012 U	0.0052	0.012	0.024	5150764	0.013 U	0.0056	0.013	0.026	5150764
Perfluorodecanoic Acid (PFDA)	ug/L	0.012 U	0.0048	0.012	0.024	5150764	0.013 U	0.0052	0.013	0.026	5150764
Perfluorododecanoic Acid (PFDoA)	ug/L	0.012 U	0.0034	0.012	0.024	5150764	0.013 U	0.0036	0.013	0.026	5150764
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.52	0.0055	0.012	0.024	5150764	0.22	0.0060	0.013	0.026	5150764
Perfluorooctane Sulfonate (PFOS)	ug/L	2.3 (1)	0.026	0.10	0.20	5150764	1.2	0.0034	0.013	0.026	5150764
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	74				5150764	65				5150764
13C2-8:2 Fluorotelomer sulfonate	%	81				5150764	60				5150764
13C2-Perfluorodecanoic acid	%	79				5150764	59				5150764
13C2-Perfluorododecanoic acid	%	72				5150764	63				5150764
13C2-Perfluorohexanoic acid	%	77				5150764	92				5150764
13C2-perfluorotetradecanoic acid	%	68				5166638	75				5166631
13C2-Perfluoroundecanoic acid	%	78				5150764	64				5150764
13C4-Perfluorobutanoic acid	%	86				5150764	74				5150764
13C4-Perfluoroheptanoic acid	%	83				5150764	68				5150764
13C4-Perfluorooctanesulfonate	%	80				5150764	70				5150764

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

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Maxxam Job #: B7I9014
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF WATER

Maxxam ID		FAT196					FAT197				
Sampling Date		2017/08/25 15:30					2017/08/28 11:23				
COC Number		na					na				
	UNITS	CFTA-2-GW	DL	LOD	LOQ	QC Batch	CFTA-3-GW	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	85				5150764	68				5150764
13C5-Perfluorononanoic acid	%	84				5150764	64				5150764
13C5-Perfluoropentanoic acid	%	74				5150764	68				5150764
13C8-Perfluorooctane Sulfonamide	%	67				5150764	53				5150764
18O2-Perfluorohexanesulfonate	%	77				5150764	93				5150764

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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RESULTS OF ANALYSES OF WATER

Maxxam ID		FAT198				FAT198				
Sampling Date		2017/08/28 12:00				2017/08/28 12:00				
COC Number		na				na				
	UNITS	WWTP-1-GW	DL	LOD	LOQ	WWTP-1-GW Lab-Dup	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/L	0.011 U	0.0034	0.011	0.021	0.010 U	0.0032	0.010	0.020	5150764
8:2 Fluorotelomer sulfonate	ug/L	0.011 U	0.0038	0.011	0.021	0.010 U	0.0036	0.010	0.020	5150764
Perfluorobutanoic acid	ug/L	0.012 J	0.0045	0.011	0.021	0.012 J	0.0043	0.010	0.020	5150764
Perfluorobutane Sulfonate (PFBS)	ug/L	0.0070 J	0.0050	0.011	0.021	0.010 U	0.0048	0.010	0.020	5150764
Perfluorodecane Sulfonate	ug/L	0.011 U	0.0048	0.011	0.021	0.010 U	0.0046	0.010	0.020	5150764
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.011 U	0.0035	0.011	0.021	0.010 U	0.0033	0.010	0.020	5150764
Perfluorohexanoic Acid (PFHxA)	ug/L	0.011 U	0.0030	0.011	0.021	0.010 U	0.0029	0.010	0.020	5150764
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.013 J	0.0036	0.011	0.021	0.011 J	0.0034	0.010	0.020	5150764
Perfluorononanoic Acid (PFNA)	ug/L	0.011 U	0.0040	0.011	0.021	0.010 U	0.0038	0.010	0.020	5150764
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.011 U	0.0038	0.011	0.021	0.010 U	0.0036	0.010	0.020	5150764
Perfluoropentanoic Acid (PFPeA)	ug/L	0.0085 J	0.0028	0.011	0.021	0.0084 J	0.0027	0.010	0.020	5150764
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	N/A	N/A	N/A	N/A	5166638
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0033	0.010	0.020	N/A	N/A	N/A	N/A	5166638
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.011 U	0.0045	0.011	0.021	0.010 U	0.0043	0.010	0.020	5150764
Perfluorodecanoic Acid (PFDA)	ug/L	0.011 U	0.0042	0.011	0.021	0.010 U	0.0040	0.010	0.020	5150764
Perfluorododecanoic Acid (PFDoA)	ug/L	0.011 U	0.0029	0.011	0.021	0.010 U	0.0028	0.010	0.020	5150764
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.011 U	0.0048	0.011	0.021	0.010 U	0.0046	0.010	0.020	5150764
Perfluorooctane Sulfonate (PFOS)	ug/L	0.010 J	0.0027	0.011	0.021	0.0086 J	0.0026	0.010	0.020	5150764
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	88				107				5150764
13C2-8:2 Fluorotelomer sulfonate	%	80				96				5150764
13C2-Perfluorodecanoic acid	%	80				106				5150764
13C2-Perfluorododecanoic acid	%	71				82				5150764
13C2-Perfluorohexanoic acid	%	81				109				5150764
13C2-perfluorotetradecanoic acid	%	58				N/A	N/A	N/A		5166638
13C2-Perfluoroundecanoic acid	%	75				97				5150764
13C4-Perfluorobutanoic acid	%	76				91				5150764
13C4-Perfluoroheptanoic acid	%	85				100				5150764
13C4-Perfluorooctanesulfonate	%	83				110				5150764
13C4-Perfluorooctanoic acid	%	86				102				5150764

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Maxxam Job #: B7I9014
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF WATER

Maxxam ID		FAT198				FAT198				
Sampling Date		2017/08/28 12:00				2017/08/28 12:00				
COC Number		na				na				
	UNITS	WWTP-1-GW	DL	LOD	LOQ	WWTP-1-GW Lab-Dup	DL	LOD	LOQ	QC Batch
13C5-Perfluorononanoic acid	%	79				102				5150764
13C5-Perfluoropentanoic acid	%	89				91				5150764
13C8-Perfluorooctane Sulfonamide	%	65				83				5150764
18O2-Perfluorohexanesulfonate	%	82				112				5150764

DL = Detection Limit
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Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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TEST SUMMARY

Maxxam ID: FAT190 **Collected:** 2017/08/25
Sample ID: CFTA-GW-1 **Shipped:**
Matrix: Water **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5150764	2017/09/06	2017/09/13	Anjan Desai

Maxxam ID: FAT191 **Collected:** 2017/08/25
Sample ID: WWTP GW-1 **Shipped:**
Matrix: Water **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5150764	2017/09/06	2017/09/13	Anjan Desai

Maxxam ID: FAT192 **Collected:** 2017/08/25
Sample ID: FT005-1-GW **Shipped:**
Matrix: Water **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5150764	2017/09/06	2017/09/13	Anjan Desai

Maxxam ID: FAT193 **Collected:** 2017/08/25
Sample ID: FT005-2-GW **Shipped:**
Matrix: Water **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5150764	2017/09/06	2017/09/13	Anjan Desai

Maxxam ID: FAT194 **Collected:** 2017/08/25
Sample ID: FT005-3-GW **Shipped:**
Matrix: Water **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5150764	2017/09/06	2017/09/13	Anjan Desai

Maxxam ID: FAT195 **Collected:** 2017/08/28
Sample ID: CFTA-1-GW **Shipped:**
Matrix: Water **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5150764	2017/09/06	2017/09/13	Anjan Desai

Maxxam ID: FAT196 **Collected:** 2017/08/25
Sample ID: CFTA-2-GW **Shipped:**
Matrix: Water **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5150764	2017/09/06	2017/09/13	Anjan Desai

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Maxxam Job #: B7I9014
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

TEST SUMMARY

Maxxam ID: FAT197 **Collected:** 2017/08/28
Sample ID: CFTA-3-GW **Shipped:**
Matrix: Water **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5150764	2017/09/06	2017/09/13	Anjan Desai

Maxxam ID: FAT198 **Collected:** 2017/08/28
Sample ID: WWTP-1-GW **Shipped:**
Matrix: Water **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5150764	2017/09/06	2017/09/13	Anjan Desai

Maxxam ID: FAT198 Dup **Collected:** 2017/08/28
Sample ID: WWTP-1-GW **Shipped:**
Matrix: Water **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5150764	2017/09/06	2017/09/13	Anjan Desai

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.6°C

Sample "WWTP-2-GW" was listed on the COC , but not received. Client confirmed to proceed without this sample.
Sample FAT190, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample FAT191, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample FAT192, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample FAT193, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample FAT194, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample FAT195, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample FAT196, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample FAT197, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample FAT198, PFOS and PFOA in water by SPE/LCMS: Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B7I9014
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5150764	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/13		74	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/13		75	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/13		77	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/13		64	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/13		74	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/13		73	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/13		79	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/13		73	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/13		73	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/13		72	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/13		77	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/13		80	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/13		60	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/13		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/13		93	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/13		93	%	70 - 130
			Perfluorobutanoic acid	2017/09/13		99	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/13		91	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/13		86	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/13		101	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/13		105	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/13		88	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/13		95	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/13		94	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/13		100	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/13		98	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/13		93	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/13		100	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/13		109	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/13		99	%	70 - 130
5150764	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/13		78	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/13		75	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/13		70	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/13		69	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/13		80	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/13		69	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/13		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/13		75	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/13		71	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/13		75	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/13		72	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/13		81	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/13		60	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/13		79	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/13	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/13	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/13	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/13	0.010 U, LOD=0.010		ug/L	
5150764	AD9	RPD - Sample/Sample Dup	6:2 Fluorotelomer sulfonate	2017/09/13	NC		%	30
			8:2 Fluorotelomer sulfonate	2017/09/13	NC		%	30
			Perfluorobutanoic acid	2017/09/13	NC		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/13	NC		%	30
			Perfluorodecane Sulfonate	2017/09/13	NC		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/13	NC		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/13	NC		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/13	NC		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/13	NC		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/13	NC		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/13	NC		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/13	NC		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/13	NC		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/13	NC		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/13	NC		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/13	NC		%	30
5166631	AD9	Spiked Blank	13C2-perfluorotetradecanoic acid	2017/09/18		71	%	50 - 150
			Perfluorotetradecanoic Acid	2017/09/18		100	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/18		107	%	70 - 130
5166631	AD9	Spiked Blank DUP	13C2-perfluorotetradecanoic acid	2017/09/18		69	%	50 - 150
			Perfluorotetradecanoic Acid	2017/09/18		101	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/18		107	%	70 - 130
5166631	AD9	RPD	Perfluorotetradecanoic Acid	2017/09/18	0.17		%	30
			Perfluorotridecanoic Acid	2017/09/18	0.20		%	30
5166631	AD9	Method Blank	13C2-perfluorotetradecanoic acid	2017/09/18		67	%	50 - 150
			Perfluorotetradecanoic Acid	2017/09/18	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/18	0.010 U, LOD=0.010		ug/L	

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Maxxam Job #: B7I9014
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5166638	AD9	Spiked Blank	13C2-perfluorotetradecanoic acid	2017/09/20		74	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		82	%	50 - 150
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20		92	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/20		90	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/20		90	%	70 - 130
5166638	AD9	Spiked Blank DUP	13C2-perfluorotetradecanoic acid	2017/09/20		72	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		71	%	50 - 150
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20		99	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/20		90	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/20		90	%	70 - 130
5166638	AD9	RPD	Perfluorooctane Sulfonamide (PFOSA)	2017/09/20	7.6		%	30
			Perfluorotetradecanoic Acid	2017/09/20	0.38		%	30
			Perfluorotridecanoic Acid	2017/09/20	0.72		%	30
5166638	AD9	Method Blank	13C2-perfluorotetradecanoic acid	2017/09/20		83	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		82	%	50 - 150
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/20	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/20	0.010 U, LOD=0.010		ug/L	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Maxxam Job #: B7I9014
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Sin Chii Chia, Scientific Services

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: NA

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/21
Report #: R4725198
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7I9016
Received: 2017/08/30, 14:25

Sample Matrix: Soil
Samples Received: 19

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	19	N/A	2017/09/02	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	19	2017/09/07	2017/09/20	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
21 Sep 2017 13:02:53

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7I9016
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT207				FAT208				FAT209				
Sampling Date		2017/08/25 11:15				2017/08/25 10:20				2017/08/25 14:00				
COC Number		NA				NA				NA				
	UNITS	CFTA-1-1.0	DL	LOD	LOQ	CFTA-2-1.0	DL	LOD	LOQ	CFTA-2-11.5	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	11	0.50	N/A	1.0	10	0.50	N/A	1.0	12	0.50	N/A	1.0	5148280
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.23	0.60	1.0	2.9	0.21	0.55	0.91	0.99	0.20	0.51	0.85	5152976
8:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.32	0.60	1.0	0.55 U	0.29	0.55	0.91	0.51 U	0.27	0.51	0.85	5152976
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.53 J	0.17	0.60	1.0	1.0	0.15	0.55	0.91	0.39 J	0.14	0.51	0.85	5152976
Perfluorobutanoic acid	ug/kg	0.60 U	0.23	0.60	1.0	0.64 J	0.21	0.55	0.91	0.51 U	0.20	0.51	0.85	5152976
Perfluorodecane Sulfonate	ug/kg	0.53 J	0.23	0.60	1.0	0.55 U	0.21	0.55	0.91	0.51 U	0.20	0.51	0.85	5152976
Perfluorodecanoic Acid (PFDA)	ug/kg	0.40 U	0.13	0.40	1.0	0.36 U	0.12	0.36	0.91	0.34 U	0.11	0.34	0.85	5152976
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.60 U	0.22	0.60	1.0	0.55 U	0.20	0.55	0.91	0.51 U	0.19	0.51	0.85	5152976
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.55 J	0.17	0.60	1.0	0.55 J	0.15	0.55	0.91	0.51 U	0.14	0.51	0.85	5152976
Perfluorohexane Sulfonate (PFHxS)	ug/kg	8.1	0.23	0.60	1.0	12	0.21	0.55	0.91	1.7	0.20	0.51	0.85	5152976
Perfluorohexanoic Acid (PFHxA)	ug/kg	1.1	0.19	0.60	1.0	3.6	0.17	0.55	0.91	0.72 J	0.16	0.51	0.85	5152976
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	1.3	0.26	0.60	1.0	1.2	0.24	0.55	0.91	0.51 U	0.22	0.51	0.85	5152976
Perfluorononanoic Acid (PFNA)	ug/kg	0.71 J	0.17	0.60	1.0	0.55 U	0.15	0.55	0.91	0.51 U	0.14	0.51	0.85	5152976
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.35 J	0.26	0.60	1.0	0.55 U	0.24	0.55	0.91	0.51 U	0.22	0.51	0.85	5152976
Perfluorooctane Sulfonate (PFOS)	ug/kg	180 (1)	2.1	6.0	10	14	0.19	0.55	0.91	2.8	0.18	0.51	0.85	5152976
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.87 J	0.18	0.60	1.0	3.2	0.16	0.55	0.91	0.51 U	0.15	0.51	0.85	5152976
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.11	0.40	1.0	0.36 U	0.10	0.36	0.91	0.34 U	0.094	0.34	0.85	5152976
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.12	0.40	1.0	0.36 U	0.11	0.36	0.91	0.34 U	0.10	0.34	0.85	5152976
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.60 U	0.18	0.60	1.0	0.55 U	0.16	0.55	0.91	0.51 U	0.15	0.51	0.85	5152976
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	97				86				84				5152976
13C2-8:2 Fluorotelomer sulfonate	%	101				89				89				5152976
13C2-Perfluorodecanoic acid	%	89				84				83				5152976
13C2-Perfluorododecanoic acid	%	82				76				78				5152976
13C2-Perfluorohexanoic acid	%	89				85				80				5152976
13C2-perfluorotetradecanoic acid	%	68				72				72				5152976
13C2-Perfluoroundecanoic acid	%	86				76				82				5152976
13C4-Perfluorobutanoic acid	%	90				90				84				5152976
13C4-Perfluoroheptanoic acid	%	87				90				84				5152976

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, sample required 10x dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7I9016
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT207				FAT208				FAT209				
Sampling Date		2017/08/25 11:15				2017/08/25 10:20				2017/08/25 14:00				
COC Number		NA				NA				NA				
	UNITS	CFTA-1-1.0	DL	LOD	LOQ	CFTA-2-1.0	DL	LOD	LOQ	CFTA-2-11.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanesulfonate	%	71				87				85				5152976
13C4-Perfluorooctanoic acid	%	89				84				84				5152976
13C5-Perfluorononanoic acid	%	86				82				87				5152976
13C5-Perfluoropentanoic acid	%	87				81				82				5152976
13C8-Perfluorooctane Sulfonamide	%	74				78				71				5152976
18O2-Perfluorohexanesulfonate	%	86				86				80				5152976

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7I9016
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RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT210				FAT211			FAT211				
Sampling Date		2017/08/25 15:05				2017/08/25 10:55			2017/08/25 10:55				
COC Number		NA				NA			NA				
	UNITS	CFTA-2-23.5	DL	LOD	LOQ	CFTA-3-1.0	LOD	LOQ	CFTA-3-1.0 Lab-Dup	DL	LOD	LOQ	QC Batch
Inorganics													
Moisture	%	9.4	0.50	N/A	1.0	5.8	N/A	1.0	5.8	0.50	N/A	1.0	5148280
Miscellaneous Parameters													
6:2 Fluorotelomer sulfonate	ug/kg	0.85 J	0.21	0.54	0.90	0.52 U	0.52	0.86	N/A	0.20	0.52	0.86	5152976
8:2 Fluorotelomer sulfonate	ug/kg	0.54 U	0.29	0.54	0.90	0.52 U	0.52	0.86	N/A	0.28	0.52	0.86	5152976
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.33 J	0.15	0.54	0.90	0.52 U	0.52	0.86	N/A	0.15	0.52	0.86	5152976
Perfluorobutanoic acid	ug/kg	0.54 U	0.21	0.54	0.90	0.52 U	0.52	0.86	N/A	0.20	0.52	0.86	5152976
Perfluorodecane Sulfonate	ug/kg	0.54 U	0.21	0.54	0.90	0.52 U	0.52	0.86	N/A	0.20	0.52	0.86	5152976
Perfluorodecanoic Acid (PFDA)	ug/kg	0.36 U	0.12	0.36	0.90	0.34 U	0.34	0.86	N/A	0.11	0.34	0.86	5152976
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.54 U	0.20	0.54	0.90	0.52 U	0.52	0.86	N/A	0.19	0.52	0.86	5152976
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.54 U	0.15	0.54	0.90	0.52 U	0.52	0.86	N/A	0.15	0.52	0.86	5152976
Perfluorohexane Sulfonate (PFHxS)	ug/kg	1.4	0.21	0.54	0.90	3.9	0.52	0.86	N/A	0.20	0.52	0.86	5152976
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.74 J	0.17	0.54	0.90	0.54 J	0.52	0.86	N/A	0.16	0.52	0.86	5152976
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.54 U	0.23	0.54	0.90	0.54 J	0.52	0.86	N/A	0.22	0.52	0.86	5152976
Perfluorononanoic Acid (PFNA)	ug/kg	0.54 U	0.15	0.54	0.90	0.52 U	0.52	0.86	N/A	0.15	0.52	0.86	5152976
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.24 J	0.23	0.54	0.90	0.52 U	0.52	0.86	N/A	0.22	0.52	0.86	5152976
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.97	0.19	0.54	0.90	35	0.52	0.86	N/A	0.18	0.52	0.86	5152976
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.54 U	0.16	0.54	0.90	0.52 U	0.52	0.86	N/A	0.15	0.52	0.86	5152976
Perfluorotetradecanoic Acid	ug/kg	0.36 U	0.099	0.36	0.90	0.34 U	0.34	0.86	N/A	0.095	0.34	0.86	5152976
Perfluorotridecanoic Acid	ug/kg	0.36 U	0.11	0.36	0.90	0.34 U	0.34	0.86	N/A	0.10	0.34	0.86	5152976
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.54 U	0.16	0.54	0.90	0.52 U	0.52	0.86	N/A	0.15	0.52	0.86	5152976
Surrogate Recovery (%)													
13C2-6:2 Fluorotelomer sulfonate	%	96				76			N/A				5152976
13C2-8:2 Fluorotelomer sulfonate	%	95				96			N/A	N/A	N/A		5152976
13C2-Perfluorodecanoic acid	%	86				77			N/A	N/A	N/A		5152976
13C2-Perfluorododecanoic acid	%	88				83			N/A	N/A	N/A		5152976
13C2-Perfluorohexanoic acid	%	96				89			N/A	N/A	N/A		5152976
13C2-perfluorotetradecanoic acid	%	86				78			N/A	N/A	N/A		5152976
13C2-Perfluoroundecanoic acid	%	90				84			N/A	N/A	N/A		5152976
13C4-Perfluorobutanoic acid	%	89				86			N/A	N/A	N/A		5152976
13C4-Perfluoroheptanoic acid	%	92				88			N/A	N/A	N/A		5152976

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Maxxam Job #: B7I9016
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT210				FAT211			FAT211				
Sampling Date		2017/08/25 15:05				2017/08/25 10:55			2017/08/25 10:55				
COC Number		NA				NA			NA				
	UNITS	CFTA-2-23.5	DL	LOD	LOQ	CFTA-3-1.0	LOD	LOQ	CFTA-3-1.0 Lab-Dup	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanesulfonate	%	94				87			N/A	N/A	N/A		5152976
13C4-Perfluorooctanoic acid	%	97				88			N/A	N/A	N/A		5152976
13C5-Perfluorononanoic acid	%	87				82			N/A	N/A	N/A		5152976
13C5-Perfluoropentanoic acid	%	89				93			N/A	N/A	N/A		5152976
13C8-Perfluorooctane Sulfonamide	%	80				76			N/A	N/A	N/A		5152976
18O2-Perfluorohexanesulfonate	%	98				86			N/A	N/A	N/A		5152976

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
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Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT212				FAT213				FAT214				
Sampling Date		2017/08/28 10:05				2017/08/28 10:35				2017/08/28 15:05				
COC Number		NA				NA				NA				
	UNITS	CFTA-3-11	DL	LOD	LOQ	CFTA-3-18	DL	LOD	LOQ	FS1-1-12	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	20	0.50	N/A	1.0	18	0.50	N/A	1.0	14	0.50	N/A	1.0	5148280
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	0.58 U	0.22	0.58	0.97	0.60 U	0.23	0.60	1.0	0.56 U	0.21	0.56	0.93	5152976
8:2 Fluorotelomer sulfonate	ug/kg	0.58 U	0.31	0.58	0.97	0.60 U	0.32	0.60	1.0	0.56 U	0.30	0.56	0.93	5152976
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.58 U	0.16	0.58	0.97	0.60 U	0.17	0.60	1.0	0.56 U	0.16	0.56	0.93	5152976
Perfluorobutanoic acid	ug/kg	0.58 U	0.22	0.58	0.97	0.60 U	0.23	0.60	1.0	0.56 U	0.21	0.56	0.93	5152976
Perfluorodecane Sulfonate	ug/kg	0.58 U	0.22	0.58	0.97	0.60 U	0.23	0.60	1.0	0.56 U	0.21	0.56	0.93	5152976
Perfluorodecanoic Acid (PFDA)	ug/kg	0.39 U	0.13	0.39	0.97	0.40 U	0.13	0.40	1.0	0.37 U	0.12	0.37	0.93	5152976
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.58 U	0.21	0.58	0.97	0.60 U	0.22	0.60	1.0	0.56 U	0.20	0.56	0.93	5152976
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.58 U	0.16	0.58	0.97	0.60 U	0.17	0.60	1.0	0.56 U	0.16	0.56	0.93	5152976
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.58 U	0.22	0.58	0.97	0.92 J	0.23	0.60	1.0	1.2	0.21	0.56	0.93	5152976
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.58 U	0.18	0.58	0.97	0.43 J	0.19	0.60	1.0	0.37 J	0.18	0.56	0.93	5152976
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.58 U	0.25	0.58	0.97	0.60 U	0.26	0.60	1.0	0.33 J	0.24	0.56	0.93	5152976
Perfluorononanoic Acid (PFNA)	ug/kg	0.58 U	0.16	0.58	0.97	0.60 U	0.17	0.60	1.0	0.56 U	0.16	0.56	0.93	5152976
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.58 U	0.25	0.58	0.97	0.60 U	0.26	0.60	1.0	0.56 U	0.24	0.56	0.93	5152976
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.33 J	0.20	0.58	0.97	1.2	0.21	0.60	1.0	0.41 J	0.20	0.56	0.93	5152976
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.58 U	0.17	0.58	0.97	0.60 U	0.18	0.60	1.0	0.56 U	0.17	0.56	0.93	5152976
Perfluorotetradecanoic Acid	ug/kg	0.39 U	0.11	0.39	0.97	0.40 U	0.11	0.40	1.0	0.37 U	0.10	0.37	0.93	5152976
Perfluorotridecanoic Acid	ug/kg	0.39 U	0.12	0.39	0.97	0.40 U	0.12	0.40	1.0	0.37 U	0.11	0.37	0.93	5152976
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.58 U	0.17	0.58	0.97	0.60 U	0.18	0.60	1.0	0.56 U	0.17	0.56	0.93	5152976
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	83				84				79				5152976
13C2-8:2 Fluorotelomer sulfonate	%	83				86				84				5152976
13C2-Perfluorodecanoic acid	%	82				80				86				5152976
13C2-Perfluorododecanoic acid	%	77				78				80				5152976
13C2-Perfluorohexanoic acid	%	82				83				83				5152976
13C2-perfluorotetradecanoic acid	%	67				79				78				5152976
13C2-Perfluoroundecanoic acid	%	74				79				83				5152976
13C4-Perfluorobutanoic acid	%	89				88				85				5152976
13C4-Perfluoroheptanoic acid	%	83				87				82				5152976
13C4-Perfluorooctanesulfonate	%	85				95				82				5152976

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7I9016
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT212				FAT213				FAT214				
Sampling Date		2017/08/28 10:05				2017/08/28 10:35				2017/08/28 15:05				
COC Number		NA				NA				NA				
	UNITS	**CFTA-3-11**	**DL**	**LOD**	**LOQ**	**CFTA-3-18**	**DL**	**LOD**	**LOQ**	**FS1-1-12**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	78				87				83				5152976
13C5-Perfluorononanoic acid	%	86				89				82				5152976
13C5-Perfluoropentanoic acid	%	85				88				82				5152976
13C8-Perfluorooctane Sulfonamide	%	63				79				76				5152976
18O2-Perfluorohexanesulfonate	%	77				91				84				5152976

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Your P.O. #: 10995
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RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT215				FAT216				FAT217				
Sampling Date		2017/08/28 15:10				2017/08/28 13:30				2017/08/24 10:30				
COC Number		NA				NA				NA				
	UNITS	FS1-1-18	DL	LOD	LOQ	FS1-1-1.0	DL	LOD	LOQ	FT005-1-1.0	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	21	0.50	N/A	1.0	6.5	0.50	N/A	1.0	4.5	0.50	N/A	1.0	5148280
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	0.53 U	0.20	0.53	0.89	5.1 J (1)	1.9	4.9	8.2	5152976
8:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.38	0.72	1.2	0.45 J	0.28	0.53	0.89	12 (1)	2.6	4.9	8.2	5152976
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.72 U	0.20	0.72	1.2	0.53 U	0.15	0.53	0.89	3.7 J (1)	1.4	4.9	8.2	5152976
Perfluorobutanoic acid	ug/kg	0.72 U	0.28	0.72	1.2	0.90	0.20	0.53	0.89	4.9 U (1)	1.9	4.9	8.2	5152976
Perfluorodecane Sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	0.53 U	0.20	0.53	0.89	7.1 J (1)	1.9	4.9	8.2	5152976
Perfluorodecanoic Acid (PFDA)	ug/kg	0.48 U	0.16	0.48	1.2	0.54 J	0.12	0.36	0.89	3.3 U (1)	1.1	3.3	8.2	5152976
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.72 U	0.26	0.72	1.2	0.53 U	0.20	0.53	0.89	4.9 U (1)	1.8	4.9	8.2	5152976
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.72 U	0.20	0.72	1.2	0.54 J	0.15	0.53	0.89	11 (1)	1.4	4.9	8.2	5152976
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.44 J	0.28	0.72	1.2	0.97	0.20	0.53	0.89	140 (1)	1.9	4.9	8.2	5152976
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.72 U	0.23	0.72	1.2	0.49 J	0.17	0.53	0.89	16 (1)	1.6	4.9	8.2	5152976
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.72 U	0.31	0.72	1.2	1.8	0.23	0.53	0.89	140 (1)	2.1	4.9	8.2	5152976
Perfluorononanoic Acid (PFNA)	ug/kg	0.72 U	0.20	0.72	1.2	2.9	0.15	0.53	0.89	4.9 U (1)	1.4	4.9	8.2	5152976
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.72 U	0.31	0.72	1.2	0.42 J	0.23	0.53	0.89	2900 (2)	21	49	82	5152976
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.72 U	0.25	0.72	1.2	56 (1)	1.9	5.3	8.9	690 (2)	17	49	82	5152976
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.72 U	0.22	0.72	1.2	1.2	0.16	0.53	0.89	4.9 U (1)	1.5	4.9	8.2	5152976
Perfluorotetradecanoic Acid	ug/kg	0.48 U	0.13	0.48	1.2	0.36 U	0.098	0.36	0.89	3.3 U (1)	0.90	3.3	8.2	5152976
Perfluorotridecanoic Acid	ug/kg	0.48 U	0.14	0.48	1.2	0.36 U	0.11	0.36	0.89	3.3 U (1)	0.98	3.3	8.2	5152976
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.72 U	0.22	0.72	1.2	0.35 J	0.16	0.53	0.89	4.9 U (1)	1.5	4.9	8.2	5152976
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	86				94				79				5152976
13C2-8:2 Fluorotelomer sulfonate	%	92				98				85				5152976
13C2-Perfluorodecanoic acid	%	86				87				87				5152976
13C2-Perfluorododecanoic acid	%	81				82				86				5152976
13C2-Perfluorohexanoic acid	%	84				92				80				5152976
13C2-perfluorotetradecanoic acid	%	72				78				78				5152976
13C2-Perfluoroundecanoic acid	%	79				78				77				5152976
13C4-Perfluorobutanoic acid	%	87				91				79				5152976

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, sample required 10x dilution. Detection limit was adjusted accordingly.
(2) Due to high concentration of the target analyte, sample required 100x dilution. Detection limit was adjusted accordingly.

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RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT215				FAT216				FAT217				
Sampling Date		2017/08/28 15:10				2017/08/28 13:30				2017/08/24 10:30				
COC Number		NA				NA				NA				
	UNITS	**FS1-1-18**	**DL**	**LOD**	**LOQ**	**FS1-1-1.0**	**DL**	**LOD**	**LOQ**	**FT005-1-1.0**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluoroheptanoic acid	%	87				92				82				5152976
13C4-Perfluorooctanesulfonate	%	87				78				78				5152976
13C4-Perfluorooctanoic acid	%	81				87				82				5152976
13C5-Perfluorononanoic acid	%	85				93				83				5152976
13C5-Perfluoropentanoic acid	%	86				91				81				5152976
13C8-Perfluorooctane Sulfonamide	%	82				74				72				5152976
18O2-Perfluorohexanesulfonate	%	81				85				76				5152976

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7I9016
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT218				FAT219				FAT220				
Sampling Date		2017/08/24 15:20				2017/08/25 08:05				2017/08/24 12:23				
COC Number		NA				NA				NA				
	UNITS	FT005-1-12	DL	LOD	LOQ	FT005-1-19.5	DL	LOD	LOQ	FT005-2-1.0	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	19	0.50	N/A	1.0	23	0.50	N/A	1.0	14	0.50	N/A	1.0	5148280
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	16	0.22	0.58	0.96	1.2	0.23	0.60	1.0	0.41 J	0.25	0.66	1.1	5152976
8:2 Fluorotelomer sulfonate	ug/kg	0.58 U	0.31	0.58	0.96	0.89 J	0.32	0.60	1.0	1.1	0.35	0.66	1.1	5152976
Perfluorobutane Sulfonate (PFBS)	ug/kg	7.3	0.16	0.58	0.96	1.4	0.17	0.60	1.0	0.48 J	0.19	0.66	1.1	5152976
Perfluorobutanoic acid	ug/kg	4.6	0.22	0.58	0.96	0.90 J	0.23	0.60	1.0	1.5	0.25	0.66	1.1	5152976
Perfluorodecane Sulfonate	ug/kg	0.58 U	0.22	0.58	0.96	0.60 U	0.23	0.60	1.0	0.66 U	0.25	0.66	1.1	5152976
Perfluorodecanoic Acid (PFDA)	ug/kg	0.38 U	0.12	0.38	0.96	0.40 U	0.13	0.40	1.0	0.44 U	0.14	0.44	1.1	5152976
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.58 U	0.21	0.58	0.96	0.60 U	0.22	0.60	1.0	0.66 U	0.24	0.66	1.1	5152976
Perfluoroheptanoic Acid (PFHpA)	ug/kg	6.7	0.16	0.58	0.96	1.6	0.17	0.60	1.0	1.9	0.19	0.66	1.1	5152976
Perfluorohexane Sulfonate (PFHxS)	ug/kg	51 (1)	2.2	5.8	9.6	13	0.23	0.60	1.0	15	0.25	0.66	1.1	5152976
Perfluorohexanoic Acid (PFHxA)	ug/kg	28	0.18	0.58	0.96	7.1	0.19	0.60	1.0	3.4	0.21	0.66	1.1	5152976
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	40	0.25	0.58	0.96	9.4	0.26	0.60	1.0	8.9	0.29	0.66	1.1	5152976
Perfluorononanoic Acid (PFNA)	ug/kg	0.58 U	0.16	0.58	0.96	0.60 U	0.17	0.60	1.0	9.4	0.19	0.66	1.1	5152976
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	1.5	0.25	0.58	0.96	0.95 J	0.26	0.60	1.0	0.66 J	0.29	0.66	1.1	5152976
Perfluorooctane Sulfonate (PFOS)	ug/kg	7.2	0.20	0.58	0.96	8.4	0.21	0.60	1.0	340 (1)	2.3	6.6	11	5152976
Perfluoropentanoic Acid (PFPeA)	ug/kg	12	0.17	0.58	0.96	3.2	0.18	0.60	1.0	2.3	0.20	0.66	1.1	5152976
Perfluorotetradecanoic Acid	ug/kg	0.38 U	0.11	0.38	0.96	0.23 J	0.11	0.40	1.0	0.44 U	0.12	0.44	1.1	5152976
Perfluorotridecanoic Acid	ug/kg	0.38 U	0.12	0.38	0.96	0.40 U	0.12	0.40	1.0	0.44 U	0.13	0.44	1.1	5152976
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.58 U	0.17	0.58	0.96	0.60 U	0.18	0.60	1.0	0.66 U	0.20	0.66	1.1	5152976
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	87				77				101				5152976
13C2-8:2 Fluorotelomer sulfonate	%	91				76				96				5152976
13C2-Perfluorodecanoic acid	%	89				74				91				5152976
13C2-Perfluorododecanoic acid	%	86				73				87				5152976
13C2-Perfluorohexanoic acid	%	97				78				98				5152976
13C2-perfluorotetradecanoic acid	%	78				72				65				5152976
13C2-Perfluoroundecanoic acid	%	84				71				89				5152976
13C4-Perfluorobutanoic acid	%	92				79				94				5152976
13C4-Perfluoroheptanoic acid	%	85				80				95				5152976

DL = Detection Limit
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(1) Due to high concentration of the target analyte, sample required 10x dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B7I9016
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT218				FAT219				FAT220				
Sampling Date		2017/08/24 15:20				2017/08/25 08:05				2017/08/24 12:23				
COC Number		NA				NA				NA				
	UNITS	FT005-1-12	DL	LOD	LOQ	FT005-1-19.5	DL	LOD	LOQ	FT005-2-1.0	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanesulfonate	%	85				85				76				5152976
13C4-Perfluorooctanoic acid	%	92				74				94				5152976
13C5-Perfluorononanoic acid	%	93				79				92				5152976
13C5-Perfluoropentanoic acid	%	94				78				98				5152976
13C8-Perfluorooctane Sulfonamide	%	76				66				83				5152976
18O2-Perfluorohexanesulfonate	%	82				81				92				5152976

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7I9016
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Sampler Initials: SF

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT221				FAT222				FAT223				
Sampling Date		2017/08/25 12:40				2017/08/25 12:32				2017/08/24 10:55				
COC Number		NA				NA				NA				
	UNITS	FT005-2-12	DL	LOD	LOQ	FT005-2-21	DL	LOD	LOQ	FT005-3-1.0	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	14	0.50	N/A	1.0	23	0.50	N/A	1.0	6.7	0.50	N/A	1.0	5148280
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	1.5	0.20	0.53	0.88	1.3	0.28	0.72	1.2	0.52 U	0.20	0.52	0.87	5152976
8:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.28	0.53	0.88	0.72 U	0.38	0.72	1.2	0.52 U	0.28	0.52	0.87	5152976
Perfluorobutane Sulfonate (PFBS)	ug/kg	1.6	0.15	0.53	0.88	1.4	0.20	0.72	1.2	0.52 U	0.15	0.52	0.87	5152976
Perfluorobutanoic acid	ug/kg	0.66 J	0.20	0.53	0.88	0.69 J	0.28	0.72	1.2	0.52 U	0.20	0.52	0.87	5152976
Perfluorodecane Sulfonate	ug/kg	0.53 U	0.20	0.53	0.88	0.72 U	0.28	0.72	1.2	0.52 U	0.20	0.52	0.87	5152976
Perfluorodecanoic Acid (PFDA)	ug/kg	0.35 U	0.11	0.35	0.88	0.48 U	0.16	0.48	1.2	0.35 U	0.11	0.35	0.87	5152976
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.53 U	0.19	0.53	0.88	0.72 U	0.26	0.72	1.2	0.52 U	0.19	0.52	0.87	5152976
Perfluoroheptanoic Acid (PFHpA)	ug/kg	1.2	0.15	0.53	0.88	1.2 J	0.20	0.72	1.2	0.52 U	0.15	0.52	0.87	5152976
Perfluorohexane Sulfonate (PFHxS)	ug/kg	8.4	0.20	0.53	0.88	9.4	0.28	0.72	1.2	0.57 J	0.20	0.52	0.87	5152976
Perfluorohexanoic Acid (PFHxA)	ug/kg	5.7	0.17	0.53	0.88	4.8	0.23	0.72	1.2	0.80 J	0.17	0.52	0.87	5152976
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	3.7	0.23	0.53	0.88	3.3	0.31	0.72	1.2	0.52 U	0.23	0.52	0.87	5152976
Perfluorononanoic Acid (PFNA)	ug/kg	0.53 U	0.15	0.53	0.88	0.72 U	0.20	0.72	1.2	0.52 U	0.15	0.52	0.87	5152976
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.53 U	0.23	0.53	0.88	0.72 U	0.31	0.72	1.2	0.52 U	0.23	0.52	0.87	5152976
Perfluorooctane Sulfonate (PFOS)	ug/kg	1.5	0.18	0.53	0.88	0.97 J	0.25	0.72	1.2	1.2	0.18	0.52	0.87	5152976
Perfluoropentanoic Acid (PFPeA)	ug/kg	2.8	0.16	0.53	0.88	2.5	0.22	0.72	1.2	0.52 U	0.16	0.52	0.87	5152976
Perfluorotetradecanoic Acid	ug/kg	0.35 U	0.097	0.35	0.88	0.48 U	0.13	0.48	1.2	0.35 U	0.096	0.35	0.87	5152976
Perfluorotridecanoic Acid	ug/kg	0.35 U	0.11	0.35	0.88	0.48 U	0.14	0.48	1.2	0.35 U	0.10	0.35	0.87	5152976
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.53 U	0.16	0.53	0.88	0.72 U	0.22	0.72	1.2	0.52 U	0.16	0.52	0.87	5152976
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	94				99				86				5152976
13C2-8:2 Fluorotelomer sulfonate	%	94				98				98				5152976
13C2-Perfluorodecanoic acid	%	86				99				82				5152976
13C2-Perfluorododecanoic acid	%	87				87				80				5152976
13C2-Perfluorohexanoic acid	%	93				96				90				5152976
13C2-perfluorotetradecanoic acid	%	83				85				79				5152976
13C2-Perfluoroundecanoic acid	%	81				88				77				5152976
13C4-Perfluorobutanoic acid	%	94				93				90				5152976
13C4-Perfluoroheptanoic acid	%	97				97				91				5152976
13C4-Perfluorooctanesulfonate	%	96				85				85				5152976

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QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7I9016
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT221				FAT222				FAT223				
Sampling Date		2017/08/25 12:40				2017/08/25 12:32				2017/08/24 10:55				
COC Number		NA				NA				NA				
	UNITS	FT005-2-12	DL	LOD	LOQ	FT005-2-21	DL	LOD	LOQ	FT005-3-1.0	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	97				92				85				5152976
13C5-Perfluorononanoic acid	%	92				93				87				5152976
13C5-Perfluoropentanoic acid	%	94				93				87				5152976
13C8-Perfluorooctane Sulfonamide	%	80				82				76				5152976
18O2-Perfluorohexanesulfonate	%	91				88				95				5152976

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT224				FAT225				
Sampling Date		2017/08/25 09:35				2017/08/25 10:05				
COC Number		NA				NA				
	UNITS	FT005-3-11.5	DL	LOD	LOQ	FT005-3-23	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	10	0.50	N/A	1.0	21	0.50	N/A	1.0	5148280
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.52 U	0.20	0.52	0.87	0.58 U	0.22	0.58	0.96	5152976
8:2 Fluorotelomer sulfonate	ug/kg	0.52 U	0.28	0.52	0.87	0.58 U	0.31	0.58	0.96	5152976
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.60 J	0.15	0.52	0.87	0.58 U	0.16	0.58	0.96	5152976
Perfluorobutanoic acid	ug/kg	0.79 J	0.20	0.52	0.87	0.58 U	0.22	0.58	0.96	5152976
Perfluorodecane Sulfonate	ug/kg	0.52 U	0.20	0.52	0.87	0.58 U	0.22	0.58	0.96	5152976
Perfluorodecanoic Acid (PFDA)	ug/kg	0.35 U	0.11	0.35	0.87	0.38 U	0.12	0.38	0.96	5152976
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.52 U	0.19	0.52	0.87	0.58 U	0.21	0.58	0.96	5152976
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.69 J	0.15	0.52	0.87	0.58 U	0.16	0.58	0.96	5152976
Perfluorohexane Sulfonate (PFHxS)	ug/kg	8.5	0.20	0.52	0.87	0.59 J	0.22	0.58	0.96	5152976
Perfluorohexanoic Acid (PFHxA)	ug/kg	2.8	0.17	0.52	0.87	0.43 J	0.18	0.58	0.96	5152976
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	5.9	0.23	0.52	0.87	0.47 J	0.25	0.58	0.96	5152976
Perfluorononanoic Acid (PFNA)	ug/kg	0.52 U	0.15	0.52	0.87	0.58 U	0.16	0.58	0.96	5152976
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.52 U	0.23	0.52	0.87	0.27 J	0.25	0.58	0.96	5152976
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.39 J	0.18	0.52	0.87	0.58 U	0.20	0.58	0.96	5152976
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.80 J	0.16	0.52	0.87	0.58 U	0.17	0.58	0.96	5152976
Perfluorotetradecanoic Acid	ug/kg	0.35 U	0.096	0.35	0.87	0.38 U	0.11	0.38	0.96	5152976
Perfluorotridecanoic Acid	ug/kg	0.35 U	0.10	0.35	0.87	0.38 U	0.12	0.38	0.96	5152976
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.52 U	0.16	0.52	0.87	0.58 U	0.17	0.58	0.96	5152976
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	85				77				5152976
13C2-8:2 Fluorotelomer sulfonate	%	91				82				5152976
13C2-Perfluorodecanoic acid	%	80				82				5152976
13C2-Perfluorododecanoic acid	%	73				75				5152976
13C2-Perfluorohexanoic acid	%	85				83				5152976
13C2-perfluorotetradecanoic acid	%	68				73				5152976
13C2-Perfluoroundecanoic acid	%	82				76				5152976
13C4-Perfluorobutanoic acid	%	88				83				5152976
13C4-Perfluoroheptanoic acid	%	81				79				5152976
13C4-Perfluorooctanesulfonate	%	82				87				5152976

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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: SF

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT224				FAT225				
Sampling Date		2017/08/25 09:35				2017/08/25 10:05				
COC Number		NA				NA				
	UNITS	**FT005-3-11.5**	**DL**	**LOD**	**LOQ**	**FT005-3-23**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	84				84				5152976
13C5-Perfluorononanoic acid	%	86				81				5152976
13C5-Perfluoropentanoic acid	%	85				80				5152976
13C8-Perfluorooctane Sulfonamide	%	70				71				5152976
18O2-Perfluorohexanesulfonate	%	80				84				5152976

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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TEST SUMMARY

Maxxam ID: FAT207 **Collected:** 2017/08/25
Sample ID: CFTA-1-1.0 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT208 **Collected:** 2017/08/25
Sample ID: CFTA-2-1.0 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT209 **Collected:** 2017/08/25
Sample ID: CFTA-2-11.5 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT210 **Collected:** 2017/08/25
Sample ID: CFTA-2-23.5 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT211 **Collected:** 2017/08/25
Sample ID: CFTA-3-1.0 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT211 Dup **Collected:** 2017/08/25
Sample ID: CFTA-3-1.0 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan

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TEST SUMMARY

Maxxam ID: FAT212 **Collected:** 2017/08/28
Sample ID: CFTA-3-11 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT213 **Collected:** 2017/08/28
Sample ID: CFTA-3-18 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT214 **Collected:** 2017/08/28
Sample ID: FS1-1-12 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT215 **Collected:** 2017/08/28
Sample ID: FS1-1-18 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT216 **Collected:** 2017/08/28
Sample ID: FS1-1-1.0 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT217 **Collected:** 2017/08/24
Sample ID: FT005-1-1.0 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

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Maxxam Job #: B7I9016
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

TEST SUMMARY

Maxxam ID: FAT218 **Collected:** 2017/08/24
Sample ID: FT005-1-12 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT219 **Collected:** 2017/08/25
Sample ID: FT005-1-19.5 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT220 **Collected:** 2017/08/24
Sample ID: FT005-2-1.0 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT221 **Collected:** 2017/08/25
Sample ID: FT005-2-12 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT222 **Collected:** 2017/08/25
Sample ID: FT005-2-21 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT223 **Collected:** 2017/08/24
Sample ID: FT005-3-1.0 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

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Maxxam Job #: B7I9016
Report Date: 2017/09/21

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Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

TEST SUMMARY

Maxxam ID: FAT224
Sample ID: FT005-3-11.5
Matrix: Soil

Collected: 2017/08/25
Shipped:
Received: 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

Maxxam ID: FAT225
Sample ID: FT005-3-23
Matrix: Soil

Collected: 2017/08/25
Shipped:
Received: 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148280	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5152976	2017/09/07	2017/09/20	Anjan Desai

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.7°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5148280	VK	RPD - Sample/Sample Dup	Moisture	2017/09/02	0		%	20
5152976	AD9	Matrix Spike(FAT215)	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		74	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		89	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		73	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		71	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		77	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		65	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		79	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		79	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		83	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/20		81	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		79	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/20		79	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		73	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		76	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20		102	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/20		90	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/20		101	%	70 - 130
			Perfluorobutanoic acid	2017/09/20		94	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/20		106	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/20		119	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/20		103	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/20		99	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20		100	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/20		103	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/20		115	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20		102	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20		103	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20		102	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/20		104	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20		101	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/20		90	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/20		101	%	70 - 130
5152976	AD9	Matrix Spike DUP(FAT215)	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		88	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		82	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		91	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		62	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		93	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		84	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		86	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/20		87	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/20		87	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		76	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		81	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/20		105	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/20		109	%	70 - 130
			Perfluorobutanoic acid	2017/09/20		93	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/09/20		90	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/20		100	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/20		96	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/20		102	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20		102	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/20		111	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/20		125	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20		104	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20		103	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/20		101	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20		105	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/20		102	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/20		102	%	70 - 130
5152976	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/20	6.3		%	30
			8:2 Fluorotelomer sulfonate	2017/09/20	16		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/20	7.7		%	30
			Perfluorobutanoic acid	2017/09/20	0.47		%	30
			Perfluorodecane Sulfonate	2017/09/20	16		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/20	17		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/20	7.7		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/20	2.7		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20	2.0		%	25
			Perfluorotetradecanoic Acid	2017/09/20	6.8		%	30
			Perfluorotridecanoic Acid	2017/09/20	8.6		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20	2.4		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20	0.89		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20	0.53		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/20	2.9		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20	3.8		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/20	12		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/20	1.1		%	30
5152976	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		85	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		89	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		91	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		78	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		77	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		83	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		85	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/20		86	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/20		83	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		72	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		85	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20		100	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/20		93	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/20		102	%	70 - 130
			Perfluorobutanoic acid	2017/09/20		101	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/20		94	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/20		100	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorododecanoic Acid (PFDoA)	2017/09/20		103	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/20		94	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20		103	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/20		96	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/20		106	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20		107	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20		103	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20		101	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/20		99	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20		107	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/20		97	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/20		106	%	70 - 130
5152976	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		101	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		97	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		89	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		84	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		99	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		81	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		87	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		99	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		102	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/20		93	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		91	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/20		99	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		74	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		81	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/20	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/20	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/20	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	

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Maxxam Job #: B7I9016
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SF

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Cristina Carriere, Scientific Service Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/21
Report #: R4725362
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7I9019
Received: 2017/08/30, 14:25

Sample Matrix: Soil
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	6	N/A	2017/09/02	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	5	2017/09/08	2017/09/15	CAM SOP-00894	EPA537 m
PFOS and PFOA in soil by SPE/LCMS (1)	1	2017/09/18	2017/09/20	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/21
Report #: R4725362
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7I9019
Received: 2017/08/30, 14:25

Encryption Key

Stephanie Pollen
Project Manager
21 Sep 2017 16:18:08

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B7I9019
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: ST

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT289					FAT290				
Sampling Date		2017/08/28 08:10					2017/08/28 09:44				
COC Number		na					na				
	UNITS	WWTP-1-1.0	DL	LOD	LOQ	QC Batch	WWTP-1-10	DL	LOD	LOQ	QC Batch
Inorganics											
Moisture	%	14	0.50	N/A	1.0	5148350	20	0.50	N/A	1.0	5148350
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	5155080	0.66 U	0.25	0.66	1.1	5168639
8:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.28	0.53	0.89	5155080	0.66 U	0.35	0.66	1.1	5168639
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.60 U	0.17	0.60	1.0	5168639	0.66 U	0.19	0.66	1.1	5168639
Perfluorobutanoic acid	ug/kg	0.24 J	0.20	0.53	0.89	5155080	0.66 U	0.25	0.66	1.1	5168639
Perfluorodecane Sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	5155080	0.66 U	0.25	0.66	1.1	5168639
Perfluorodecanoic Acid (PFDA)	ug/kg	0.17 J	0.12	0.36	0.89	5155080	0.44 U	0.14	0.44	1.1	5168639
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.53 U	0.20	0.53	0.89	5155080	0.66 U	0.24	0.66	1.1	5168639
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.30 J	0.15	0.53	0.89	5155080	0.66 U	0.19	0.66	1.1	5168639
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.40 J	0.23	0.60	1.0	5168639	0.66 U	0.25	0.66	1.1	5168639
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.41 J	0.17	0.53	0.89	5155080	0.66 U	0.21	0.66	1.1	5168639
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	1.8	0.23	0.53	0.89	5155080	0.66 U	0.29	0.66	1.1	5168639
Perfluorononanoic Acid (PFNA)	ug/kg	0.53 U	0.15	0.53	0.89	5155080	0.66 U	0.19	0.66	1.1	5168639
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.53 U	0.23	0.53	0.89	5155080	0.66 U	0.29	0.66	1.1	5168639
Perfluorooctane Sulfonate (PFOS)	ug/kg	1.9	0.21	0.60	1.0	5168639	0.66 U	0.23	0.66	1.1	5168639
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.53 U	0.16	0.53	0.89	5155080	0.66 U	0.20	0.66	1.1	5168639
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.11	0.40	1.0	5168639	0.44 U	0.12	0.44	1.1	5168639
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.12	0.40	1.0	5168639	0.44 U	0.13	0.44	1.1	5168639
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.53 U	0.16	0.53	0.89	5155080	0.66 U	0.20	0.66	1.1	5168639
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	56				5155080	80				5168639
13C2-8:2 Fluorotelomer sulfonate	%	60				5155080	87				5168639
13C2-Perfluorodecanoic acid	%	55				5155080	79				5168639
13C2-Perfluorododecanoic acid	%	55				5155080	75				5168639
13C2-Perfluorohexanoic acid	%	57				5155080	76				5168639
13C2-perfluorotetradecanoic acid	%	70				5168639	72				5168639
13C2-Perfluoroundecanoic acid	%	54				5155080	76				5168639
13C4-Perfluorobutanoic acid	%	51				5155080	79				5168639
13C4-Perfluoroheptanoic acid	%	57				5155080	80				5168639
13C4-Perfluorooctanesulfonate	%	84				5168639	76				5168639

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7I9019
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: ST

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT289					FAT290				
Sampling Date		2017/08/28 08:10					2017/08/28 09:44				
COC Number		na					na				
	UNITS	WWTP-1-1.0	DL	LOD	LOQ	QC Batch	WWTP-1-10	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	55				5155080	84				5168639
13C5-Perfluorononanoic acid	%	59				5155080	80				5168639
13C5-Perfluoropentanoic acid	%	54				5155080	79				5168639
13C8-Perfluorooctane Sulfonamide	%	64				5155080	72				5168639
18O2-Perfluorohexanesulfonate	%	96				5168639	78				5168639

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QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7I9019
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: ST

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT291				FAT292				FAT293				
Sampling Date		2017/08/28 10:30				2017/08/28 10:54				2017/08/28 14:00				
COC Number		na				na				na				
	UNITS	WWTP-1-16	DL	LOD	LOQ	WWTP-2-1.0	DL	LOD	LOQ	WWTP-2-10	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	22	0.50	N/A	1.0	7.7	0.50	N/A	1.0	20	0.50	N/A	1.0	5148350
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	0.78 U	0.30	0.78	1.3	0.59 U	0.23	0.59	0.98	0.56 U	0.22	0.56	0.94	5155080
8:2 Fluorotelomer sulfonate	ug/kg	0.78 U	0.42	0.78	1.3	0.59 U	0.31	0.59	0.98	0.56 U	0.30	0.56	0.94	5155080
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.78 U	0.22	0.78	1.3	0.59 U	0.17	0.59	0.98	0.56 U	0.16	0.56	0.94	5155080
Perfluorobutanoic acid	ug/kg	0.78 U	0.30	0.78	1.3	0.24 J	0.23	0.59	0.98	0.56 U	0.22	0.56	0.94	5155080
Perfluorodecane Sulfonate	ug/kg	0.78 U	0.30	0.78	1.3	0.59 U	0.23	0.59	0.98	0.56 U	0.22	0.56	0.94	5155080
Perfluorodecanoic Acid (PFDA)	ug/kg	0.52 U	0.17	0.52	1.3	0.39 U	0.13	0.39	0.98	0.38 U	0.12	0.38	0.94	5155080
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.78 U	0.29	0.78	1.3	0.59 U	0.22	0.59	0.98	0.56 U	0.21	0.56	0.94	5155080
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.78 U	0.22	0.78	1.3	0.59 U	0.17	0.59	0.98	0.56 U	0.16	0.56	0.94	5155080
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.78 U	0.30	0.78	1.3	1.4	0.23	0.59	0.98	0.56 U	0.22	0.56	0.94	5155080
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.78 U	0.25	0.78	1.3	0.53 J	0.19	0.59	0.98	0.56 U	0.18	0.56	0.94	5155080
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.78 U	0.34	0.78	1.3	0.56 J	0.25	0.59	0.98	0.56 U	0.24	0.56	0.94	5155080
Perfluorononanoic Acid (PFNA)	ug/kg	0.78 U	0.22	0.78	1.3	0.59 U	0.17	0.59	0.98	0.56 U	0.16	0.56	0.94	5155080
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.78 U	0.34	0.78	1.3	0.59 U	0.25	0.59	0.98	0.56 U	0.24	0.56	0.94	5155080
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.78 U	0.27	0.78	1.3	0.99	0.21	0.59	0.98	0.22 J	0.20	0.56	0.94	5155080
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.78 U	0.23	0.78	1.3	0.34 J	0.18	0.59	0.98	0.56 U	0.17	0.56	0.94	5155080
Perfluorotetradecanoic Acid	ug/kg	0.52 U	0.14	0.52	1.3	0.39 U	0.11	0.39	0.98	0.38 U	0.10	0.38	0.94	5155080
Perfluorotridecanoic Acid	ug/kg	0.52 U	0.16	0.52	1.3	0.39 U	0.12	0.39	0.98	0.38 U	0.11	0.38	0.94	5155080
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.78 U	0.23	0.78	1.3	0.59 U	0.18	0.59	0.98	0.56 U	0.17	0.56	0.94	5155080
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	96				79				99				5155080
13C2-8:2 Fluorotelomer sulfonate	%	82				85				103				5155080
13C2-Perfluorodecanoic acid	%	75				82				101				5155080
13C2-Perfluorododecanoic acid	%	72				77				92				5155080
13C2-Perfluorohexanoic acid	%	86				76				99				5155080
13C2-perfluorotetradecanoic acid	%	71				59				81				5155080
13C2-Perfluoroundecanoic acid	%	71				75				98				5155080
13C4-Perfluorobutanoic acid	%	80				83				98				5155080
13C4-Perfluoroheptanoic acid	%	87				81				98				5155080
13C4-Perfluorooctanesulfonate	%	81				84				97				5155080

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7I9019
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: ST

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT291				FAT292				FAT293				
Sampling Date		2017/08/28 10:30				2017/08/28 10:54				2017/08/28 14:00				
COC Number		na				na				na				
	UNITS	**WWTP-1-16**	**DL**	**LOD**	**LOQ**	**WWTP-2-1.0**	**DL**	**LOD**	**LOQ**	**WWTP-2-10**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	84				87				97				5155080
13C5-Perfluorononanoic acid	%	83				85				103				5155080
13C5-Perfluoropentanoic acid	%	81				84				100				5155080
13C8-Perfluorooctane Sulfonamide	%	73				74				85				5155080
18O2-Perfluorohexanesulfonate	%	81				83				101				5155080

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LOD = Limit of Detection
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Maxxam Job #: B7I9019
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: ST

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT294				
Sampling Date		2017/08/28 15:05				
COC Number		na				
	UNITS	WWTP-2-16	DL	LOD	LOQ	QC Batch
Inorganics						
Moisture	%	20	0.50	N/A	1.0	5148350
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	5155080
8:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.38	0.72	1.2	5155080
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.72 U	0.20	0.72	1.2	5155080
Perfluorobutanoic acid	ug/kg	0.72 U	0.28	0.72	1.2	5155080
Perfluorodecane Sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	5155080
Perfluorodecanoic Acid (PFDA)	ug/kg	0.48 U	0.16	0.48	1.2	5155080
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.72 U	0.26	0.72	1.2	5155080
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.72 U	0.20	0.72	1.2	5155080
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.72 U	0.28	0.72	1.2	5155080
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.72 U	0.23	0.72	1.2	5155080
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.72 U	0.31	0.72	1.2	5155080
Perfluorononanoic Acid (PFNA)	ug/kg	0.72 U	0.20	0.72	1.2	5155080
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.72 U	0.31	0.72	1.2	5155080
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.39 J	0.25	0.72	1.2	5155080
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.72 U	0.22	0.72	1.2	5155080
Perfluorotetradecanoic Acid	ug/kg	0.38 U	0.11	0.38	0.96	5168639
Perfluorotridecanoic Acid	ug/kg	0.38 U	0.12	0.38	0.96	5168639
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.72 U	0.22	0.72	1.2	5155080
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	79				5155080
13C2-8:2 Fluorotelomer sulfonate	%	80				5155080
13C2-Perfluorodecanoic acid	%	85				5155080
13C2-Perfluorododecanoic acid	%	72				5155080
13C2-Perfluorohexanoic acid	%	78				5155080
13C2-perfluorotetradecanoic acid	%	80				5168639
13C2-Perfluoroundecanoic acid	%	76				5155080
13C4-Perfluorobutanoic acid	%	82				5155080
13C4-Perfluoroheptanoic acid	%	78				5155080
13C4-Perfluorooctanesulfonate	%	73				5155080

DL = Detection Limit
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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: ST

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FAT294				
Sampling Date		2017/08/28 15:05				
COC Number		na				
	UNITS	**WWTP-2-16**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	73				5155080
13C5-Perfluorononanoic acid	%	74				5155080
13C5-Perfluoropentanoic acid	%	82				5155080
13C8-Perfluorooctane Sulfonamide	%	77				5155080
18O2-Perfluorohexanesulfonate	%	72				5155080

DL = Detection Limit
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Maxxam Job #: B7I9019
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: ST

TEST SUMMARY

Maxxam ID: FAT289 **Collected:** 2017/08/28
Sample ID: WWTP-1-1.0 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148350	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5155080	2017/09/08	2017/09/15	Daniela Zupu

Maxxam ID: FAT290 **Collected:** 2017/08/28
Sample ID: WWTP-1-10 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148350	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5168639	2017/09/18	2017/09/20	Anjan Desai

Maxxam ID: FAT291 **Collected:** 2017/08/28
Sample ID: WWTP-1-16 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148350	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5155080	2017/09/08	2017/09/15	Daniela Zupu

Maxxam ID: FAT292 **Collected:** 2017/08/28
Sample ID: WWTP-2-1.0 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148350	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5155080	2017/09/08	2017/09/15	Daniela Zupu

Maxxam ID: FAT293 **Collected:** 2017/08/28
Sample ID: WWTP-2-10 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148350	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5155080	2017/09/08	2017/09/15	Daniela Zupu

Maxxam ID: FAT294 **Collected:** 2017/08/28
Sample ID: WWTP-2-16 **Shipped:**
Matrix: Soil **Received:** 2017/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5148350	N/A	2017/09/02	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5155080	2017/09/08	2017/09/15	Daniela Zupu

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Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: ST

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.8°C

Sample FAT289, PFOS and PFOA in soil by SPE/LCMS: Test repeated.
Sample FAT294, PFOS and PFOA in soil by SPE/LCMS: Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B7I9019
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: ST

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5148350	GG2	RPD - Sample/Sample Dup	Moisture	2017/09/02	6.5		%	20
5155080	DZU	Matrix Spike(FAT290)	13C2-6:2 Fluorotelomer sulfonate	2017/09/15		83	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/15		85	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/15		80	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/15		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/15		85	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/15		76	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/15		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/15		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/15		87	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/15		85	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/15		81	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/15		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/15		85	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/15		80	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/15		79	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/15		91	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/15		91	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/15		98	%	70 - 130
			Perfluorobutanoic acid	2017/09/15		95	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/15		93	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/15		100	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/15		90	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/15		95	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/15		90	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/15		89	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/15		96	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/15		94	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/15		94	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15		100	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/15		93	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/15		100	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/15		91	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/15		94	%	70 - 130
5155080	DZU	Matrix Spike DUP(FAT290)	13C2-6:2 Fluorotelomer sulfonate	2017/09/15		90	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/15		91	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/15		82	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/15		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/15		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/15		82	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/15		86	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/15		87	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/15		91	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/15		94	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/15		96	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/15		91	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/15		95	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/15		80	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/15		92	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/15		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/15		94	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/15		96	%	70 - 130
			Perfluorobutanoic acid	2017/09/15		99	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/09/15		103	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/15		105	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/15		97	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/15		100	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/15		96	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/15		91	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/15		94	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/15		102	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/15		98	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15		92	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/15		93	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/15		94	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/15		90	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/15		91	%	70 - 130
5155080	DZU	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/15	4.8		%	30
			8:2 Fluorotelomer sulfonate	2017/09/15	2.7		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/15	2.6		%	30
			Perfluorobutanoic acid	2017/09/15	5.0		%	30
			Perfluorodecane Sulfonate	2017/09/15	10		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/15	4.5		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/15	8.0		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/15	5.9		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/15	7.2		%	25
			Perfluorotetradecanoic Acid	2017/09/15	1.4		%	30
			Perfluorotridecanoic Acid	2017/09/15	2.5		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/15	8.1		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/15	4.7		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15	7.8		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/15	0.32		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/15	6.1		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	1.4		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/15	2.7		%	30
5155080	DZU	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/15		83	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/15		77	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/15		75	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/15		67	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/15		81	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/15		64	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/15		70	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/15		77	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/15		83	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/15		70	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/15		71	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/15		78	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/15		78	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/15		69	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/15		71	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/15		86	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/15		89	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/15		102	%	70 - 130
			Perfluorobutanoic acid	2017/09/15		91	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/15		87	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/15		93	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorododecanoic Acid (PFDoA)	2017/09/15		98	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/15		95	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/15		88	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/15		92	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/15		93	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/15		96	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/15		89	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15		98	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/15		86	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/15		102	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/15		101	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/15		93	%	70 - 130
5155080	DZU	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/15		70	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/15		69	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/15		61	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/15		62	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/15		71	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/15		63	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/15		64	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/15		65	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/15		68	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/15		64	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/15		63	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/15		66	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/15		68	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/15		58	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/15		67	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/15	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/15	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/15	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/15	0.60 U, LOD=0.60		ug/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/15	0.60 U, LOD=0.60		ug/kg	
5168639	AD9	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		65	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		76	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		69	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		61	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		66	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		61	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		71	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		68	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		67	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		69	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/20		71	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		64	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/20		72	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		60	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		70	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20		111	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/20		113	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/20		113	%	70 - 130
			Perfluorobutanoic acid	2017/09/20		109	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/20		121	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/20		117	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/20		117	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/20		124	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20		120	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/20		111	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/20		120	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20		107	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20		116	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20		103	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/20		116	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20		111	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/20		NC	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/20		108	%	70 - 130
5168639	AD9	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		52	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		64	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		69	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		61	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		62	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		51	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		61	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		65	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		67	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		71	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluorooctanoic acid	2017/09/20		67	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		71	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/20		64	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		51	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		68	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20		119	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/20		118	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/20		110	%	70 - 130
			Perfluorobutanoic acid	2017/09/20		110	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/20		103	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/20		109	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/20		110	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/20		110	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20		129	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/20		120	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/20		135 (1)	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20		118	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20		114	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20		106	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/20		120	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20		115	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/20		NC	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/20		116	%	70 - 130
5168639	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/20	6.4		%	30
			8:2 Fluorotelomer sulfonate	2017/09/20	4.4		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/20	2.9		%	30
			Perfluorobutanoic acid	2017/09/20	1.4		%	30
			Perfluorodecane Sulfonate	2017/09/20	16		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/20	7.5		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/20	6.7		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/20	12		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20	7.8		%	25
			Perfluorotetradecanoic Acid	2017/09/20	8.1		%	30
			Perfluorotridecanoic Acid	2017/09/20	12		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20	10		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20	1.1		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20	2.9		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/20	3.0		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20	3.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/20	NC		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/20	7.2		%	30
5168639	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		73	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		83	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		81	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		74	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		79	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		79	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		73	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/20		89	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		81	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C5-Perfluoropentanoic acid	2017/09/20		79	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		75	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		81	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20		114	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/20		113	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/20		113	%	70 - 130
			Perfluorobutanoic acid	2017/09/20		112	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/20		113	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/20		117	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/20		108	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/20		114	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20		116	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/20		116	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/20		117	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20		121	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20		114	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20		107	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/20		113	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20		107	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/20		119	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/20		115	%	70 - 130
5168639	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		93	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		83	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		70	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		82	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		68	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		80	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		82	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		83	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		87	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/20		82	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		85	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/20		81	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		69	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		82	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/20	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	

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Maxxam Job #: B7I9019
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: ST

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/20	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/20	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Maxxam Job #: B7I9019
Report Date: 2017/09/21

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: ST

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Cristina Carriere, Scientific Service Specialist

Sin Chii Chia, Scientific Services

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/27
Report #: R4739325
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4892
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	3	2017/09/11	2017/09/24	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	10	N/A	2017/09/13	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	7	2017/09/13	2017/09/19	CAM SOP-00894	EPA537 m
PFOS and PFOA in soil by SPE/LCMS (1)	3	2017/09/13	2017/09/21	CAM SOP-00894	EPA537 m

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	2	2017/09/11	2017/09/24	CAM SOP-00894	EPA 537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/27
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CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4892

Received: 2017/09/07, 15:11

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
27 Sep 2017 17:11:10

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBU958			FBU958				
Sampling Date		2017/09/05 12:00			2017/09/05 12:00				
COC Number		na			na				
	UNITS	NOZ-3-W15	LOD	LOQ	NOZ-3-W15 Lab-Dup	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters									
6:2 Fluorotelomer sulfonate	ug/L	160 (1)	50	80	160 (1)	20	50	80	5160314
8:2 Fluorotelomer sulfonate	ug/L	0.92 J (2)	1.0	2.0	N/A	0.36	1.0	2.0	5158366
Perfluorobutanoic acid	ug/L	25 (2)	1.0	2.0	N/A	0.43	1.0	2.0	5158366
Perfluorobutane Sulfonate (PFBS)	ug/L	140 (1)	50	80	140 (1)	15	50	80	5160314
Perfluorodecane Sulfonate	ug/L	1.0 U (2)	1.0	2.0	N/A	0.46	1.0	2.0	5158366
Perfluoroheptanoic Acid (PFHpA)	ug/L	23 (2)	1.0	2.0	N/A	0.33	1.0	2.0	5158366
Perfluorohexanoic Acid (PFHxA)	ug/L	150 (1)	30	80	130 (1)	11	30	80	5160314
Perfluorohexane Sulfonate (PFHxS)	ug/L	660 (1)	50	80	630 (1)	24	50	80	5160314
Perfluorononanoic Acid (PFNA)	ug/L	1.8 J (2)	1.0	2.0	N/A	0.38	1.0	2.0	5158366
Perfluorooctane Sulfonamide (PFOSA)	ug/L	3.0 (2)	1.0	2.0	N/A	0.36	1.0	2.0	5158366
Perfluoropentanoic Acid (PFPeA)	ug/L	70 (2)	1.0	2.0	N/A	0.27	1.0	2.0	5158366
Perfluorotetradecanoic Acid	ug/L	1.0 U (2)	1.0	2.0	N/A	0.38	1.0	2.0	5158366
Perfluorotridecanoic Acid	ug/L	1.0 U (2)	1.0	2.0	N/A	0.33	1.0	2.0	5158366
Perfluoroundecanoic Acid (PFUnA)	ug/L	1.0 U (2)	1.0	2.0	N/A	0.43	1.0	2.0	5158366
Perfluorodecanoic Acid (PFDA)	ug/L	1.0 U (2)	1.0	2.0	N/A	0.40	1.0	2.0	5158366
Perfluorododecanoic Acid (PFDoA)	ug/L	1.0 U (2)	1.0	2.0	N/A	0.28	1.0	2.0	5158366
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	88 (2)	1.0	2.0	N/A	0.46	1.0	2.0	5158366
Perfluorooctane Sulfonate (PFOS)	ug/L	200 (1)	50	80	210 (3)	23	50	80	5160314
Surrogate Recovery (%)									
13C2-6:2 Fluorotelomer sulfonate	%	107			105				5160314
13C2-8:2 Fluorotelomer sulfonate	%	89			N/A				5158366
13C2-Perfluorodecanoic acid	%	81			N/A	N/A	N/A		5158366
13C2-Perfluorododecanoic acid	%	76			N/A	N/A	N/A		5158366

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.Post spike sample recovery is not applicable due to native concentration.

(2) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(3) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.Post spike sample recovery is not applicable due to native concentration..

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBU958			FBU958				
Sampling Date		2017/09/05 12:00			2017/09/05 12:00				
COC Number		na			na				
	UNITS	NOZ-3-W15	LOD	LOQ	NOZ-3-W15 Lab-Dup	DL	LOD	LOQ	QC Batch
13C2-Perfluorohexanoic acid	%	98			98				5160314
13C2-perfluorotetradecanoic acid	%	76			N/A	N/A	N/A		5158366
13C2-Perfluoroundecanoic acid	%	76			N/A	N/A	N/A		5158366
13C4-Perfluorobutanoic acid	%	92			N/A	N/A	N/A		5158366
13C4-Perfluoroheptanoic acid	%	80			N/A	N/A	N/A		5158366
13C4-Perfluorooctanesulfonate	%	96			87				5160314
13C4-Perfluorooctanoic acid	%	89			N/A	N/A	N/A		5158366
13C5-Perfluorononanoic acid	%	88			N/A	N/A	N/A		5158366
13C5-Perfluoropentanoic acid	%	89			N/A	N/A	N/A		5158366
13C8-Perfluorooctane Sulfonamide	%	81			N/A	N/A	N/A		5158366
18O2-Perfluorohexanesulfonate	%	95			101				5160314

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBU959				FBU960				
Sampling Date		2017/09/05 11:52				2017/09/05 11:37				
COC Number		na				na				
	UNITS	NOZ-2-W16	DL	LOD	LOQ	NOZ-1-W14	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/L	8.2 (1)	0.32	1.0	2.0	2.4 (2)	0.016	0.050	0.10	5158366
8:2 Fluorotelomer sulfonate	ug/L	0.13 J (3)	0.036	0.10	0.20	0.59 (2)	0.018	0.050	0.10	5158366
Perfluorobutanoic acid	ug/L	4.1 (3)	0.043	0.10	0.20	0.43 (2)	0.022	0.050	0.10	5158366
Perfluorobutane Sulfonate (PFBS)	ug/L	13 (1)	0.48	1.0	2.0	1.5 (2)	0.024	0.050	0.10	5158366
Perfluorodecane Sulfonate	ug/L	0.10 U (3)	0.046	0.10	0.20	0.050 U (2)	0.023	0.050	0.10	5158366
Perfluoroheptanoic Acid (PFHpA)	ug/L	4.4 (3)	0.033	0.10	0.20	0.40 (2)	0.017	0.050	0.10	5158366
Perfluorohexanoic Acid (PFHxA)	ug/L	29 (1)	0.29	1.0	2.0	3.0 (2)	0.015	0.050	0.10	5158366
Perfluorohexane Sulfonate (PFHxS)	ug/L	52 (1)	0.34	1.0	2.0	6.3 (4)	0.17	0.50	1.0	5158366
Perfluorononanoic Acid (PFNA)	ug/L	0.10 U (3)	0.038	0.10	0.20	0.026 J (2)	0.019	0.050	0.10	5158366
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.13 J (3)	0.036	0.10	0.20	0.23 (2)	0.018	0.050	0.10	5158366
Perfluoropentanoic Acid (PFPeA)	ug/L	15 (1)	0.27	1.0	2.0	0.98 (2)	0.014	0.050	0.10	5158366
Perfluorotetradecanoic Acid	ug/L	0.10 U (3)	0.038	0.10	0.20	0.050 U (2)	0.019	0.050	0.10	5158366
Perfluorotridecanoic Acid	ug/L	0.10 U (3)	0.033	0.10	0.20	0.050 U (2)	0.017	0.050	0.10	5158366
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.10 U (3)	0.043	0.10	0.20	0.050 U (2)	0.022	0.050	0.10	5158366
Perfluorodecanoic Acid (PFDA)	ug/L	0.10 U (3)	0.040	0.10	0.20	0.050 U (2)	0.020	0.050	0.10	5158366
Perfluorododecanoic Acid (PFDoA)	ug/L	0.10 U (3)	0.028	0.10	0.20	0.050 U (2)	0.014	0.050	0.10	5158366
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	2.4 (3)	0.046	0.10	0.20	1.4 (2)	0.023	0.050	0.10	5158366
Perfluorooctane Sulfonate (PFOS)	ug/L	7.4 (1)	0.26	1.0	2.0	30 (4)	0.13	0.50	1.0	5158366
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	89				88				5158366
13C2-8:2 Fluorotelomer sulfonate	%	103				101				5158366
13C2-Perfluorodecanoic acid	%	92				100				5158366
13C2-Perfluorododecanoic acid	%	90				93				5158366
13C2-Perfluorohexanoic acid	%	93				104				5158366

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(2) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (5x).

(3) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

(4) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (50x).

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBU959				FBU960				
Sampling Date		2017/09/05 11:52				2017/09/05 11:37				
COC Number		na				na				
	UNITS	NOZ-2-W16	DL	LOD	LOQ	NOZ-1-W14	DL	LOD	LOQ	QC Batch
13C2-perfluorotetradecanoic acid	%	87				95				5158366
13C2-Perfluoroundecanoic acid	%	93				89				5158366
13C4-Perfluorobutanoic acid	%	97				96				5158366
13C4-Perfluoroheptanoic acid	%	90				96				5158366
13C4-Perfluorooctanesulfonate	%	104				96				5158366
13C4-Perfluorooctanoic acid	%	106				95				5158366
13C5-Perfluorononanoic acid	%	99				102				5158366
13C5-Perfluoropentanoic acid	%	98				104				5158366
13C8-Perfluorooctane Sulfonamide	%	84				94				5158366
18O2-Perfluorohexanesulfonate	%	106				105				5158366

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU948				FBU949				FBU950				
Sampling Date		2017/09/05 08:25				2017/09/05 09:00				2017/09/05 09:09				
COC Number		na				na				na				
	UNITS	NOZ-1-0.5	DL	LOD	LOQ	NOZ-1-08	DL	LOD	LOQ	NOZ-1-11.5	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	7.5	0.50	N/A	1.0	29	0.50	N/A	1.0	26	0.50	N/A	1.0	5161758
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	0.30 J	0.21	0.55	0.92	2.7	0.28	0.72	1.2	0.48 J	0.25	0.66	1.1	5161577
8:2 Fluorotelomer sulfonate	ug/kg	0.55 U	0.29	0.55	0.92	0.72 U	0.38	0.72	1.2	0.66 U	0.35	0.66	1.1	5161577
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.55 U	0.16	0.55	0.92	2.0	0.20	0.72	1.2	0.66 U	0.19	0.66	1.1	5161577
Perfluorobutanoic acid	ug/kg	0.55 U	0.21	0.55	0.92	0.72 U	0.28	0.72	1.2	0.66 U	0.25	0.66	1.1	5161577
Perfluorodecane Sulfonate	ug/kg	0.87 J	0.21	0.55	0.92	0.72 U	0.28	0.72	1.2	0.66 U	0.25	0.66	1.1	5161577
Perfluorodecanoic Acid (PFDA)	ug/kg	0.37 U	0.12	0.37	0.92	0.48 U	0.16	0.48	1.2	0.44 U	0.14	0.44	1.1	5161577
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.55 U	0.20	0.55	0.92	0.72 U	0.26	0.72	1.2	0.66 U	0.24	0.66	1.1	5161577
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.55 U	0.16	0.55	0.92	1.7	0.20	0.72	1.2	0.66 U	0.19	0.66	1.1	5161577
Perfluorohexane Sulfonate (PFHxS)	ug/kg	3.1	0.21	0.55	0.92	37	0.28	0.72	1.2	2.1	0.25	0.66	1.1	5161577
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.63 J	0.17	0.55	0.92	7.5	0.23	0.72	1.2	0.72 J	0.21	0.66	1.1	5161577
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.63 J	0.24	0.55	0.92	35	0.31	0.72	1.2	1.3	0.29	0.66	1.1	5161577
Perfluorononanoic Acid (PFNA)	ug/kg	0.63 J	0.16	0.55	0.92	0.72 U	0.20	0.72	1.2	0.66 U	0.19	0.66	1.1	5161577
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.40 J	0.24	0.55	0.92	0.60 J	0.31	0.72	1.2	0.66 U	0.29	0.66	1.1	5161577
Perfluorooctane Sulfonate (PFOS)	ug/kg	110 (1)	1.9	5.5	9.2	7.2	0.25	0.72	1.2	6.7	0.23	0.66	1.1	5161577
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.63 J	0.17	0.55	0.92	1.4	0.22	0.72	1.2	0.66 U	0.20	0.66	1.1	5161577
Perfluorotetradecanoic Acid	ug/kg	0.37 U	0.10	0.37	0.92	0.48 U	0.13	0.48	1.2	0.44 U	0.12	0.44	1.1	5161577
Perfluorotridecanoic Acid	ug/kg	0.37 U	0.11	0.37	0.92	0.48 U	0.14	0.48	1.2	0.44 U	0.13	0.44	1.1	5161577
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.55 U	0.17	0.55	0.92	0.72 U	0.22	0.72	1.2	0.66 U	0.20	0.66	1.1	5161577
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	90				69				76				5161577
13C2-8:2 Fluorotelomer sulfonate	%	76				80				73				5161577
13C2-Perfluorodecanoic acid	%	77				64				71				5161577
13C2-Perfluorododecanoic acid	%	72				62				62				5161577
13C2-Perfluorohexanoic acid	%	72				71				69				5161577
13C2-perfluorotetradecanoic acid	%	64				57				56				5161577
13C2-Perfluoroundecanoic acid	%	74				66				64				5161577
13C4-Perfluorobutanoic acid	%	76				71				67				5161577
13C4-Perfluoroheptanoic acid	%	77				72				70				5161577

DL = Detection Limit
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QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analye, sample required 10x dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU948				FBU949				FBU950				
Sampling Date		2017/09/05 08:25				2017/09/05 09:00				2017/09/05 09:09				
COC Number		na				na				na				
	UNITS	NOZ-1-0.5	DL	LOD	LOQ	NOZ-1-08	DL	LOD	LOQ	NOZ-1-11.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanesulfonate	%	86				66				71				5161577
13C4-Perfluorooctanoic acid	%	78				65				72				5161577
13C5-Perfluorononanoic acid	%	71				66				65				5161577
13C5-Perfluoropentanoic acid	%	78				77				71				5161577
13C8-Perfluorooctane Sulfonamide	%	64				62				59				5161577
18O2-Perfluorohexanesulfonate	%	76				78				62				5161577

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QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
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Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU950				FBU951				FBU952				
Sampling Date		2017/09/05 09:09				2017/09/05 09:09				2017/09/05 09:25				
COC Number		na				na				na				
	UNITS	NOZ-1-11.5 Lab-Dup	DL	LOD	LOQ	NOZ-1-FD	DL	LOD	LOQ	NOZ-2-0.5	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	26	0.50	N/A	1.0	24	0.50	N/A	1.0	27	0.50	N/A	1.0	5161758
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	N/A	0.25	0.66	1.1	0.72 U	0.28	0.72	1.2	7.8 U (1)	3.0	7.8	13	5161577
8:2 Fluorotelomer sulfonate	ug/kg	N/A	0.35	0.66	1.1	0.72 U	0.38	0.72	1.2	17 (1)	4.2	7.8	13	5161577
Perfluorobutane Sulfonate (PFBS)	ug/kg	N/A	0.19	0.66	1.1	0.72 U	0.20	0.72	1.2	7.8 U (1)	2.2	7.8	13	5161577
Perfluorobutanoic acid	ug/kg	N/A	0.25	0.66	1.1	0.72 U	0.28	0.72	1.2	7.8 U (1)	3.0	7.8	13	5161577
Perfluorodecane Sulfonate	ug/kg	N/A	0.25	0.66	1.1	0.72 U	0.28	0.72	1.2	15 (1)	3.0	7.8	13	5161577
Perfluorodecanoic Acid (PFDA)	ug/kg	N/A	0.14	0.44	1.1	0.48 U	0.16	0.48	1.2	5.2 U (1)	1.7	5.2	13	5161577
Perfluorododecanoic Acid (PFDoA)	ug/kg	N/A	0.24	0.66	1.1	0.72 U	0.26	0.72	1.2	7.8 U (1)	2.9	7.8	13	5161577
Perfluoroheptanoic Acid (PFHpA)	ug/kg	N/A	0.19	0.66	1.1	0.72 U	0.20	0.72	1.2	7.8 U (1)	2.2	7.8	13	5161577
Perfluorohexane Sulfonate (PFHxS)	ug/kg	N/A	0.25	0.66	1.1	1.8	0.28	0.72	1.2	16 (1)	3.0	7.8	13	5161577
Perfluorohexanoic Acid (PFHxA)	ug/kg	N/A	0.21	0.66	1.1	0.66 J	0.23	0.72	1.2	5.8 J (1)	2.5	7.8	13	5161577
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	N/A	0.29	0.66	1.1	1.3	0.31	0.72	1.2	7.8 U (1)	3.4	7.8	13	5161577
Perfluorononanoic Acid (PFNA)	ug/kg	N/A	0.19	0.66	1.1	0.72 U	0.20	0.72	1.2	7.8 U (1)	2.2	7.8	13	5161577
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	N/A	0.29	0.66	1.1	0.72 U	0.31	0.72	1.2	21 (1)	3.4	7.8	13	5161577
Perfluorooctane Sulfonate (PFOS)	ug/kg	N/A	0.23	0.66	1.1	4.8	0.25	0.72	1.2	2000 (2)	27	78	130	5161577
Perfluoropentanoic Acid (PFPeA)	ug/kg	N/A	0.20	0.66	1.1	0.72 U	0.22	0.72	1.2	7.8 U (1)	2.3	7.8	13	5161577
Perfluorotetradecanoic Acid	ug/kg	N/A	0.12	0.44	1.1	0.48 U	0.13	0.48	1.2	5.2 U (1)	1.4	5.2	13	5161577
Perfluorotridecanoic Acid	ug/kg	N/A	0.13	0.44	1.1	0.48 U	0.14	0.48	1.2	5.2 U (1)	1.6	5.2	13	5161577
Perfluoroundecanoic Acid (PFUnA)	ug/kg	N/A	0.20	0.66	1.1	0.72 U	0.22	0.72	1.2	7.8 U (1)	2.3	7.8	13	5161577
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	N/A			91				94				5161577	
13C2-8:2 Fluorotelomer sulfonate	%	N/A	N/A	N/A	85				94				5161577	
13C2-Perfluorodecanoic acid	%	N/A	N/A	N/A	72				98				5161577	
13C2-Perfluorododecanoic acid	%	N/A	N/A	N/A	72				102				5161577	
13C2-Perfluorohexanoic acid	%	N/A	N/A	N/A	76				96				5161577	
13C2-perfluorotetradecanoic acid	%	N/A	N/A	N/A	69				97				5161577	
13C2-Perfluoroundecanoic acid	%	N/A	N/A	N/A	71				91				5161577	

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Due to high concentration of the target analye, sample required 10x dilution. Detection limit was adjusted accordingly.
(2) Due to high concentration of the target analye, sample required 100x dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU950				FBU951				FBU952				
Sampling Date		2017/09/05 09:09				2017/09/05 09:09				2017/09/05 09:25				
COC Number		na				na				na				
	UNITS	NOZ-1-11.5 Lab-Dup	DL	LOD	LOQ	NOZ-1-FD	DL	LOD	LOQ	NOZ-2-0.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorobutanoic acid	%	N/A	N/A	N/A		81				93				5161577
13C4-Perfluoroheptanoic acid	%	N/A	N/A	N/A		80				93				5161577
13C4-Perfluorooctanesulfonate	%	N/A	N/A	N/A		79				93				5161577
13C4-Perfluorooctanoic acid	%	N/A	N/A	N/A		77				94				5161577
13C5-Perfluorononanoic acid	%	N/A	N/A	N/A		77				92				5161577
13C5-Perfluoropentanoic acid	%	N/A	N/A	N/A		80				97				5161577
13C8-Perfluorooctane Sulfonamide	%	N/A	N/A	N/A		63				95				5161577
18O2-Perfluorohexanesulfonate	%	N/A	N/A	N/A		78				88				5161577

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QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU953				FBU954				FBU955				
Sampling Date		2017/09/05 09:50				2017/09/05 09:55				2017/09/05 10:20				
COC Number		na				na				na				
	UNITS	NOZ-2-07	DL	LOD	LOQ	NOZ-2-11.5	DL	LOD	LOQ	NOZ-3-0.5	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	18	0.50	N/A	1.0	22	0.50	N/A	1.0	17	0.50	N/A	1.0	5161758
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	95 (1)	2.5	6.6	11	18	0.25	0.66	1.1	7.2 U (1)	2.8	7.2	12	5161577
8:2 Fluorotelomer sulfonate	ug/kg	10 J (1)	3.5	6.6	11	0.53 J	0.35	0.66	1.1	9.8 J (1)	3.8	7.2	12	5161577
Perfluorobutane Sulfonate (PFBS)	ug/kg	190 (1)	1.9	6.6	11	12	0.19	0.66	1.1	7.2 U (1)	2.0	7.2	12	5161577
Perfluorobutanoic acid	ug/kg	25 (1)	2.5	6.6	11	3.7	0.25	0.66	1.1	7.2 U (1)	2.8	7.2	12	5161577
Perfluorodecane Sulfonate	ug/kg	6.6 U (1)	2.5	6.6	11	0.66 U	0.25	0.66	1.1	7.2 J (1)	2.8	7.2	12	5161577
Perfluorodecanoic Acid (PFDA)	ug/kg	4.4 U (1)	1.4	4.4	11	0.44 U	0.14	0.44	1.1	4.8 U (1)	1.6	4.8	12	5161577
Perfluorododecanoic Acid (PFDoA)	ug/kg	6.6 U (1)	2.4	6.6	11	0.66 U	0.24	0.66	1.1	7.2 U (1)	2.6	7.2	12	5161577
Perfluoroheptanoic Acid (PFHpA)	ug/kg	29 (1)	1.9	6.6	11	5.3	0.19	0.66	1.1	7.2 U (1)	2.0	7.2	12	5161577
Perfluorohexane Sulfonate (PFHxS)	ug/kg	890 (2)	25	66	110	79	2.5	6.6	11	11 J (1)	2.8	7.2	12	5161577
Perfluorohexanoic Acid (PFHxA)	ug/kg	190 (1)	2.1	6.6	11	26	0.21	0.66	1.1	7.2 U (1)	2.3	7.2	12	5161577
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	51 (1)	2.9	6.6	11	9.1	0.29	0.66	1.1	7.2 U (1)	3.1	7.2	12	5161577
Perfluorononanoic Acid (PFNA)	ug/kg	8.7 J (1)	1.9	6.6	11	0.61 J	0.19	0.66	1.1	7.2 U (1)	2.0	7.2	12	5161577
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	4.5 J (1)	2.9	6.6	11	0.66 U	0.29	0.66	1.1	8.6 J (1)	3.1	7.2	12	5161577
Perfluorooctane Sulfonate (PFOS)	ug/kg	910 (2)	23	66	110	45	0.23	0.66	1.1	500 (1)	2.5	7.2	12	5161577
Perfluoropentanoic Acid (PFPeA)	ug/kg	54 (1)	2.0	6.6	11	14	0.20	0.66	1.1	7.2 U (1)	2.2	7.2	12	5161577
Perfluorotetradecanoic Acid	ug/kg	4.4 U (1)	1.2	4.4	11	0.44 U	0.12	0.44	1.1	4.8 U (1)	1.3	4.8	12	5161577
Perfluorotridecanoic Acid	ug/kg	4.4 U (1)	1.3	4.4	11	0.44 U	0.13	0.44	1.1	4.8 U (1)	1.4	4.8	12	5161577
Perfluoroundecanoic Acid (PFUnA)	ug/kg	6.6 U (1)	2.0	6.6	11	0.66 U	0.20	0.66	1.1	7.2 U (1)	2.2	7.2	12	5161577
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	107				77				118				5161577
13C2-8:2 Fluorotelomer sulfonate	%	110				79				106				5161577
13C2-Perfluorodecanoic acid	%	100				67				92				5161577
13C2-Perfluorododecanoic acid	%	103				60				97				5161577
13C2-Perfluorohexanoic acid	%	107				70				97				5161577
13C2-perfluorotetradecanoic acid	%	98				60				97				5161577
13C2-Perfluoroundecanoic acid	%	94				60				98				5161577
13C4-Perfluorobutanoic acid	%	100				72				103				5161577

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analye, sample required 10x dilution. Detection limit was adjusted accordingly.
(2) Due to high concentration of the target analye, sample required 100x dilution. Detection limit was adjusted accordingly.

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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
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Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU953				FBU954				FBU955				
Sampling Date		2017/09/05 09:50				2017/09/05 09:55				2017/09/05 10:20				
COC Number		na				na				na				
	UNITS	**NOZ-2-07**	**DL**	**LOD**	**LOQ**	**NOZ-2-11.5**	**DL**	**LOD**	**LOQ**	**NOZ-3-0.5**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluoroheptanoic acid	%	99				74				99				5161577
13C4-Perfluorooctanesulfonate	%	104				64				94				5161577
13C4-Perfluorooctanoic acid	%	111				70				97				5161577
13C5-Perfluorononanoic acid	%	105				73				93				5161577
13C5-Perfluoropentanoic acid	%	107				75				97				5161577
13C8-Perfluorooctane Sulfonamide	%	94				59				98				5161577
18O2-Perfluorohexanesulfonate	%	102				95				94				5161577

DL = Detection Limit
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QC Batch = Quality Control Batch
N/A = Not Applicable

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Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU956				FBU957				
Sampling Date		2017/09/05 10:55				2017/09/05 11:00				
COC Number		na				na				
	UNITS	NOZ-3-7.5	DL	LOD	LOQ	NOZ-3-13.5	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	15	0.50	N/A	1.0	23	0.50	N/A	1.0	5161758
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	230 (1)	2.2	5.8	9.6	100 (1)	2.3	6.0	10	5161577
8:2 Fluorotelomer sulfonate	ug/kg	30 (1)	3.1	5.8	9.6	0.60 U	0.32	0.60	1.0	5161577
Perfluorobutane Sulfonate (PFBS)	ug/kg	60 (1)	1.6	5.8	9.6	11	0.17	0.60	1.0	5161577
Perfluorobutanoic acid	ug/kg	13 (1)	2.2	5.8	9.6	3.6	0.23	0.60	1.0	5161577
Perfluorodecane Sulfonate	ug/kg	5.8 U (1)	2.2	5.8	9.6	0.60 U	0.23	0.60	1.0	5161577
Perfluorodecanoic Acid (PFDA)	ug/kg	3.8 U (1)	1.2	3.8	9.6	0.40 U	0.13	0.40	1.0	5161577
Perfluorododecanoic Acid (PFDoA)	ug/kg	5.8 U (1)	2.1	5.8	9.6	0.60 U	0.22	0.60	1.0	5161577
Perfluoroheptanoic Acid (PFHpA)	ug/kg	17 (1)	1.6	5.8	9.6	7.8	0.17	0.60	1.0	5161577
Perfluorohexane Sulfonate (PFHxS)	ug/kg	440 (1)	2.2	5.8	9.6	130 (1)	2.3	6.0	10	5161577
Perfluorohexanoic Acid (PFHxA)	ug/kg	66 (1)	1.8	5.8	9.6	45	0.19	0.60	1.0	5161577
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	85 (1)	2.5	5.8	9.6	79 (1)	2.6	6.0	10	5161577
Perfluorononanoic Acid (PFNA)	ug/kg	8.4 J (1)	1.6	5.8	9.6	0.60 U	0.17	0.60	1.0	5161577
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	75 (1)	2.5	5.8	9.6	0.65 J	0.26	0.60	1.0	5161577
Perfluorooctane Sulfonate (PFOS)	ug/kg	1400 (2)	20	58	96	4.4	0.21	0.60	1.0	5161577
Perfluoropentanoic Acid (PFPeA)	ug/kg	30 (1)	1.7	5.8	9.6	9.8	0.18	0.60	1.0	5161577
Perfluorotetradecanoic Acid	ug/kg	3.8 U (1)	1.1	3.8	9.6	0.40 U	0.11	0.40	1.0	5161577
Perfluorotridecanoic Acid	ug/kg	3.8 U (1)	1.2	3.8	9.6	0.40 U	0.12	0.40	1.0	5161577
Perfluoroundecanoic Acid (PFUnA)	ug/kg	5.8 U (1)	1.7	5.8	9.6	0.60 U	0.18	0.60	1.0	5161577
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	105				108				5161577
13C2-8:2 Fluorotelomer sulfonate	%	98				82				5161577
13C2-Perfluorodecanoic acid	%	101				66				5161577
13C2-Perfluorododecanoic acid	%	100				65				5161577
13C2-Perfluorohexanoic acid	%	99				68				5161577
13C2-perfluorotetradecanoic acid	%	104				60				5161577
13C2-Perfluoroundecanoic acid	%	98				61				5161577

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentration of the target analye, sample required 10x dilution. Detection limit was adjusted accordingly.

(2) Due to high concentration of the target analye, sample required 100x dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU956				FBU957				
Sampling Date		2017/09/05 10:55				2017/09/05 11:00				
COC Number		na				na				
	UNITS	NOZ-3-7.5	DL	LOD	LOQ	NOZ-3-13.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorobutanoic acid	%	91				70				5161577
13C4-Perfluoroheptanoic acid	%	96				66				5161577
13C4-Perfluorooctanesulfonate	%	100				91				5161577
13C4-Perfluorooctanoic acid	%	98				68				5161577
13C5-Perfluorononanoic acid	%	94				68				5161577
13C5-Perfluoropentanoic acid	%	100				70				5161577
13C8-Perfluorooctane Sulfonamide	%	98				60				5161577
18O2-Perfluorohexanesulfonate	%	88				110				5161577

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF WATER

Maxxam ID		FBU947	FBU961				
Sampling Date		2017/09/05 07:38	2017/09/05 12:20				
COC Number		na	na				
	UNITS	EQB3-090517	EQB4-090517	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters							
6:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.010 U	0.0032	0.010	0.020	5158366
8:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.010 U	0.0036	0.010	0.020	5158366
Perfluorobutanoic acid	ug/L	0.010 U	0.010 U	0.0043	0.010	0.020	5158366
Perfluorobutane Sulfonate (PFBS)	ug/L	0.010 U	0.010 U	0.0048	0.010	0.020	5158366
Perfluorodecane Sulfonate	ug/L	0.010 U	0.010 U	0.0046	0.010	0.020	5158366
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.010 U	0.010 U	0.0033	0.010	0.020	5158366
Perfluorohexanoic Acid (PFHxA)	ug/L	0.010 U	0.010 U	0.0029	0.010	0.020	5158366
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.010 U	0.010 U	0.0034	0.010	0.020	5158366
Perfluorononanoic Acid (PFNA)	ug/L	0.010 U	0.010 U	0.0038	0.010	0.020	5158366
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.010 U	0.0036	0.010	0.020	5158366
Perfluoropentanoic Acid (PFPeA)	ug/L	0.010 U	0.010 U	0.0027	0.010	0.020	5158366
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.010 U	0.0038	0.010	0.020	5158366
Perfluorotridecanoic Acid	ug/L	0.010 U	0.010 U	0.0033	0.010	0.020	5158366
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.010 U	0.0043	0.010	0.020	5158366
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.010 U	0.0040	0.010	0.020	5158366
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.010 U	0.0028	0.010	0.020	5158366
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.010 U	0.010 U	0.0046	0.010	0.020	5158366
Perfluorooctane Sulfonate (PFOS)	ug/L	0.010 U	0.010 U	0.0026	0.010	0.020	5158366
Surrogate Recovery (%)							
13C2-6:2 Fluorotelomer sulfonate	%	104	79				5158366
13C2-8:2 Fluorotelomer sulfonate	%	103	80				5158366
13C2-Perfluorodecanoic acid	%	91	75				5158366
13C2-Perfluorododecanoic acid	%	74	66				5158366
13C2-Perfluorohexanoic acid	%	92	82				5158366
13C2-perfluorotetradecanoic acid	%	76	66				5158366
13C2-Perfluoroundecanoic acid	%	84	72				5158366
13C4-Perfluorobutanoic acid	%	84	85				5158366
13C4-Perfluoroheptanoic acid	%	92	82				5158366
13C4-Perfluorooctanesulfonate	%	105	91				5158366
13C4-Perfluorooctanoic acid	%	96	86				5158366
13C5-Perfluorononanoic acid	%	90	86				5158366

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF WATER

Maxxam ID		FBU947	FBU961				
Sampling Date		2017/09/05 07:38	2017/09/05 12:20				
COC Number		na	na				
	UNITS	**EQB3-090517**	**EQB4-090517**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C5-Perfluoropentanoic acid	%	87	80				5158366
13C8-Perfluorooctane Sulfonamide	%	78	74				5158366
18O2-Perfluorohexanesulfonate	%	102	91				5158366

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBU947 **Collected:** 2017/09/05
Sample ID: EQB3-090517 **Shipped:**
Matrix: Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

Maxxam ID: FBU948 **Collected:** 2017/09/05
Sample ID: NOZ-1-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161577	2017/09/13	2017/09/19	Anjan Desai

Maxxam ID: FBU949 **Collected:** 2017/09/05
Sample ID: NOZ-1-08 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161577	2017/09/13	2017/09/19	Anjan Desai

Maxxam ID: FBU950 **Collected:** 2017/09/05
Sample ID: NOZ-1-11.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161577	2017/09/13	2017/09/19	Anjan Desai

Maxxam ID: FBU950 Dup **Collected:** 2017/09/05
Sample ID: NOZ-1-11.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan

Maxxam ID: FBU951 **Collected:** 2017/09/05
Sample ID: NOZ-1-FD **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161577	2017/09/13	2017/09/19	Anjan Desai

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBU952 **Collected:** 2017/09/05
Sample ID: NOZ-2-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161577	2017/09/13	2017/09/19	Anjan Desai

Maxxam ID: FBU953 **Collected:** 2017/09/05
Sample ID: NOZ-2-07 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161577	2017/09/13	2017/09/19	Anjan Desai

Maxxam ID: FBU954 **Collected:** 2017/09/05
Sample ID: NOZ-2-11.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161577	2017/09/13	2017/09/21	Anjan Desai

Maxxam ID: FBU955 **Collected:** 2017/09/05
Sample ID: NOZ-3-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161577	2017/09/13	2017/09/21	Anjan Desai

Maxxam ID: FBU956 **Collected:** 2017/09/05
Sample ID: NOZ-3-7.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161577	2017/09/13	2017/09/21	Anjan Desai

Maxxam ID: FBU957 **Collected:** 2017/09/05
Sample ID: NOZ-3-13.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161577	2017/09/13	2017/09/19	Anjan Desai

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBU958 **Collected:** 2017/09/05
Sample ID: NOZ-3-W15 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5160314	2017/09/12	2017/09/15	Anjan Desai

Maxxam ID: FBU958 Dup **Collected:** 2017/09/05
Sample ID: NOZ-3-W15 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5160314	2017/09/12	2017/09/15	Anjan Desai

Maxxam ID: FBU959 **Collected:** 2017/09/05
Sample ID: NOZ-2-W16 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

Maxxam ID: FBU960 **Collected:** 2017/09/05
Sample ID: NOZ-1-W14 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

Maxxam ID: FBU961 **Collected:** 2017/09/05
Sample ID: EQB4-090517 **Shipped:**
Matrix: Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.9°C
Package 3	2.5°C
Package 4	1.7°C

Sample FBU958, PFOS and PFOA in water by SPE/LCMS: Test repeated.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5158366	M_G	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		82	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		92	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		98	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		80	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		87	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		93	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		88	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		93	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		104	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		114	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		108	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		87	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		103	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		103	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		104	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		108	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		93	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		98	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		100	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		105	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		99	%	70 - 130
5158366	M_G	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		83	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		96	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		99	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		89	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		89	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		92	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		97	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		103	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		101	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		118	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		106	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		99	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		108	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		111	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		105	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		105	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		107	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		103	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		101	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		108	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		108	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		105	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		114	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		105	%	70 - 130
5158366	M_G	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/24	8.1		%	30
			8:2 Fluorotelomer sulfonate	2017/09/24	2.6		%	30
			Perfluorobutanoic acid	2017/09/24	3.5		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/24	1.4		%	30
			Perfluorodecane Sulfonate	2017/09/24	13		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24	5.1		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/24	7.7		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24	0.93		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/24	0.085		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24	5.5		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/24	1.1		%	30
			Perfluorotetradecanoic Acid	2017/09/24	10		%	30
			Perfluorotridecanoic Acid	2017/09/24	2.5		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24	1.3		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/24	5.8		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/24	5.4		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24	7.6		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/24	5.9		%	30
5158366	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		98	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		100	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		93	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		102	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		94	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		97	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		101	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		101	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		103	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		103	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		102	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		95	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		105	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		101	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		110	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		104	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		103	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		110	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		108	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		106	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		104	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		110	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		104	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		104	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		115	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		106	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		108	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		111	%	70 - 130
5158366	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		105	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		101	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		94	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		84	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		99	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		79	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		78	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		103	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		94	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		102	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		100	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		96	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		114	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/24	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
5160314	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/15		102	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/15		98	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/15		93	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/15		92	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/15		88	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/15		100	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/15		92	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15		99	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/15		99	%	70 - 130
5160314	AD9	Spiked Blank DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/15		91	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/15		90	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/15		88	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/15		97	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/15		98	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/15		92	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/15		98	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15		91	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/15		95	%	70 - 130
5160314	AD9	RPD	6:2 Fluorotelomer sulfonate	2017/09/15	10		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/15	8.4		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/15	6.2		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15	8.4		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	3.5		%	30
5160314	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/15		91	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/15		93	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/15		88	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/15		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/15	0.40 U, LOD=0.40		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/15	0.40 U, LOD=0.40		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/15	0.40 U, LOD=0.40		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15	0.50 U, LOD=0.50		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	0.40 U, LOD=0.40		ug/L	
5160314	AD9	RPD - Sample/Sample Dup	6:2 Fluorotelomer sulfonate	2017/09/15	2.6 (1)		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/15	3.5 (1)		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/15	13 (1)		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15	5.4 (1)		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	3.6 (2)		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	2.7		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	18		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15	6.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	10		%	30
5161577	AD9	Matrix Spike(FBU952)	13C2-6:2 Fluorotelomer sulfonate	2017/09/19		NC	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/19		NC	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/19		NC	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/19		NC	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/19		NC	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/19		NC	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/19		NC	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/19		NC	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/19		NC	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/19		NC	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/19		NC	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/19		NC	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/19		NC	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/19		NC	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/19		NC	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/19		NC	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/19		NC	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/19		NC	%	70 - 130
			Perfluorobutanoic acid	2017/09/19		NC	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/19		NC	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/19		NC	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/19		NC	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/19		NC	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/19		NC	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/19		NC	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/19		NC	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/19		NC	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/19		NC	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/19		NC	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/19		NC	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/19		NC	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/19		NC	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/19		NC	%	70 - 130
5161577	AD9	Matrix Spike DUP(FBU952)	13C2-6:2 Fluorotelomer sulfonate	2017/09/19		NC	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/19		NC	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/19		NC	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/19		NC	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/19		NC	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/19		NC	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/19		NC	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/19		NC	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/19		NC	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/19		NC	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/19		NC	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/19		NC	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/19		NC	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/19		NC	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/19		NC	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/19		NC	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/19		NC	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutane Sulfonate (PFBS)	2017/09/19		NC	%	70 - 130
			Perfluorobutanoic acid	2017/09/19		NC	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/19		NC	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/19		NC	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/19		NC	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/19		NC	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/19		NC	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/19		NC	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/19		NC	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/19		NC	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/19		NC	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/19		NC	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/19		NC	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/19		NC	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/19		NC	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/19		NC	%	70 - 130
5161577	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/19	NC		%	30
			8:2 Fluorotelomer sulfonate	2017/09/19	NC		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/19	NC		%	30
			Perfluorobutanoic acid	2017/09/19	NC		%	30
			Perfluorodecane Sulfonate	2017/09/19	NC		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/19	NC		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/19	NC		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/19	NC		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/19	NC		%	25
			Perfluorotetradecanoic Acid	2017/09/19	NC		%	30
			Perfluorotridecanoic Acid	2017/09/19	NC		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/19	NC		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/19	NC		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/19	NC		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/19	NC		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/19	NC		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/19	NC		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/19	NC		%	30
5161577	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/19		83	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/19		85	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/19		82	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/19		79	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/19		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/19		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/19		80	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/19		79	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/19		80	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/19		79	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/19		83	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/19		83	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/19		85	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/19		74	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/19		78	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/19		91	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/19		88	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/19		98	%	70 - 130
			Perfluorobutanoic acid	2017/09/19		90	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/09/19		82	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/19		90	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/19		89	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/19		83	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/19		90	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/19		88	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/19		88	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/19		92	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/19		87	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/19		96	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/19		84	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/19		87	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/19		94	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/19		86	%	70 - 130
5161577	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/19		91	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/19		95	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/19		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/19		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/19		87	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/19		74	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/19		83	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/19		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/19		83	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/19		84	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/19		89	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/19		80	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/19		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/19		73	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/19		85	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/19	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/19	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/19	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/19	0.60 U, LOD=0.60		ug/kg	

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroheptanoic Acid (PFHpA)	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/19	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/19	0.60 U, LOD=0.60		ug/kg	
5161758	GYA	RPD - Sample/Sample Dup	Moisture	2017/09/13	0.78		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

(1) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.Post spike sample recovery is not applicable due to native concentration.

(2) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.Post spike sample recovery is not applicable due to native concentration..

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Maxxam Job #: B7J4892
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Colm McNamara, Senior Analyst, Liquid Chromatography

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/15
Report #: R4706012
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4895
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	2	2017/09/12	2017/09/14	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	6	N/A	2017/09/13	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	6	2017/09/12	2017/09/14	CAM SOP-00894	EPA537 m

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	1	2017/09/12	2017/09/14	CAM SOP-00894	EPA 537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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Maxxam
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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/15
Report #: R4706012
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4895
Received: 2017/09/07, 15:11

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
15 Sep 2017 16:36:09

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7J4895
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBU971				FBU972				
Sampling Date		2017/09/04 15:05				2017/09/04 15:00				
COC Number		na				na				
	UNITS	88C5-3-W06	DL	LOD	LOQ	88C5-1-W06	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/L	0.088	0.0032	0.010	0.020	0.24	0.0032	0.010	0.020	5159684
8:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0036	0.010	0.020	0.010 U	0.0036	0.010	0.020	5159684
Perfluorobutane Sulfonate (PFBS)	ug/L	0.70	0.0048	0.010	0.020	0.21	0.0048	0.010	0.020	5159684
Perfluorobutanoic acid	ug/L	0.29	0.0043	0.010	0.020	0.11	0.0043	0.010	0.020	5159684
Perfluorodecane Sulfonate	ug/L	0.010 U	0.0046	0.010	0.020	0.010 U	0.0046	0.010	0.020	5159684
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.0040	0.010	0.020	0.010 U	0.0040	0.010	0.020	5159684
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.0028	0.010	0.020	0.010 U	0.0028	0.010	0.020	5159684
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.41	0.0033	0.010	0.020	0.12	0.0033	0.010	0.020	5159684
Perfluorohexane Sulfonate (PFHxS)	ug/L	4.5 (1)	0.034	0.10	0.20	1.7 (1)	0.034	0.10	0.20	5159684
Perfluorohexanoic Acid (PFHxA)	ug/L	2.1 (1)	0.029	0.10	0.20	0.65	0.0029	0.010	0.020	5159684
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.88	0.0046	0.010	0.020	0.25	0.0046	0.010	0.020	5159684
Perfluorononanoic Acid (PFNA)	ug/L	0.026	0.0038	0.010	0.020	0.010 U	0.0038	0.010	0.020	5159684
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.0036	0.010	0.020	0.0044 J	0.0036	0.010	0.020	5159684
Perfluorooctane Sulfonate (PFOS)	ug/L	0.71	0.0026	0.010	0.020	0.23	0.0026	0.010	0.020	5159684
Perfluoropentanoic Acid (PFPeA)	ug/L	0.78	0.0027	0.010	0.020	0.26	0.0027	0.010	0.020	5159684
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	0.010 U	0.0038	0.010	0.020	5159684
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0033	0.010	0.020	0.010 U	0.0033	0.010	0.020	5159684
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0043	0.010	0.020	0.010 U	0.0043	0.010	0.020	5159684
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	93				97				5159684
13C2-8:2 Fluorotelomer sulfonate	%	102				91				5159684
13C2-Perfluorodecanoic acid	%	93				87				5159684
13C2-Perfluorododecanoic acid	%	78				78				5159684
13C2-Perfluorohexanoic acid	%	88				87				5159684
13C2-perfluorotetradecanoic acid	%	64				75				5159684
13C2-Perfluoroundecanoic acid	%	85				76				5159684
13C4-Perfluorobutanoic acid	%	78				58				5159684
13C4-Perfluoroheptanoic acid	%	88				85				5159684
13C4-Perfluorooctanesulfonate	%	92				95				5159684

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

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Maxxam Job #: B7J4895
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBU971				FBU972				
Sampling Date		2017/09/04 15:05				2017/09/04 15:00				
COC Number		na				na				
	UNITS	88C5-3-W06	DL	LOD	LOQ	88C5-1-W06	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	96				89				5159684
13C5-Perfluorononanoic acid	%	92				93				5159684
13C5-Perfluoropentanoic acid	%	95				72				5159684
13C8-Perfluorooctane Sulfonamide	%	86				76				5159684
18O2-Perfluorohexanesulfonate	%	83				76				5159684

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4895
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU964				FBU965				FBU966				
Sampling Date		2017/09/04 14:05				2017/09/04 14:35				2017/09/04 14:40				
COC Number		na				na				na				
	UNITS	88C5-3-0.5	DL	LOD	LOQ	88C5-3-05	DL	LOD	LOQ	88C5-3-09	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	12	0.50	N/A	1.0	27	0.50	N/A	1.0	29	0.50	N/A	1.0	5161758
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	0.56 U	0.22	0.56	0.94	0.72 U	0.28	0.72	1.2	0.66 U	0.25	0.66	1.1	5159467
8:2 Fluorotelomer sulfonate	ug/kg	0.56 U	0.30	0.56	0.94	0.72 U	0.38	0.72	1.2	0.66 U	0.35	0.66	1.1	5159467
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.56 U	0.16	0.56	0.94	0.29 J	0.20	0.72	1.2	0.36 J	0.19	0.66	1.1	5159467
Perfluorobutanoic acid	ug/kg	0.56 U	0.22	0.56	0.94	0.72 U	0.28	0.72	1.2	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecane Sulfonate	ug/kg	0.56 U	0.22	0.56	0.94	0.72 U	0.28	0.72	1.2	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecanoic Acid (PFDA)	ug/kg	0.38 U	0.12	0.38	0.94	0.48 U	0.16	0.48	1.2	0.44 U	0.14	0.44	1.1	5159467
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.56 U	0.21	0.56	0.94	0.72 U	0.26	0.72	1.2	0.66 U	0.24	0.66	1.1	5159467
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.56 U	0.16	0.56	0.94	0.72 U	0.20	0.72	1.2	0.66 U	0.19	0.66	1.1	5159467
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.63 J	0.22	0.56	0.94	1.7	0.28	0.72	1.2	1.2	0.25	0.66	1.1	5159467
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.56 U	0.18	0.56	0.94	0.87 J	0.23	0.72	1.2	0.48 J	0.21	0.66	1.1	5159467
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.40 J	0.24	0.56	0.94	0.45 J	0.31	0.72	1.2	0.66 U	0.29	0.66	1.1	5159467
Perfluorononanoic Acid (PFNA)	ug/kg	1.2	0.16	0.56	0.94	0.72 U	0.20	0.72	1.2	0.66 U	0.19	0.66	1.1	5159467
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.56 U	0.24	0.56	0.94	0.72 U	0.31	0.72	1.2	0.66 U	0.29	0.66	1.1	5159467
Perfluorooctane Sulfonate (PFOS)	ug/kg	22	0.20	0.56	0.94	0.31 J	0.25	0.72	1.2	0.78 J	0.23	0.66	1.1	5159467
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.56 U	0.17	0.56	0.94	0.72 U	0.22	0.72	1.2	0.66 U	0.20	0.66	1.1	5159467
Perfluorotetradecanoic Acid	ug/kg	0.38 U	0.10	0.38	0.94	0.48 U	0.13	0.48	1.2	0.44 U	0.12	0.44	1.1	5159467
Perfluorotridecanoic Acid	ug/kg	0.38 U	0.11	0.38	0.94	0.48 U	0.14	0.48	1.2	0.44 U	0.13	0.44	1.1	5159467
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.56 U	0.17	0.56	0.94	0.72 U	0.22	0.72	1.2	0.66 U	0.20	0.66	1.1	5159467
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	75				113				93				5159467
13C2-8:2 Fluorotelomer sulfonate	%	73				92				87				5159467
13C2-Perfluorodecanoic acid	%	79				95				88				5159467
13C2-Perfluorododecanoic acid	%	70				89				81				5159467
13C2-Perfluorohexanoic acid	%	89				103				88				5159467
13C2-perfluorotetradecanoic acid	%	53				93				84				5159467
13C2-Perfluoroundecanoic acid	%	78				100				90				5159467
13C4-Perfluorobutanoic acid	%	82				105				93				5159467
13C4-Perfluoroheptanoic acid	%	88				98				94				5159467
13C4-Perfluorooctanesulfonate	%	71				97				86				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4895
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU964				FBU965				FBU966				
Sampling Date		2017/09/04 14:05				2017/09/04 14:35				2017/09/04 14:40				
COC Number		na				na				na				
	UNITS	**88C5-3-0.5**	**DL**	**LOD**	**LOQ**	**88C5-3-05**	**DL**	**LOD**	**LOQ**	**88C5-3-09**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	88				98				93				5159467
13C5-Perfluorononanoic acid	%	87				98				86				5159467
13C5-Perfluoropentanoic acid	%	91				103				92				5159467
13C8-Perfluorooctane Sulfonamide	%	79				93				85				5159467
18O2-Perfluorohexanesulfonate	%	77				117				84				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7J4895
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU967					FBU968	FBU969				
Sampling Date		2017/09/04 13:55					2017/09/04 14:30	2017/09/04 14:38				
COC Number		na					na	na				
	UNITS	88C5-1-0.5	DL	LOD	LOQ	QC Batch	88C5-1-5.5	88C5-1-8.5	DL	LOD	LOQ	QC Batch
Inorganics												
Moisture	%	2.8	0.50	N/A	1.0	5161812	26	24	0.50	N/A	1.0	5161758
Miscellaneous Parameters												
6:2 Fluorotelomer sulfonate	ug/kg	0.58 U	0.22	0.58	0.96	5159467	3.1	1.7	0.28	0.72	1.2	5159467
8:2 Fluorotelomer sulfonate	ug/kg	0.58 U	0.31	0.58	0.96	5159467	0.72 U	0.72 U	0.38	0.72	1.2	5159467
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.58 U	0.16	0.58	0.96	5159467	4.7	2.4	0.20	0.72	1.2	5159467
Perfluorobutanoic acid	ug/kg	0.58 U	0.22	0.58	0.96	5159467	1.1 J	0.53 J	0.28	0.72	1.2	5159467
Perfluorodecane Sulfonate	ug/kg	0.46 J	0.22	0.58	0.96	5159467	0.72 U	0.72 U	0.28	0.72	1.2	5159467
Perfluorodecanoic Acid (PFDA)	ug/kg	0.38 U	0.12	0.38	0.96	5159467	0.48 U	0.48 U	0.16	0.48	1.2	5159467
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.58 U	0.21	0.58	0.96	5159467	0.72 U	0.72 U	0.26	0.72	1.2	5159467
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.58 U	0.16	0.58	0.96	5159467	1.3	0.36 J	0.20	0.72	1.2	5159467
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.31 J	0.22	0.58	0.96	5159467	26	12	0.28	0.72	1.2	5159467
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.58 U	0.18	0.58	0.96	5159467	6.4	3.1	0.23	0.72	1.2	5159467
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.58 U	0.25	0.58	0.96	5159467	2.7	1.3	0.31	0.72	1.2	5159467
Perfluorononanoic Acid (PFNA)	ug/kg	0.58 U	0.16	0.58	0.96	5159467	0.72 U	0.72 U	0.20	0.72	1.2	5159467
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.58 U	0.25	0.58	0.96	5159467	1.7	0.72 U	0.31	0.72	1.2	5159467
Perfluorooctane Sulfonate (PFOS)	ug/kg	24	0.20	0.58	0.96	5159467	11	4.1	0.25	0.72	1.2	5159467
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.52 J	0.17	0.58	0.96	5159467	2.8	1.1 J	0.22	0.72	1.2	5159467
Perfluorotetradecanoic Acid	ug/kg	0.38 U	0.11	0.38	0.96	5159467	0.48 U	0.48 U	0.13	0.48	1.2	5159467
Perfluorotridecanoic Acid	ug/kg	0.38 U	0.12	0.38	0.96	5159467	0.48 U	0.48 U	0.14	0.48	1.2	5159467
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.58 U	0.17	0.58	0.96	5159467	0.72 U	0.72 U	0.22	0.72	1.2	5159467
Surrogate Recovery (%)												
13C2-6:2 Fluorotelomer sulfonate	%	109				5159467	67	85				5159467
13C2-8:2 Fluorotelomer sulfonate	%	106				5159467	63	82				5159467
13C2-Perfluorodecanoic acid	%	74				5159467	69	80				5159467
13C2-Perfluorododecanoic acid	%	79				5159467	66	78				5159467
13C2-Perfluorohexanoic acid	%	81				5159467	74	87				5159467
13C2-perfluorotetradecanoic acid	%	82				5159467	63	68				5159467
13C2-Perfluoroundecanoic acid	%	88				5159467	67	74				5159467
13C4-Perfluorobutanoic acid	%	83				5159467	72	86				5159467
13C4-Perfluoroheptanoic acid	%	82				5159467	72	89				5159467
13C4-Perfluorooctanesulfonate	%	82				5159467	62	75				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4895
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU967					FBU968	FBU969				
Sampling Date		2017/09/04 13:55					2017/09/04 14:30	2017/09/04 14:38				
COC Number		na					na	na				
	UNITS	88C5-1-0.5	DL	LOD	LOQ	QC Batch	88C5-1-5.5	88C5-1-8.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	79				5159467	71	83				5159467
13C5-Perfluorononanoic acid	%	81				5159467	69	85				5159467
13C5-Perfluoropentanoic acid	%	86				5159467	69	89				5159467
13C8-Perfluorooctane Sulfonamide	%	79				5159467	69	73				5159467
18O2-Perfluorohexanesulfonate	%	86				5159467	63	84				5159467

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N/A = Not Applicable

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Maxxam Job #: B7J4895
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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF WATER

Maxxam ID		FBU970				
Sampling Date		2017/09/04 16:30				
COC Number		na				
	UNITS	EQB2-090417	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0032	0.010	0.020	5159684
8:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0036	0.010	0.020	5159684
Perfluorobutane Sulfonate (PFBS)	ug/L	0.010 U	0.0048	0.010	0.020	5159684
Perfluorobutanoic acid	ug/L	0.010 U	0.0043	0.010	0.020	5159684
Perfluorodecane Sulfonate	ug/L	0.010 U	0.0046	0.010	0.020	5159684
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.0040	0.010	0.020	5159684
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.0028	0.010	0.020	5159684
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.010 U	0.0033	0.010	0.020	5159684
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.010 U	0.0034	0.010	0.020	5159684
Perfluorohexanoic Acid (PFHxA)	ug/L	0.010 U	0.0029	0.010	0.020	5159684
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.010 U	0.0046	0.010	0.020	5159684
Perfluorononanoic Acid (PFNA)	ug/L	0.010 U	0.0038	0.010	0.020	5159684
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.0036	0.010	0.020	5159684
Perfluorooctane Sulfonate (PFOS)	ug/L	0.010 U	0.0026	0.010	0.020	5159684
Perfluoropentanoic Acid (PFPeA)	ug/L	0.010 U	0.0027	0.010	0.020	5159684
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	5159684
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0033	0.010	0.020	5159684
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0043	0.010	0.020	5159684
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	95				5159684
13C2-8:2 Fluorotelomer sulfonate	%	89				5159684
13C2-Perfluorodecanoic acid	%	90				5159684
13C2-Perfluorododecanoic acid	%	85				5159684
13C2-Perfluorohexanoic acid	%	88				5159684
13C2-perfluorotetradecanoic acid	%	83				5159684
13C2-Perfluoroundecanoic acid	%	80				5159684
13C4-Perfluorobutanoic acid	%	94				5159684
13C4-Perfluoroheptanoic acid	%	95				5159684
13C4-Perfluorooctanesulfonate	%	91				5159684
13C4-Perfluorooctanoic acid	%	85				5159684
13C5-Perfluorononanoic acid	%	91				5159684

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Oneida Total Integrated Enterprises
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RESULTS OF ANALYSES OF WATER

Maxxam ID		FBU970				
Sampling Date		2017/09/04 16:30				
COC Number		na				
	UNITS	**EQB2-090417**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C5-Perfluoropentanoic acid	%	92				5159684
13C8-Perfluorooctane Sulfonamide	%	83				5159684
18O2-Perfluorohexanesulfonate	%	90				5159684

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Maxxam Job #: B7J4895
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBU964
Sample ID: 88C5-3-0.5
Matrix: Soil

Collected: 2017/09/04
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU965
Sample ID: 88C5-3-05
Matrix: Soil

Collected: 2017/09/04
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU966
Sample ID: 88C5-3-09
Matrix: Soil

Collected: 2017/09/04
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU967
Sample ID: 88C5-1-0.5
Matrix: Soil

Collected: 2017/09/04
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161812	N/A	2017/09/13	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU968
Sample ID: 88C5-1-5.5
Matrix: Soil

Collected: 2017/09/04
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU969
Sample ID: 88C5-1-8.5
Matrix: Soil

Collected: 2017/09/04
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

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Maxxam Job #: B7J4895
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBU970 **Collected:** 2017/09/04
Sample ID: EQB2-090417 **Shipped:**
Matrix: Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159684	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU971 **Collected:** 2017/09/04
Sample ID: 88C5-3-W06 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159684	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU972 **Collected:** 2017/09/04
Sample ID: 88C5-1-W06 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159684	2017/09/12	2017/09/14	Anjan Desai

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Maxxam Job #: B7J4895
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.9°C
Package 3	2.5°C
Package 4	1.7°C

Results relate only to the items tested.

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Maxxam Job #: B7J4895
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5159467	AD9	Matrix Spike(FBU964)	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		84	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		87	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		79	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		50	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		88	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		86	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		89	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		82	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		86	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		105	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		105	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		110	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		109	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		116	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		108	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		103	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		107	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		114	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		154 (1)	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		107	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		105	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		109	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		111	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		104	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		116	%	70 - 130
5159467	AD9	Matrix Spike DUP(FBU964)	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		94	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		84	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		62	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		87	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		91	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		87	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		83	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		89	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		122	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		103	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		116	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		110	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecanoic Acid (PFDA)	2017/09/14		119	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		114	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		108	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		109	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		120	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		139 (2)	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		109	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		106	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		111	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		109	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		133 (2)	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		116	%	70 - 130
5159467	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/14	10		%	30
			8:2 Fluorotelomer sulfonate	2017/09/14	11		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	2.0		%	30
			Perfluorobutanoic acid	2017/09/14	5.5		%	30
			Perfluorodecane Sulfonate	2017/09/14	1.0		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/14	2.1		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	6.1		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/14	5.1		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	1.7		%	25
			Perfluorotetradecanoic Acid	2017/09/14	5.4		%	30
			Perfluorotridecanoic Acid	2017/09/14	9.8		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	9.1		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	2.0		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	0.35		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	1.1		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	1.4		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	25		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	0.21		%	30
5159467	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		87	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		90	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		76	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		82	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		92	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		99	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		81	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		86	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		114	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		114	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		115	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		114	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		123	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		129	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		118	%	70 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorononanoic Acid (PFNA)	2017/09/14		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		114	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		120	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		125	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		107	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		112	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		112	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		106	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		110	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		111	%	70 - 130
5159467	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		113	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		106	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		99	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		96	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		108	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		87	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		99	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		108	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		113	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		109	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		114	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		107	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		106	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		97	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		103	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
5159684	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		95	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		101	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		97	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		82	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		92	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		97	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		98	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		92	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		91	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		91	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		84	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		100	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		106	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		108	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		105	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		111	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		96	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		104	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		97	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		106	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		114	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		107	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		114	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		101	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		121	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		112	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		101	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		106	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		112	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		106	%	70 - 130
5159684	AD9	Spiked Blank DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		98	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		98	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		87	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		90	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		96	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		92	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		90	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluorooctanoic acid	2017/09/14		96	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		95	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		88	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		96	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		99	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		106	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		109	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		108	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		103	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		108	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		104	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		112	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		107	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		112	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		106	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		122	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		98	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		115	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		109	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		112	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		115	%	70 - 130
5159684	AD9	RPD	6:2 Fluorotelomer sulfonate	2017/09/14	6.7		%	30
			8:2 Fluorotelomer sulfonate	2017/09/14	1.8		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	4.0		%	30
			Perfluorobutanoic acid	2017/09/14	2.9		%	30
			Perfluorodecane Sulfonate	2017/09/14	6.8		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	4.3		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	6.9		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	6.0		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/14	1.3		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	0.81		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	2.2		%	30
			Perfluorotetradecanoic Acid	2017/09/14	4.6		%	30
			Perfluorotridecanoic Acid	2017/09/14	1.1		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	13		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/14	13		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	2.4		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	0.67		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	8.0		%	30
5159684	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		99	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		94	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		73	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		69	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		76	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		91	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		91	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		80	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		90	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		90	%	50 - 150

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Maxxam Job #: B7J4895
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C5-Perfluoropentanoic acid	2017/09/14		86	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		83	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	0.0048 J, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	0.010 U, LOD=0.010		ug/L	
5161758	GYA	RPD - Sample/Sample Dup	Moisture	2017/09/13	0.78		%	20
5161812	GYA	RPD - Sample/Sample Dup	Moisture	2017/09/13	13		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) Recovery of the matrix spike was above the upper control limit. Laboratory spiked soil resulted in satisfactory recovery of the compound of interest. When considered together, these QC data suggest that matrix interferences may be biasing the data high. For results that were not detected (ND), this potential bias has no impact.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Maxxam Job #: B7J4895
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Cristina Carriere, Scientific Service Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/15
Report #: R4706437
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4898
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	2	2017/09/12	2017/09/14	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	1	N/A	2017/09/12	CAM SOP-00445	Carter 2nd ed 51.2 m
Moisture	6	N/A	2017/09/13	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	7	2017/09/12	2017/09/14	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/15
Report #: R4706437
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4898
Received: 2017/09/07, 15:11

Encryption Key

Stephanie Pollen
Project Manager
15 Sep 2017 16:40:41

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

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Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7J4898
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBU988				FBU989				
Sampling Date		2017/09/04 15:55				2017/09/04 16:00				
COC Number		na				na				
	UNITS	LATE80S-1-W09	DL	LOD	LOQ	LATE80S-3-W11	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/L	0.13 (1)	0.0064	0.020	0.040	0.010 U	0.0032	0.010	0.020	5159684
8:2 Fluorotelomer sulfonate	ug/L	0.020 U (1)	0.0072	0.020	0.040	0.010 U	0.0036	0.010	0.020	5159684
Perfluorobutane Sulfonate (PFBS)	ug/L	0.93 (1)	0.0096	0.020	0.040	0.18	0.0048	0.010	0.020	5159684
Perfluorobutanoic acid	ug/L	0.34 (1)	0.0086	0.020	0.040	0.14	0.0043	0.010	0.020	5159684
Perfluorodecane Sulfonate	ug/L	0.020 U (1)	0.0092	0.020	0.040	0.010 U	0.0046	0.010	0.020	5159684
Perfluorodecanoic Acid (PFDA)	ug/L	0.020 U (1)	0.0080	0.020	0.040	0.010 U	0.0040	0.010	0.020	5159684
Perfluorododecanoic Acid (PFDoA)	ug/L	0.020 U (1)	0.0056	0.020	0.040	0.010 U	0.0028	0.010	0.020	5159684
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.29 (1)	0.0066	0.020	0.040	0.063	0.0033	0.010	0.020	5159684
Perfluorohexane Sulfonate (PFHxS)	ug/L	5.7 (2)	0.068	0.20	0.40	1.3 (3)	0.034	0.10	0.20	5159684
Perfluorohexanoic Acid (PFHxA)	ug/L	1.1 (1)	0.0058	0.020	0.040	0.22	0.0029	0.010	0.020	5159684
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.37 (1)	0.0092	0.020	0.040	0.15	0.0046	0.010	0.020	5159684
Perfluorononanoic Acid (PFNA)	ug/L	0.020 U (1)	0.0076	0.020	0.040	0.0048 J	0.0038	0.010	0.020	5159684
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.020 U (1)	0.0072	0.020	0.040	0.010 U	0.0036	0.010	0.020	5159684
Perfluorooctane Sulfonate (PFOS)	ug/L	8.1 (2)	0.052	0.20	0.40	2.1 (3)	0.026	0.10	0.20	5159684
Perfluoropentanoic Acid (PFPeA)	ug/L	0.68 (1)	0.0054	0.020	0.040	0.12	0.0027	0.010	0.020	5159684
Perfluorotetradecanoic Acid	ug/L	0.020 U (1)	0.0076	0.020	0.040	0.010 U	0.0038	0.010	0.020	5159684
Perfluorotridecanoic Acid	ug/L	0.020 U (1)	0.0066	0.020	0.040	0.010 U	0.0033	0.010	0.020	5159684
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.020 U (1)	0.0086	0.020	0.040	0.010 U	0.0043	0.010	0.020	5159684
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	82				97				5159684
13C2-8:2 Fluorotelomer sulfonate	%	87				94				5159684
13C2-Perfluorodecanoic acid	%	76				91				5159684
13C2-Perfluorododecanoic acid	%	76				73				5159684
13C2-Perfluorohexanoic acid	%	92				89				5159684
13C2-perfluorotetradecanoic acid	%	71				67				5159684
13C2-Perfluoroundecanoic acid	%	79				79				5159684

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x).
(2) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (20x).
(3) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

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Maxxam Job #: B7J4898
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBU988				FBU989				
Sampling Date		2017/09/04 15:55				2017/09/04 16:00				
COC Number		na				na				
	UNITS	LATE80S-1-W09	DL	LOD	LOQ	LATE80S-3-W11	DL	LOD	LOQ	QC Batch
13C4-Perfluorobutanoic acid	%	87				92				5159684
13C4-Perfluoroheptanoic acid	%	90				92				5159684
13C4-Perfluorooctanesulfonate	%	84				76				5159684
13C4-Perfluorooctanoic acid	%	94				91				5159684
13C5-Perfluorononanoic acid	%	96				87				5159684
13C5-Perfluoropentanoic acid	%	83				93				5159684
13C8-Perfluorooctane Sulfonamide	%	69				82				5159684
18O2-Perfluorohexanesulfonate	%	74				91				5159684

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4898
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU981					FBU982				
Sampling Date		2017/09/04 10:00					2017/09/04 10:40				
COC Number		na					na				
	UNITS	LATE80S-3-0.5	DL	LOD	LOQ	QC Batch	LATE80S-3-06	DL	LOD	LOQ	QC Batch
Inorganics											
Moisture	%	14	0.50	N/A	1.0	5161812	19	0.50	N/A	1.0	5161758
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.23	0.60	1.0	5159467	0.72 U	0.28	0.72	1.2	5159501
8:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.32	0.60	1.0	5159467	0.72 U	0.38	0.72	1.2	5159501
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.60 U	0.17	0.60	1.0	5159467	0.72 U	0.20	0.72	1.2	5159501
Perfluorobutanoic acid	ug/kg	0.60 U	0.23	0.60	1.0	5159467	0.72 U	0.28	0.72	1.2	5159501
Perfluorodecane Sulfonate	ug/kg	0.60 U	0.23	0.60	1.0	5159467	0.72 U	0.28	0.72	1.2	5159501
Perfluorodecanoic Acid (PFDA)	ug/kg	0.40 U	0.13	0.40	1.0	5159467	0.48 U	0.16	0.48	1.2	5159501
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.60 U	0.22	0.60	1.0	5159467	0.72 U	0.26	0.72	1.2	5159501
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.60 U	0.17	0.60	1.0	5159467	0.72 U	0.20	0.72	1.2	5159501
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.60 U	0.23	0.60	1.0	5159467	0.72 U	0.28	0.72	1.2	5159501
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.60 U	0.19	0.60	1.0	5159467	0.72 U	0.23	0.72	1.2	5159501
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.60 U	0.26	0.60	1.0	5159467	0.72 U	0.31	0.72	1.2	5159501
Perfluorononanoic Acid (PFNA)	ug/kg	0.60 U	0.17	0.60	1.0	5159467	0.72 U	0.20	0.72	1.2	5159501
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.60 U	0.26	0.60	1.0	5159467	0.72 U	0.31	0.72	1.2	5159501
Perfluorooctane Sulfonate (PFOS)	ug/kg	3.4	0.21	0.60	1.0	5159467	0.72 U	0.25	0.72	1.2	5159501
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.60 U	0.18	0.60	1.0	5159467	0.72 U	0.22	0.72	1.2	5159501
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.11	0.40	1.0	5159467	0.48 U	0.13	0.48	1.2	5159501
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.12	0.40	1.0	5159467	0.48 U	0.14	0.48	1.2	5159501
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.60 U	0.18	0.60	1.0	5159467	0.72 U	0.22	0.72	1.2	5159501
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	96				5159467	90				5159501
13C2-8:2 Fluorotelomer sulfonate	%	97				5159467	80				5159501
13C2-Perfluorodecanoic acid	%	83				5159467	88				5159501
13C2-Perfluorododecanoic acid	%	86				5159467	80				5159501
13C2-Perfluorohexanoic acid	%	91				5159467	91				5159501
13C2-perfluorotetradecanoic acid	%	75				5159467	66				5159501
13C2-Perfluoroundecanoic acid	%	86				5159467	86				5159501
13C4-Perfluorobutanoic acid	%	92				5159467	88				5159501
13C4-Perfluoroheptanoic acid	%	87				5159467	92				5159501
13C4-Perfluorooctanesulfonate	%	91				5159467	83				5159501

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4898
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU981					FBU982				
Sampling Date		2017/09/04 10:00					2017/09/04 10:40				
COC Number		na					na				
	UNITS	**LATE80S-3-0.5**	**DL**	**LOD**	**LOQ**	**QC Batch**	**LATE80S-3-06**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	91				5159467	98				5159501
13C5-Perfluorononanoic acid	%	90				5159467	88				5159501
13C5-Perfluoropentanoic acid	%	92				5159467	90				5159501
13C8-Perfluorooctane Sulfonamide	%	74				5159467	86				5159501
18O2-Perfluorohexanesulfonate	%	84				5159467	79				5159501

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4898
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU983				FBU984				
Sampling Date		2017/09/04 10:50				2017/09/04 10:20				
COC Number		na				na				
	UNITS	LATE80S-3-12	DL	LOD	LOQ	LATE80S-1-0.5	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	26	0.50	N/A	1.0	7.2	0.50	N/A	1.0	5161758
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	0.60 U	0.23	0.60	1.0	5159467
8:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.38	0.72	1.2	0.60 U	0.32	0.60	1.0	5159467
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.72 U	0.20	0.72	1.2	0.60 U	0.17	0.60	1.0	5159467
Perfluorobutanoic acid	ug/kg	0.72 U	0.28	0.72	1.2	0.60 U	0.23	0.60	1.0	5159467
Perfluorodecane Sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	0.60 U	0.23	0.60	1.0	5159467
Perfluorodecanoic Acid (PFDA)	ug/kg	0.48 U	0.16	0.48	1.2	0.40 U	0.13	0.40	1.0	5159467
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.72 U	0.26	0.72	1.2	0.60 U	0.22	0.60	1.0	5159467
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.72 U	0.20	0.72	1.2	0.60 U	0.17	0.60	1.0	5159467
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.72 U	0.28	0.72	1.2	1.7	0.23	0.60	1.0	5159467
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.72 U	0.23	0.72	1.2	0.60 U	0.19	0.60	1.0	5159467
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.72 U	0.31	0.72	1.2	0.60 U	0.26	0.60	1.0	5159467
Perfluorononanoic Acid (PFNA)	ug/kg	0.72 U	0.20	0.72	1.2	0.60 U	0.17	0.60	1.0	5159467
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.72 U	0.31	0.72	1.2	0.60 U	0.26	0.60	1.0	5159467
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.57 J	0.25	0.72	1.2	28	0.21	0.60	1.0	5159467
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.72 U	0.22	0.72	1.2	0.60 U	0.18	0.60	1.0	5159467
Perfluorotetradecanoic Acid	ug/kg	0.48 U	0.13	0.48	1.2	0.40 U	0.11	0.40	1.0	5159467
Perfluorotridecanoic Acid	ug/kg	0.48 U	0.14	0.48	1.2	0.40 U	0.12	0.40	1.0	5159467
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.72 U	0.22	0.72	1.2	0.60 U	0.18	0.60	1.0	5159467
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	68				102				5159467
13C2-8:2 Fluorotelomer sulfonate	%	64				98				5159467
13C2-Perfluorodecanoic acid	%	62				88				5159467
13C2-Perfluorododecanoic acid	%	59				89				5159467
13C2-Perfluorohexanoic acid	%	69				87				5159467
13C2-perfluorotetradecanoic acid	%	64				93				5159467
13C2-Perfluoroundecanoic acid	%	66				95				5159467
13C4-Perfluorobutanoic acid	%	72				95				5159467
13C4-Perfluoroheptanoic acid	%	69				88				5159467
13C4-Perfluorooctanesulfonate	%	72				82				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4898
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU983				FBU984				
Sampling Date		2017/09/04 10:50				2017/09/04 10:20				
COC Number		na				na				
	UNITS	LATE80S-3-12	DL	LOD	LOQ	LATE80S-1-0.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	73				91				5159467
13C5-Perfluorononanoic acid	%	69				88				5159467
13C5-Perfluoropentanoic acid	%	65				95				5159467
13C8-Perfluorooctane Sulfonamide	%	67				86				5159467
18O2-Perfluorohexanesulfonate	%	64				94				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4898
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU985					FBU986				
Sampling Date		2017/09/04 11:05					2017/09/04 11:10				
COC Number		na					na				
	UNITS	LATE80S-1-07	DL	LOD	LOQ	QC Batch	LATE80S-1-14	DL	LOD	LOQ	QC Batch
Inorganics											
Moisture	%	26	0.50	N/A	1.0	5161758	21	0.50	N/A	1.0	5159609
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	5159467	0.66 U	0.25	0.66	1.1	5159467
8:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.38	0.72	1.2	5159467	0.66 U	0.35	0.66	1.1	5159467
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.72 U	0.20	0.72	1.2	5159467	0.66 U	0.19	0.66	1.1	5159467
Perfluorobutanoic acid	ug/kg	0.72 U	0.28	0.72	1.2	5159467	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecane Sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	5159467	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecanoic Acid (PFDA)	ug/kg	0.48 U	0.16	0.48	1.2	5159467	0.44 U	0.14	0.44	1.1	5159467
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.72 U	0.26	0.72	1.2	5159467	0.66 U	0.24	0.66	1.1	5159467
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.72 U	0.20	0.72	1.2	5159467	0.66 U	0.19	0.66	1.1	5159467
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.72 U	0.28	0.72	1.2	5159467	0.39 J	0.25	0.66	1.1	5159467
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.72 U	0.23	0.72	1.2	5159467	0.66 U	0.21	0.66	1.1	5159467
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.72 U	0.31	0.72	1.2	5159467	0.66 U	0.29	0.66	1.1	5159467
Perfluorononanoic Acid (PFNA)	ug/kg	0.72 U	0.20	0.72	1.2	5159467	0.66 U	0.19	0.66	1.1	5159467
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.72 U	0.31	0.72	1.2	5159467	1.1	0.29	0.66	1.1	5159467
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.72 U	0.25	0.72	1.2	5159467	0.50 J	0.23	0.66	1.1	5159467
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.72 U	0.22	0.72	1.2	5159467	0.66 U	0.20	0.66	1.1	5159467
Perfluorotetradecanoic Acid	ug/kg	0.48 U	0.13	0.48	1.2	5159467	0.44 U	0.12	0.44	1.1	5159467
Perfluorotridecanoic Acid	ug/kg	0.48 U	0.14	0.48	1.2	5159467	0.44 U	0.13	0.44	1.1	5159467
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.72 U	0.22	0.72	1.2	5159467	0.66 U	0.20	0.66	1.1	5159467
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	73				5159467	51				5159467
13C2-8:2 Fluorotelomer sulfonate	%	74				5159467	52				5159467
13C2-Perfluorodecanoic acid	%	79				5159467	53				5159467
13C2-Perfluorododecanoic acid	%	79				5159467	50				5159467
13C2-Perfluorohexanoic acid	%	100				5159467	59				5159467
13C2-perfluorotetradecanoic acid	%	85				5159467	54				5159467
13C2-Perfluoroundecanoic acid	%	92				5159467	54				5159467
13C4-Perfluorobutanoic acid	%	89				5159467	57				5159467
13C4-Perfluoroheptanoic acid	%	85				5159467	65				5159467
13C4-Perfluorooctanesulfonate	%	81				5159467	60				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4898
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU985					FBU986				
Sampling Date		2017/09/04 11:05					2017/09/04 11:10				
COC Number		na					na				
	UNITS	**LATE80S-1-07**	**DL**	**LOD**	**LOQ**	**QC Batch**	**LATE80S-1-14**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	89				5159467	60				5159467
13C5-Perfluorononanoic acid	%	93				5159467	61				5159467
13C5-Perfluoropentanoic acid	%	91				5159467	61				5159467
13C8-Perfluorooctane Sulfonamide	%	90				5159467	54				5159467
18O2-Perfluorohexanesulfonate	%	87				5159467	51				5159467

DL = Detection Limit
LOD = Limit of Detection
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QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU987				
Sampling Date		2017/09/04 10:20				
COC Number		na				
	UNITS	LATE80S-1-FD	DL	LOD	LOQ	QC Batch
Inorganics						
Moisture	%	18	0.50	N/A	1.0	5161758
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	5159467
8:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.35	0.66	1.1	5159467
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.19	0.66	1.1	5159467
Perfluorobutanoic acid	ug/kg	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.14	0.44	1.1	5159467
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.24	0.66	1.1	5159467
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.66 U	0.19	0.66	1.1	5159467
Perfluorohexane Sulfonate (PFHxS)	ug/kg	2.0	0.25	0.66	1.1	5159467
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.66 U	0.21	0.66	1.1	5159467
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.66 U	0.29	0.66	1.1	5159467
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.19	0.66	1.1	5159467
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.29	0.66	1.1	5159467
Perfluorooctane Sulfonate (PFOS)	ug/kg	32	0.23	0.66	1.1	5159467
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.66 U	0.20	0.66	1.1	5159467
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.12	0.44	1.1	5159467
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.13	0.44	1.1	5159467
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.20	0.66	1.1	5159467
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	96				5159467
13C2-8:2 Fluorotelomer sulfonate	%	97				5159467
13C2-Perfluorodecanoic acid	%	87				5159467
13C2-Perfluorododecanoic acid	%	87				5159467
13C2-Perfluorohexanoic acid	%	91				5159467
13C2-perfluorotetradecanoic acid	%	87				5159467
13C2-Perfluoroundecanoic acid	%	89				5159467
13C4-Perfluorobutanoic acid	%	91				5159467
13C4-Perfluoroheptanoic acid	%	89				5159467
13C4-Perfluorooctanesulfonate	%	87				5159467

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N/A = Not Applicable

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Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBU987				
Sampling Date		2017/09/04 10:20				
COC Number		na				
	UNITS	**LATE80S-1-FD**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	94				5159467
13C5-Perfluorononanoic acid	%	97				5159467
13C5-Perfluoropentanoic acid	%	89				5159467
13C8-Perfluorooctane Sulfonamide	%	87				5159467
18O2-Perfluorohexanesulfonate	%	86				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBU981 **Collected:** 2017/09/04
Sample ID: LATE80S-3-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161812	N/A	2017/09/13	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU982 **Collected:** 2017/09/04
Sample ID: LATE80S-3-06 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159501	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU983 **Collected:** 2017/09/04
Sample ID: LATE80S-3-12 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU984 **Collected:** 2017/09/04
Sample ID: LATE80S-1-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU985 **Collected:** 2017/09/04
Sample ID: LATE80S-1-07 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU986 **Collected:** 2017/09/04
Sample ID: LATE80S-1-14 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5159609	N/A	2017/09/12	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

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Maxxam Job #: B7J4898
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBU987 **Collected:** 2017/09/04
Sample ID: LATE80S-1-FD **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5161758	N/A	2017/09/13	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU988 **Collected:** 2017/09/04
Sample ID: LATE80S-1-W09 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159684	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBU989 **Collected:** 2017/09/04
Sample ID: LATE80S-3-W11 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159684	2017/09/12	2017/09/14	Anjan Desai

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Maxxam Job #: B7J4898
Report Date: 2017/09/15

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.9°C
Package 3	2.5°C
Package 4	1.7°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5159467	AD9	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		84	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		87	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		79	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		50	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		88	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		86	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		89	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		82	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		86	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		105	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		105	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		110	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		109	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		116	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		108	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		103	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		107	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		114	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		154 (1)	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		107	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		105	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		109	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		111	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		104	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		116	%	70 - 130
5159467	AD9	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		94	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		84	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		62	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		87	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		91	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		87	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		83	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		89	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		122	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		103	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		116	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		110	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecanoic Acid (PFDA)	2017/09/14		119	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		114	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		108	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		109	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		120	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		139 (2)	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		109	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		106	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		111	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		109	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		133 (2)	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		116	%	70 - 130
5159467	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/14	10		%	30
			8:2 Fluorotelomer sulfonate	2017/09/14	11		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	2.0		%	30
			Perfluorobutanoic acid	2017/09/14	5.5		%	30
			Perfluorodecane Sulfonate	2017/09/14	1.0		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/14	2.1		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	6.1		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/14	5.1		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	1.7		%	25
			Perfluorotetradecanoic Acid	2017/09/14	5.4		%	30
			Perfluorotridecanoic Acid	2017/09/14	9.8		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	9.1		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	2.0		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	0.35		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	1.1		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	1.4		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	25		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	0.21		%	30
5159467	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		87	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		90	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		76	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		82	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		92	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		99	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		81	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		86	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		114	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		114	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		115	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		114	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		123	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		129	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		118	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorononanoic Acid (PFNA)	2017/09/14		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		114	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		120	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		125	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		107	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		112	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		112	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		106	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		110	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		111	%	70 - 130
5159467	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		113	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		106	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		99	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		96	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		108	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		87	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		99	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		108	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		113	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		109	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		114	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		107	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		106	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		97	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		103	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
5159501	AD9	Matrix Spike(FBU982)	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		85	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		82	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		78	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		72	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		85	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		99	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		94	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		99	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		96	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		95	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		77	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		92	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		109	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		119	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		107	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		104	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		110	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		120	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		108	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		110	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		112	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		108	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		112	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		110	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		103	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		108	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		116	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		106	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		117	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		111	%	70 - 130
5159501	AD9	Matrix Spike DUP(FBU982)	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		85	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		88	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		83	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		96	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		84	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		94	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		103	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		99	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluorooctanoic acid	2017/09/14		99	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		101	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		95	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		89	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		115	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		116	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		112	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		115	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		106	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		109	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		119	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		112	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		114	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		115	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		124	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		102	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		114	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		116	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		110	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		115	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		115	%	70 - 130
5159501	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/14	5.1		%	30
			8:2 Fluorotelomer sulfonate	2017/09/14	2.8		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	3.9		%	30
			Perfluorobutanoic acid	2017/09/14	10		%	30
			Perfluorodecane Sulfonate	2017/09/14	4.0		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/14	9.7		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	9.7		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/14	1.3		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	2.6		%	25
			Perfluorotetradecanoic Acid	2017/09/14	6.4		%	30
			Perfluorotridecanoic Acid	2017/09/14	10		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	3.5		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	0.88		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	5.5		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	0.42		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	4.4		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	1.8		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	3.5		%	30
5159609	CYN	RPD - Sample/Sample Dup	Moisture	2017/09/12	1.2		%	20
5159684	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		95	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		101	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		97	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		82	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		92	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		97	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		98	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		92	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C5-Perfluorononanoic acid	2017/09/14		91	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		91	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		84	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		100	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		106	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		108	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		105	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		111	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		96	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		104	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		97	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		106	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		114	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		107	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		114	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		101	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		121	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		112	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		101	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		106	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		112	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		106	%	70 - 130
5159684	AD9	Spiked Blank DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		98	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		98	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		87	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		90	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		96	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		92	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		96	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		95	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		88	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		96	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		99	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		106	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		109	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		108	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		103	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		108	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		104	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		112	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		107	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		112	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		106	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		122	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		98	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		115	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		109	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		112	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		115	%	70 - 130
5159684	AD9	RPD	6:2 Fluorotelomer sulfonate	2017/09/14	6.7		%	30
			8:2 Fluorotelomer sulfonate	2017/09/14	1.8		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	4.0		%	30
			Perfluorobutanoic acid	2017/09/14	2.9		%	30
			Perfluorodecane Sulfonate	2017/09/14	6.8		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	4.3		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	6.9		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	6.0		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/14	1.3		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	0.81		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	2.2		%	30
			Perfluorotetradecanoic Acid	2017/09/14	4.6		%	30
			Perfluorotridecanoic Acid	2017/09/14	1.1		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	13		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/14	13		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	2.4		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	0.67		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	8.0		%	30
5159684	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		99	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		94	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		73	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		69	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		76	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		91	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		91	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		80	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		90	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		86	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		83	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/14	0.010 U, LOD=0.010		ug/L	

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Maxxam Job #: B7J4898
Report Date: 2017/09/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	0.0048 J, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	0.010 U, LOD=0.010		ug/L	
5161758	GYA	RPD - Sample/Sample Dup	Moisture	2017/09/13	0.78		%	20
5161812	GYA	RPD - Sample/Sample Dup	Moisture	2017/09/13	13		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) Recovery of the matrix spike was above the upper control limit. Laboratory spiked soil resulted in satisfactory recovery of the compound of interest. When considered together, these QC data suggest that matrix interferences may be biasing the data high. For results that were not detected (ND), this potential bias has no impact.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Cristina Carriere, Scientific Service Specialist

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Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/03
Report #: R4755811
Version: 2 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4905
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	3	2017/09/11	2017/09/24	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 13

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	12	N/A	2017/09/08	CAM SOP-00445	Carter 2nd ed 51.2 m
Moisture	1	N/A	2017/09/11	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	13	2017/09/13	2017/09/22	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

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317 East Main Street
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Report Date: 2017/10/03
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CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4905
Received: 2017/09/07, 15:11

Encryption Key

Stephanie Pollen
Project Manager
03 Oct 2017 08:39:23

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV023	FBV024	FBV025				
Sampling Date		2017/09/03 16:01	2017/09/03 16:01	2017/09/03 15:30				
COC Number		na	na	na				
	UNITS	2001CRASH-4-W12	2001CRASH-4-WFD	2001CRASH-3-W08	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters								
6:2 Fluorotelomer sulfonate	ug/L	0.0053 J	0.0051 J	0.010 U	0.0032	0.010	0.020	5158366
8:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.010 U	0.010 U	0.0036	0.010	0.020	5158366
Perfluorobutanoic acid	ug/L	0.043	0.044	0.010 U	0.0043	0.010	0.020	5158366
Perfluorobutane Sulfonate (PFBS)	ug/L	0.010 J	0.0087 J	0.033	0.0048	0.010	0.020	5158366
Perfluorodecane Sulfonate	ug/L	0.010 U	0.010 U	0.010 U	0.0046	0.010	0.020	5158366
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.0080 J	0.0084 J	0.0075 J	0.0033	0.010	0.020	5158366
Perfluorohexanoic Acid (PFHxA)	ug/L	0.025	0.027	0.032	0.0029	0.010	0.020	5158366
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.060	0.061	0.19	0.0034	0.010	0.020	5158366
Perfluorononanoic Acid (PFNA)	ug/L	0.010 U	0.010 U	0.010 U	0.0038	0.010	0.020	5158366
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.010 U	0.010 U	0.0036	0.010	0.020	5158366
Perfluoropentanoic Acid (PFPeA)	ug/L	0.013 J	0.013 J	0.015 J	0.0027	0.010	0.020	5158366
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.010 U	0.010 U	0.0038	0.010	0.020	5158366
Perfluorotridecanoic Acid	ug/L	0.010 U	0.010 U	0.010 U	0.0033	0.010	0.020	5158366
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.010 U	0.010 U	0.0043	0.010	0.020	5158366
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.010 U	0.010 U	0.0040	0.010	0.020	5158366
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.010 U	0.010 U	0.0028	0.010	0.020	5158366
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.018 J	0.021	0.021	0.0046	0.010	0.020	5158366
Perfluorooctane Sulfonate (PFOS)	ug/L	0.088	0.10	0.12	0.0026	0.010	0.020	5158366
Surrogate Recovery (%)								
13C2-6:2 Fluorotelomer sulfonate	%	89	85	85				5158366
13C2-8:2 Fluorotelomer sulfonate	%	90	96	88				5158366
13C2-Perfluorodecanoic acid	%	86	93	85				5158366
13C2-Perfluorododecanoic acid	%	84	83	78				5158366
13C2-Perfluorohexanoic acid	%	89	97	83				5158366
13C2-perfluorotetradecanoic acid	%	73	74	71				5158366
13C2-Perfluoroundecanoic acid	%	88	90	83				5158366
13C4-Perfluorobutanoic acid	%	80	91	70				5158366
13C4-Perfluoroheptanoic acid	%	92	101	90				5158366
13C4-Perfluorooctanesulfonate	%	97	103	93				5158366
13C4-Perfluorooctanoic acid	%	94	101	89				5158366
13C5-Perfluorononanoic acid	%	93	91	85				5158366

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV023	FBV024	FBV025				
Sampling Date		2017/09/03 16:01	2017/09/03 16:01	2017/09/03 15:30				
COC Number		na	na	na				
	UNITS	**2001CRASH-4-W12**	**2001CRASH-4-WFD**	**2001CRASH-3-W08**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C5-Perfluoropentanoic acid	%	92	96	88				5158366
13C8-Perfluorooctane Sulfonamide	%	81	83	85				5158366
18O2-Perfluorohexanesulfonate	%	104	114	100				5158366

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
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Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV010				FBV011				
Sampling Date		2017/09/03 08:50				2017/09/03 09:30				
COC Number		na				na				
	UNITS	2001CRASH-1-0.5	DL	LOD	LOQ	2001CRASH-1-7.5	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	17	0.50	N/A	1.0	37	0.50	N/A	1.0	5155952
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.58 U	0.22	0.58	0.96	0.72 U	0.28	0.72	1.2	5161582
8:2 Fluorotelomer sulfonate	ug/kg	0.58 U	0.31	0.58	0.96	0.72 U	0.38	0.72	1.2	5161582
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.58 U	0.16	0.58	0.96	0.72 U	0.20	0.72	1.2	5161582
Perfluorobutanoic acid	ug/kg	0.58 U	0.22	0.58	0.96	0.72 U	0.28	0.72	1.2	5161582
Perfluorodecane Sulfonate	ug/kg	0.58 U	0.22	0.58	0.96	0.72 U	0.28	0.72	1.2	5161582
Perfluorodecanoic Acid (PFDA)	ug/kg	0.38 U	0.12	0.38	0.96	0.48 U	0.16	0.48	1.2	5161582
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.58 U	0.21	0.58	0.96	0.72 U	0.26	0.72	1.2	5161582
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.58 U	0.16	0.58	0.96	0.72 U	0.20	0.72	1.2	5161582
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.58 U	0.22	0.58	0.96	0.72 U	0.28	0.72	1.2	5161582
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.58 U	0.18	0.58	0.96	0.72 U	0.23	0.72	1.2	5161582
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.58 U	0.25	0.58	0.96	0.72 U	0.31	0.72	1.2	5161582
Perfluorononanoic Acid (PFNA)	ug/kg	0.58 U	0.16	0.58	0.96	0.72 U	0.20	0.72	1.2	5161582
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.58 U	0.25	0.58	0.96	0.72 U	0.31	0.72	1.2	5161582
Perfluorooctane Sulfonate (PFOS)	ug/kg	1.7	0.20	0.58	0.96	0.72 U	0.25	0.72	1.2	5161582
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.58 U	0.17	0.58	0.96	0.72 U	0.22	0.72	1.2	5161582
Perfluorotetradecanoic Acid	ug/kg	0.38 U	0.11	0.38	0.96	0.48 U	0.13	0.48	1.2	5161582
Perfluorotridecanoic Acid	ug/kg	0.38 U	0.12	0.38	0.96	0.48 U	0.14	0.48	1.2	5161582
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.58 U	0.17	0.58	0.96	0.72 U	0.22	0.72	1.2	5161582
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	72				79				5161582
13C2-8:2 Fluorotelomer sulfonate	%	70				69				5161582
13C2-Perfluorodecanoic acid	%	71				70				5161582
13C2-Perfluorododecanoic acid	%	72				69				5161582
13C2-Perfluorohexanoic acid	%	70				74				5161582
13C2-perfluorotetradecanoic acid	%	70				67				5161582
13C2-Perfluoroundecanoic acid	%	70				68				5161582
13C4-Perfluorobutanoic acid	%	75				69				5161582
13C4-Perfluoroheptanoic acid	%	74				70				5161582
13C4-Perfluorooctanesulfonate	%	68				70				5161582

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV010				FBV011				
Sampling Date		2017/09/03 08:50				2017/09/03 09:30				
COC Number		na				na				
	UNITS	2001CRASH-1-0.5	DL	LOD	LOQ	2001CRASH-1-7.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	77				70				5161582
13C5-Perfluorononanoic acid	%	72				75				5161582
13C5-Perfluoropentanoic acid	%	85				76				5161582
13C8-Perfluorooctane Sulfonamide	%	66				65				5161582
18O2-Perfluorohexanesulfonate	%	68				71				5161582

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV012					FBV013				
Sampling Date		2017/09/03 09:45					2017/09/03 10:30				
COC Number		na					na				
	UNITS	2001CRASH-1-25	DL	LOD	LOQ	QC Batch	2001CRASH-3-0.5	DL	LOD	LOQ	QC Batch
Inorganics											
Moisture	%	19	0.50	N/A	1.0	5155952	24	0.50	N/A	1.0	5155952
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/kg	0.59 U	0.23	0.59	0.99	5161582	0.33 J	0.28	0.72	1.2	5161582
8:2 Fluorotelomer sulfonate	ug/kg	0.59 U	0.32	0.59	0.99	5161582	0.72 U	0.38	0.72	1.2	5161582
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.59 U	0.17	0.59	0.99	5161582	0.72 U	0.20	0.72	1.2	5161582
Perfluorobutanoic acid	ug/kg	0.59 U	0.23	0.59	0.99	5161582	0.72 U	0.28	0.72	1.2	5161582
Perfluorodecane Sulfonate	ug/kg	0.59 U	0.23	0.59	0.99	5161582	0.72 U	0.28	0.72	1.2	5161582
Perfluorodecanoic Acid (PFDA)	ug/kg	0.40 U	0.13	0.40	0.99	5161582	0.48 U	0.16	0.48	1.2	5161582
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.59 U	0.22	0.59	0.99	5161582	0.72 U	0.26	0.72	1.2	5161582
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.59 U	0.17	0.59	0.99	5161582	0.72 U	0.20	0.72	1.2	5161582
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.59 U	0.23	0.59	0.99	5161582	0.72 U	0.28	0.72	1.2	5161582
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.59 U	0.19	0.59	0.99	5161582	0.72 U	0.23	0.72	1.2	5161582
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.59 U	0.26	0.59	0.99	5161582	0.72 U	0.31	0.72	1.2	5161582
Perfluorononanoic Acid (PFNA)	ug/kg	0.59 U	0.17	0.59	0.99	5161582	0.72 U	0.20	0.72	1.2	5161582
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.59 U	0.26	0.59	0.99	5161582	0.60 U	0.26	0.60	1.3	5181075
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.59 U	0.21	0.59	0.99	5161582	0.36 J	0.25	0.72	1.2	5161582
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.59 U	0.18	0.59	0.99	5161582	0.72 U	0.22	0.72	1.2	5161582
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.11	0.40	0.99	5161582	0.48 U	0.13	0.48	1.2	5161582
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.12	0.40	0.99	5161582	0.48 U	0.14	0.48	1.2	5161582
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.59 U	0.18	0.59	0.99	5161582	0.72 U	0.22	0.72	1.2	5161582
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	77				5161582	66				5161582
13C2-8:2 Fluorotelomer sulfonate	%	69				5161582	69				5161582
13C2-Perfluorodecanoic acid	%	79				5161582	70				5161582
13C2-Perfluorododecanoic acid	%	74				5161582	64				5161582
13C2-Perfluorohexanoic acid	%	77				5161582	72				5161582
13C2-perfluorotetradecanoic acid	%	74				5161582	59				5161582
13C2-Perfluoroundecanoic acid	%	70				5161582	66				5161582
13C4-Perfluorobutanoic acid	%	79				5161582	71				5161582
13C4-Perfluoroheptanoic acid	%	74				5161582	70				5161582
13C4-Perfluorooctanesulfonate	%	78				5161582	67				5161582

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV012					FBV013				
Sampling Date		2017/09/03 09:45					2017/09/03 10:30				
COC Number		na					na				
	UNITS	2001CRASH-1-25	DL	LOD	LOQ	QC Batch	2001CRASH-3-0.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	76				5161582	73				5161582
13C5-Perfluorononanoic acid	%	77				5161582	71				5161582
13C5-Perfluoropentanoic acid	%	82				5161582	74				5161582
13C8-Perfluorooctane Sulfonamide	%	71				5161582	70				5181075
18O2-Perfluorohexanesulfonate	%	78				5161582	76				5161582

DL = Detection Limit
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV014					FBV015				
Sampling Date		2017/09/03 10:30					2017/09/03 10:50				
COC Number		na					na				
	UNITS	2001CRASH-3-FD	DL	LOD	LOQ	QC Batch	2001CRASH-3-06	DL	LOD	LOQ	QC Batch
Inorganics											
Moisture	%	24	0.50	N/A	1.0	5157944	27	0.50	N/A	1.0	5155952
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.23	0.60	1.0	5161582	0.72 U	0.28	0.72	1.2	5161582
8:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.32	0.60	1.0	5161582	0.72 U	0.38	0.72	1.2	5161582
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.60 U	0.17	0.60	1.0	5161582	0.72 U	0.20	0.72	1.2	5161582
Perfluorobutanoic acid	ug/kg	0.60 U	0.23	0.60	1.0	5161582	0.72 U	0.28	0.72	1.2	5161582
Perfluorodecane Sulfonate	ug/kg	0.60 U	0.23	0.60	1.0	5161582	0.72 U	0.28	0.72	1.2	5161582
Perfluorodecanoic Acid (PFDA)	ug/kg	0.40 U	0.13	0.40	1.0	5161582	0.48 U	0.16	0.48	1.2	5161582
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.60 U	0.22	0.60	1.0	5161582	0.72 U	0.26	0.72	1.2	5161582
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.60 U	0.17	0.60	1.0	5161582	0.72 U	0.20	0.72	1.2	5161582
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.60 U	0.23	0.60	1.0	5161582	0.72 U	0.28	0.72	1.2	5161582
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.60 U	0.19	0.60	1.0	5161582	0.72 U	0.23	0.72	1.2	5161582
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.60 U	0.26	0.60	1.0	5161582	0.72 U	0.31	0.72	1.2	5161582
Perfluorononanoic Acid (PFNA)	ug/kg	0.60 U	0.17	0.60	1.0	5161582	0.72 U	0.20	0.72	1.2	5161582
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.60 U	0.26	0.60	1.0	5161582	0.72 U	0.31	0.72	1.2	5161582
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.40 J	0.21	0.60	1.0	5161582	0.72 U	0.25	0.72	1.2	5161582
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.60 U	0.18	0.60	1.0	5161582	0.72 U	0.22	0.72	1.2	5161582
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.11	0.40	1.0	5161582	0.48 U	0.13	0.48	1.2	5161582
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.12	0.40	1.0	5161582	0.48 U	0.14	0.48	1.2	5161582
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.60 U	0.18	0.60	1.0	5161582	0.72 U	0.22	0.72	1.2	5161582
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	72				5161582	70				5161582
13C2-8:2 Fluorotelomer sulfonate	%	71				5161582	73				5161582
13C2-Perfluorodecanoic acid	%	74				5161582	73				5161582
13C2-Perfluorododecanoic acid	%	72				5161582	72				5161582
13C2-Perfluorohexanoic acid	%	70				5161582	75				5161582
13C2-perfluorotetradecanoic acid	%	70				5161582	73				5161582
13C2-Perfluoroundecanoic acid	%	72				5161582	72				5161582
13C4-Perfluorobutanoic acid	%	74				5161582	78				5161582
13C4-Perfluoroheptanoic acid	%	67				5161582	74				5161582
13C4-Perfluorooctanesulfonate	%	73				5161582	71				5161582

DL = Detection Limit
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QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV014					FBV015				
Sampling Date		2017/09/03 10:30					2017/09/03 10:50				
COC Number		na					na				
	UNITS	2001CRASH-3-FD	DL	LOD	LOQ	QC Batch	2001CRASH-3-06	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	74				5161582	72				5161582
13C5-Perfluorononanoic acid	%	66				5161582	76				5161582
13C5-Perfluoropentanoic acid	%	76				5161582	77				5161582
13C8-Perfluorooctane Sulfonamide	%	71				5161582	67				5161582
18O2-Perfluorohexanesulfonate	%	73				5161582	81				5161582

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV016				FBV017				
Sampling Date		2017/09/03 11:00				2017/09/03 11:39				
COC Number		na				na				
	UNITS	2001CRASH-3-09	DL	LOD	LOQ	2001CRASH-4-0.5	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	31	0.50	N/A	1.0	5.4	0.50	N/A	1.0	5155952
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	0.53 U	0.20	0.53	0.89	5161582
8:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.35	0.66	1.1	0.53 U	0.28	0.53	0.89	5161582
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.19	0.66	1.1	0.53 U	0.15	0.53	0.89	5161582
Perfluorobutanoic acid	ug/kg	0.66 U	0.25	0.66	1.1	0.53 U	0.20	0.53	0.89	5161582
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	0.53 U	0.20	0.53	0.89	5161582
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.14	0.44	1.1	0.36 U	0.12	0.36	0.89	5161582
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.24	0.66	1.1	0.53 U	0.20	0.53	0.89	5161582
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.66 U	0.19	0.66	1.1	0.53 U	0.15	0.53	0.89	5161582
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.66 U	0.25	0.66	1.1	0.53 U	0.20	0.53	0.89	5161582
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.66 U	0.21	0.66	1.1	0.53 U	0.17	0.53	0.89	5161582
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.66 U	0.29	0.66	1.1	0.53 U	0.23	0.53	0.89	5161582
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.19	0.66	1.1	0.53 U	0.15	0.53	0.89	5161582
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.29	0.66	1.1	0.53 U	0.23	0.53	0.89	5161582
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.66 U	0.23	0.66	1.1	0.53 U	0.19	0.53	0.89	5161582
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.66 U	0.20	0.66	1.1	0.53 U	0.16	0.53	0.89	5161582
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.12	0.44	1.1	0.36 U	0.098	0.36	0.89	5161582
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.13	0.44	1.1	0.36 U	0.11	0.36	0.89	5161582
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.20	0.66	1.1	0.53 U	0.16	0.53	0.89	5161582
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	77				68				5161582
13C2-8:2 Fluorotelomer sulfonate	%	65				76				5161582
13C2-Perfluorodecanoic acid	%	73				75				5161582
13C2-Perfluorododecanoic acid	%	71				73				5161582
13C2-Perfluorohexanoic acid	%	73				75				5161582
13C2-perfluorotetradecanoic acid	%	66				75				5161582
13C2-Perfluoroundecanoic acid	%	72				78				5161582
13C4-Perfluorobutanoic acid	%	74				78				5161582
13C4-Perfluoroheptanoic acid	%	70				74				5161582
13C4-Perfluorooctanesulfonate	%	71				84				5161582

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV016				FBV017				
Sampling Date		2017/09/03 11:00				2017/09/03 11:39				
COC Number		na				na				
	UNITS	2001CRASH-3-09	DL	LOD	LOQ	2001CRASH-4-0.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	76				75				5161582
13C5-Perfluorononanoic acid	%	78				76				5161582
13C5-Perfluoropentanoic acid	%	80				80				5161582
13C8-Perfluorooctane Sulfonamide	%	62				72				5161582
18O2-Perfluorohexanesulfonate	%	78				75				5161582

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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV018					FBV019				
Sampling Date		2017/09/03 12:00					2017/09/03 12:10				
COC Number		na					na				
	UNITS	2001CRASH-4-7.5	DL	LOD	LOQ	QC Batch	2001CRASH-4-11.5	DL	LOD	LOQ	QC Batch
Inorganics											
Moisture	%	26	0.50	N/A	1.0	5155952	27	0.50	N/A	1.0	5155952
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	5161582	0.84 U	0.32	0.84	1.4	5161582
8:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.35	0.66	1.1	5161582	0.84 U	0.45	0.84	1.4	5161582
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.19	0.66	1.1	5161582	0.84 U	0.24	0.84	1.4	5161582
Perfluorobutanoic acid	ug/kg	0.66 U	0.25	0.66	1.1	5161582	0.84 U	0.32	0.84	1.4	5161582
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	5161582	0.84 U	0.32	0.84	1.4	5161582
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.14	0.44	1.1	5161582	0.56 U	0.18	0.56	1.4	5161582
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.24	0.66	1.1	5161582	0.84 U	0.31	0.84	1.4	5161582
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.66 U	0.19	0.66	1.1	5161582	0.84 U	0.24	0.84	1.4	5161582
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.66 U	0.25	0.66	1.1	5161582	0.84 U	0.32	0.84	1.4	5161582
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.66 U	0.21	0.66	1.1	5161582	0.84 U	0.27	0.84	1.4	5161582
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.66 U	0.29	0.66	1.1	5161582	0.84 U	0.36	0.84	1.4	5161582
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.19	0.66	1.1	5161582	0.84 U	0.24	0.84	1.4	5161582
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.29	0.66	1.1	5161582	0.84 U	0.36	0.84	1.4	5161582
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.66 U	0.23	0.66	1.1	5161582	0.84 U	0.29	0.84	1.4	5161582
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.66 U	0.20	0.66	1.1	5161582	0.84 U	0.25	0.84	1.4	5161582
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.12	0.44	1.1	5161582	0.40 U	0.11	0.40	1.4	5181075
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.13	0.44	1.1	5161582	0.40 U	0.12	0.40	1.4	5181075
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.20	0.66	1.1	5161582	0.84 U	0.25	0.84	1.4	5161582
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	74				5161582	79				5161582
13C2-8:2 Fluorotelomer sulfonate	%	68				5161582	72				5161582
13C2-Perfluorodecanoic acid	%	77				5161582	81				5161582
13C2-Perfluorododecanoic acid	%	74				5161582	71				5161582
13C2-Perfluorohexanoic acid	%	72				5161582	75				5161582
13C2-perfluorotetradecanoic acid	%	68				5161582	68				5181075
13C2-Perfluoroundecanoic acid	%	75				5161582	74				5161582
13C4-Perfluorobutanoic acid	%	74				5161582	73				5161582
13C4-Perfluoroheptanoic acid	%	77				5161582	73				5161582
13C4-Perfluorooctanesulfonate	%	75				5161582	75				5161582

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV018					FBV019				
Sampling Date		2017/09/03 12:00					2017/09/03 12:10				
COC Number		na					na				
	UNITS	2001CRASH-4-7.5	DL	LOD	LOQ	QC Batch	2001CRASH-4-11.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	75				5161582	76				5161582
13C5-Perfluorononanoic acid	%	79				5161582	73				5161582
13C5-Perfluoropentanoic acid	%	75				5161582	78				5161582
13C8-Perfluorooctane Sulfonamide	%	73				5161582	65				5161582
18O2-Perfluorohexanesulfonate	%	81				5161582	77				5161582

DL = Detection Limit
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N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV020				FBV021				
Sampling Date		2017/09/03 12:36				2017/09/03 14:00				
COC Number		na				na				
	UNITS	2001CRASH-2-0.5	DL	LOD	LOQ	2001CRASH-2-7.5	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	4.7	0.50	N/A	1.0	3.4	0.50	N/A	1.0	5155952
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.52 U	0.20	0.52	0.87	0.56 U	0.21	0.56	0.93	5161582
8:2 Fluorotelomer sulfonate	ug/kg	0.52 U	0.28	0.52	0.87	0.56 U	0.30	0.56	0.93	5161582
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.52 U	0.15	0.52	0.87	0.56 U	0.16	0.56	0.93	5161582
Perfluorobutanoic acid	ug/kg	0.52 U	0.20	0.52	0.87	0.56 U	0.21	0.56	0.93	5161582
Perfluorodecane Sulfonate	ug/kg	0.52 U	0.20	0.52	0.87	0.56 U	0.21	0.56	0.93	5161582
Perfluorodecanoic Acid (PFDA)	ug/kg	0.35 U	0.11	0.35	0.87	0.37 U	0.12	0.37	0.93	5161582
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.52 U	0.19	0.52	0.87	0.56 U	0.20	0.56	0.93	5161582
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.52 U	0.15	0.52	0.87	0.56 U	0.16	0.56	0.93	5161582
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.52 U	0.20	0.52	0.87	0.56 U	0.21	0.56	0.93	5161582
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.52 U	0.17	0.52	0.87	0.56 U	0.18	0.56	0.93	5161582
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.52 U	0.23	0.52	0.87	0.56 U	0.24	0.56	0.93	5161582
Perfluorononanoic Acid (PFNA)	ug/kg	0.52 U	0.15	0.52	0.87	0.56 U	0.16	0.56	0.93	5161582
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.52 U	0.23	0.52	0.87	0.56 U	0.24	0.56	0.93	5161582
Perfluorooctane Sulfonate (PFOS)	ug/kg	1.3	0.18	0.52	0.87	8.0	0.20	0.56	0.93	5161582
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.52 U	0.16	0.52	0.87	0.56 U	0.17	0.56	0.93	5161582
Perfluorotetradecanoic Acid	ug/kg	0.35 U	0.096	0.35	0.87	0.37 U	0.10	0.37	0.93	5161582
Perfluorotridecanoic Acid	ug/kg	0.35 U	0.10	0.35	0.87	0.37 U	0.11	0.37	0.93	5161582
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.52 U	0.16	0.52	0.87	0.56 U	0.17	0.56	0.93	5161582
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	72				71				5161582
13C2-8:2 Fluorotelomer sulfonate	%	77				72				5161582
13C2-Perfluorodecanoic acid	%	79				80				5161582
13C2-Perfluorododecanoic acid	%	72				76				5161582
13C2-Perfluorohexanoic acid	%	79				78				5161582
13C2-perfluorotetradecanoic acid	%	75				72				5161582
13C2-Perfluoroundecanoic acid	%	81				81				5161582
13C4-Perfluorobutanoic acid	%	83				80				5161582
13C4-Perfluoroheptanoic acid	%	78				76				5161582
13C4-Perfluorooctanesulfonate	%	76				81				5161582

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV020				FBV021				
Sampling Date		2017/09/03 12:36				2017/09/03 14:00				
COC Number		na				na				
	UNITS	2001CRASH-2-0.5	DL	LOD	LOQ	2001CRASH-2-7.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	80				78				5161582
13C5-Perfluorononanoic acid	%	83				77				5161582
13C5-Perfluoropentanoic acid	%	80				81				5161582
13C8-Perfluorooctane Sulfonamide	%	69				74				5161582
18O2-Perfluorohexanesulfonate	%	75				76				5161582

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV022				
Sampling Date		2017/09/03 14:07				
COC Number		na				
	UNITS	2001CRASH-2-25	DL	LOD	LOQ	QC Batch
Inorganics						
Moisture	%	17	0.50	N/A	1.0	5155952
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	5161582
8:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.35	0.66	1.1	5161582
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.19	0.66	1.1	5161582
Perfluorobutanoic acid	ug/kg	0.66 U	0.25	0.66	1.1	5161582
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	5161582
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.14	0.44	1.1	5161582
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.24	0.66	1.1	5161582
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.66 U	0.19	0.66	1.1	5161582
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.66 U	0.25	0.66	1.1	5161582
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.66 U	0.21	0.66	1.1	5161582
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.66 U	0.29	0.66	1.1	5161582
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.19	0.66	1.1	5161582
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.29	0.66	1.1	5161582
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.66 U	0.23	0.66	1.1	5161582
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.66 U	0.20	0.66	1.1	5161582
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.12	0.44	1.1	5161582
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.13	0.44	1.1	5161582
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.20	0.66	1.1	5161582
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	78				5161582
13C2-8:2 Fluorotelomer sulfonate	%	72				5161582
13C2-Perfluorodecanoic acid	%	68				5161582
13C2-Perfluorododecanoic acid	%	71				5161582
13C2-Perfluorohexanoic acid	%	75				5161582
13C2-perfluorotetradecanoic acid	%	66				5161582
13C2-Perfluoroundecanoic acid	%	74				5161582
13C4-Perfluorobutanoic acid	%	73				5161582
13C4-Perfluoroheptanoic acid	%	71				5161582
13C4-Perfluorooctanesulfonate	%	74				5161582

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV022				
Sampling Date		2017/09/03 14:07				
COC Number		na				
	UNITS	**2001CRASH-2-25**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	75				5161582
13C5-Perfluorononanoic acid	%	72				5161582
13C5-Perfluoropentanoic acid	%	77				5161582
13C8-Perfluorooctane Sulfonamide	%	63				5161582
18O2-Perfluorohexanesulfonate	%	64				5161582

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4905
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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV010 **Collected:** 2017/09/03
Sample ID: 2001CRASH-1-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV011 **Collected:** 2017/09/03
Sample ID: 2001CRASH-1-7.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV012 **Collected:** 2017/09/03
Sample ID: 2001CRASH-1-25 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV013 **Collected:** 2017/09/03
Sample ID: 2001CRASH-3-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV014 **Collected:** 2017/09/03
Sample ID: 2001CRASH-3-FD **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157944	N/A	2017/09/11	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV015 **Collected:** 2017/09/03
Sample ID: 2001CRASH-3-06 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

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Maxxam Job #: B7J4905
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TEST SUMMARY

Maxxam ID: FBV016 **Collected:** 2017/09/03
Sample ID: 2001CRASH-3-09 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV017 **Collected:** 2017/09/03
Sample ID: 2001CRASH-4-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV018 **Collected:** 2017/09/03
Sample ID: 2001CRASH-4-7.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV019 **Collected:** 2017/09/03
Sample ID: 2001CRASH-4-11.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV020 **Collected:** 2017/09/03
Sample ID: 2001CRASH-2-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV021 **Collected:** 2017/09/03
Sample ID: 2001CRASH-2-7.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV022 **Collected:** 2017/09/03
Sample ID: 2001CRASH-2-25 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5155952	N/A	2017/09/08	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV023 **Collected:** 2017/09/03
Sample ID: 2001CRASH-4-W12 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

Maxxam ID: FBV024 **Collected:** 2017/09/03
Sample ID: 2001CRASH-4-WFD **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

Maxxam ID: FBV025 **Collected:** 2017/09/03
Sample ID: 2001CRASH-3-W08 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.9°C
Package 3	2.5°C
Package 4	1.7°C

Sample FBV013, PFOS and PFOA in soil by SPE/LCMS: Test repeated.
Sample FBV019, PFOS and PFOA in soil by SPE/LCMS: Test repeated.

Results relate only to the items tested.

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Oneida Total Integrated Enterprises
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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5155952	GG2	RPD - Sample/Sample Dup	Moisture	2017/09/08	6.3		%	20
5157944	CYN	RPD - Sample/Sample Dup	Moisture	2017/09/11	7.3		%	20
5158366	M_G	Matrix Spike(FBV025)	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		82	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		92	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		98	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		80	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		87	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		93	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		88	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		93	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		104	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		114	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		108	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		87	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		103	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		103	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		104	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		108	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		93	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		98	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		100	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		105	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		99	%	70 - 130
5158366	M_G	Matrix Spike DUP(FBV025)	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		83	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		96	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		99	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		89	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		89	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		92	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		97	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		103	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		101	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		118	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		106	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		99	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		108	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		111	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		105	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		105	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		107	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		103	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		101	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		108	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		108	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		105	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		114	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		105	%	70 - 130
5158366	M_G	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/24	8.1		%	30
			8:2 Fluorotelomer sulfonate	2017/09/24	2.6		%	30
			Perfluorobutanoic acid	2017/09/24	3.5		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/24	1.4		%	30
			Perfluorodecane Sulfonate	2017/09/24	13		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24	5.1		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/24	7.7		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24	0.93		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/24	0.085		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24	5.5		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/24	1.1		%	30
			Perfluorotetradecanoic Acid	2017/09/24	10		%	30
			Perfluorotridecanoic Acid	2017/09/24	2.5		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24	1.3		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/24	5.8		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/24	5.4		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24	7.6		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/24	5.9		%	30
5158366	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		98	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		100	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		93	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		102	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		94	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		97	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		101	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		101	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		103	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		103	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		102	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		95	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		105	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		101	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		110	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		104	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		103	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		110	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		108	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		106	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		104	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		110	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		104	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		104	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		115	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		106	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		108	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		111	%	70 - 130
5158366	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		105	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		101	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		94	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		84	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		99	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		79	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		78	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		103	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		94	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		102	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		100	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		96	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		114	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/24	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorotridecanoic Acid	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
5161582	M_G	Matrix Spike(FBV017)	13C2-6:2 Fluorotelomer sulfonate	2017/09/22		68	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/22		73	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/22		75	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/22		68	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/22		84	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/22		73	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/22		76	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/22		82	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/22		73	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/22		78	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/22		79	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/22		75	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/22		84	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/22		66	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/22		72	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/22		114	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/22		129	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/22		123	%	70 - 130
			Perfluorobutanoic acid	2017/09/22		104	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/22		118	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/22		117	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/22		125	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/22		112	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/22		119	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/22		118	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/22		112	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/22		112	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/22		115	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/22		121	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/22		108	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/22		110	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/22		108	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/22		105	%	70 - 130
5161582	M_G	Matrix Spike DUP(FBV017)	13C2-6:2 Fluorotelomer sulfonate	2017/09/22		77	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/22		77	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/22		80	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/22		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/22		81	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/22		78	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/22		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/22		80	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluoroheptanoic acid	2017/09/22		80	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/22		75	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/22		81	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/22		77	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/22		81	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/22		70	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/22		75	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/22		109	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/22		121	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/22		120	%	70 - 130
			Perfluorobutanoic acid	2017/09/22		110	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/22		110	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/22		117	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/22		110	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/22		110	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/22		116	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/22		111	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/22		110	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/22		113	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/22		104	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/22		113	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/22		111	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/22		107	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/22		110	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/22		108	%	70 - 130
5161582	M_G	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/22	4.9		%	30
			8:2 Fluorotelomer sulfonate	2017/09/22	6.1		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/22	2.3		%	30
			Perfluorobutanoic acid	2017/09/22	5.8		%	30
			Perfluorodecane Sulfonate	2017/09/22	6.9		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/22	0.45		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/22	12		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/22	1.9		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/22	2.2		%	25
			Perfluorotetradecanoic Acid	2017/09/22	5.9		%	30
			Perfluorotridecanoic Acid	2017/09/22	1.8		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/22	0.82		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/22	10		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/22	7.1		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/22	3.1		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/22	3.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/22	2.1		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/22	2.8		%	30
5161582	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/22		75	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/22		79	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/22		80	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/22		74	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/22		80	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/22		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/22		75	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/22		86	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/22		77	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/22		77	%	50 - 150

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluorooctanoic acid	2017/09/22		82	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/22		78	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/22		85	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/22		69	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/22		83	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/22		114	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/22		110	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/22		110	%	70 - 130
			Perfluorobutanoic acid	2017/09/22		104	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/22		104	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/22		107	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/22		111	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/22		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/22		111	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/22		116	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/22		116	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/22		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/22		106	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/22		102	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/22		111	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/22		106	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/22		110	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/22		101	%	70 - 130
5161582	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/22		76	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/22		75	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/22		77	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/22		74	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/22		78	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/22		70	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/22		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/22		78	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/22		78	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/22		79	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/22		80	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/22		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/22		82	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/22		64	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/22		66	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/22	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorononanoic Acid (PFNA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/22	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/22	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
5181075	M_G	Matrix Spike(FBV013)	13C2-perfluorotetradecanoic acid	2017/09/30		70	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		69	%	50 - 150
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30		91	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/30		97	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/30		90	%	70 - 130
5181075	M_G	Matrix Spike DUP(FBV013)	13C2-perfluorotetradecanoic acid	2017/09/30		71	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		73	%	50 - 150
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30		92	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/30		95	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/30		92	%	70 - 130
5181075	M_G	MS/MSD RPD	Perfluorooctane Sulfonamide (PFOSA)	2017/09/30	1.6		%	25
			Perfluorotetradecanoic Acid	2017/09/30	2.2		%	30
			Perfluorotridecanoic Acid	2017/09/30	2.6		%	30
5181075	M_G	Spiked Blank	13C2-perfluorotetradecanoic acid	2017/09/30		64	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		72	%	50 - 150
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30		97	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/30		107	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/30		106	%	70 - 130
5181075	M_G	Method Blank	13C2-perfluorotetradecanoic acid	2017/09/30		67	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		66	%	50 - 150
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/30	0.40 U, LOD=0.40		ug/kg	

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorotridecanoic Acid	2017/09/30	0.40 U, LOD=0.40		ug/kg	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Maxxam Job #: B7J4905
Report Date: 2017/10/03

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Colm McNamara, Senior Analyst, Liquid Chromatography

Cristina Carriere, Scientific Service Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/27
Report #: R4738656
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4910
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	1	2017/09/11	2017/09/24	CAM SOP-00894	EPA 537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
27 Sep 2017 12:20:44

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B7J4910
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV035				
Sampling Date		2017/08/28 16:55				
COC Number		na				
	UNITS	WWTP-2-W10	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0032	0.010	0.020	5158366
8:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0036	0.010	0.020	5158366
Perfluorobutanoic acid	ug/L	0.010 J	0.0043	0.010	0.020	5158366
Perfluorobutane Sulfonate (PFBS)	ug/L	0.026	0.0048	0.010	0.020	5158366
Perfluorodecane Sulfonate	ug/L	0.010 U	0.0046	0.010	0.020	5158366
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.0064 J	0.0033	0.010	0.020	5158366
Perfluorohexanoic Acid (PFHxA)	ug/L	0.025	0.0029	0.010	0.020	5158366
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.17	0.0034	0.010	0.020	5158366
Perfluorononanoic Acid (PFNA)	ug/L	0.010 U	0.0038	0.010	0.020	5158366
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.0036	0.010	0.020	5158366
Perfluoropentanoic Acid (PFPeA)	ug/L	0.025	0.0027	0.010	0.020	5158366
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	5158366
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0033	0.010	0.020	5158366
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0043	0.010	0.020	5158366
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.0040	0.010	0.020	5158366
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.0028	0.010	0.020	5158366
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.017 J	0.0046	0.010	0.020	5158366
Perfluorooctane Sulfonate (PFOS)	ug/L	0.058	0.0026	0.010	0.020	5158366
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	77				5158366
13C2-8:2 Fluorotelomer sulfonate	%	89				5158366
13C2-Perfluorodecanoic acid	%	82				5158366
13C2-Perfluorododecanoic acid	%	80				5158366
13C2-Perfluorohexanoic acid	%	86				5158366
13C2-perfluorotetradecanoic acid	%	74				5158366
13C2-Perfluoroundecanoic acid	%	78				5158366
13C4-Perfluorobutanoic acid	%	57				5158366
13C4-Perfluoroheptanoic acid	%	92				5158366
13C4-Perfluorooctanesulfonate	%	100				5158366
13C4-Perfluorooctanoic acid	%	90				5158366
13C5-Perfluorononanoic acid	%	88				5158366

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV035				
Sampling Date		2017/08/28 16:55				
COC Number		na				
	UNITS	**WWTP-2-W10**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C5-Perfluoropentanoic acid	%	88				5158366
13C8-Perfluorooctane Sulfonamide	%	77				5158366
18O2-Perfluorohexanesulfonate	%	98				5158366

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV035
Sample ID: WWTP-2-W10
Matrix: Ground Water

Collected: 2017/08/28
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.9°C
Package 3	2.5°C
Package 4	1.7°C

Results relate only to the items tested.

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Maxxam Job #: B7J4910
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5158366	M_G	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		82	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		92	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		98	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		80	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		87	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		93	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		88	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		93	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		104	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		114	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		108	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		87	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		103	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		103	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		104	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		108	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		93	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		98	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		100	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		105	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		99	%	70 - 130
5158366	M_G	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		83	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		96	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		99	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		89	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		89	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		92	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		97	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		103	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		101	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		118	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		106	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		99	%	70 - 130

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Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		108	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		111	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		105	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		105	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		107	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		103	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		101	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		108	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		108	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		105	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		114	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		105	%	70 - 130
5158366	M_G	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/24	8.1		%	30
			8:2 Fluorotelomer sulfonate	2017/09/24	2.6		%	30
			Perfluorobutanoic acid	2017/09/24	3.5		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/24	1.4		%	30
			Perfluorodecane Sulfonate	2017/09/24	13		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24	5.1		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/24	7.7		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24	0.93		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/24	0.085		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24	5.5		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/24	1.1		%	30
			Perfluorotetradecanoic Acid	2017/09/24	10		%	30
			Perfluorotridecanoic Acid	2017/09/24	2.5		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24	1.3		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/24	5.8		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/24	5.4		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24	7.6		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/24	5.9		%	30
5158366	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		98	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		100	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		93	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		102	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		94	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		97	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		101	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		101	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		103	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		103	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		102	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		95	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		105	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		101	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		110	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		104	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		103	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		110	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		108	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		106	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		104	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		110	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		104	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		104	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		115	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		106	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		108	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		111	%	70 - 130
5158366	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		105	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		101	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		94	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		84	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		99	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		79	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		78	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		103	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		94	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		102	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		100	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		96	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		114	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/24	0.010 U, LOD=0.010		ug/L	

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Maxxam Job #: B7J4910
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/24	0.010 U, LOD=0.010		ug/L	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Colm McNamara, Senior Analyst, Liquid Chromatography

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/18
Report #: R4717942
Version: 1 - Partial

CERTIFICATE OF ANALYSIS – PARTIAL RESULTS

MAXXAM JOB #: B7J4915
Received: 2017/09/07, 15:11

Sample Matrix: Soil
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	7	N/A	2017/09/09	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	7	2017/09/12	2017/09/14	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
18 Sep 2017 16:37:12

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B7J4915
Report Date: 2017/09/18

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV043					FBV044				
Sampling Date		2017/09/04 12:00					2017/09/04 12:20				
COC Number		na					na				
	UNITS	2014E75-1-0.5	DL	LOD	LOQ	QC Batch	2014E75-1-06	DL	LOD	LOQ	QC Batch
Inorganics											
Moisture	%	13	0.50	N/A	1.0	5157159	28	0.50	N/A	1.0	5157159
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	5159550	0.66 U	0.25	0.66	1.1	5159467
8:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.28	0.53	0.89	5159550	0.66 U	0.35	0.66	1.1	5159467
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.53 U	0.15	0.53	0.89	5159550	0.66 U	0.19	0.66	1.1	5159467
Perfluorobutanoic acid	ug/kg	0.53 U	0.20	0.53	0.89	5159550	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecane Sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	5159550	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecanoic Acid (PFDA)	ug/kg	0.36 U	0.12	0.36	0.89	5159550	0.44 U	0.14	0.44	1.1	5159467
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.53 U	0.20	0.53	0.89	5159550	0.66 U	0.24	0.66	1.1	5159467
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.53 U	0.15	0.53	0.89	5159550	0.66 U	0.19	0.66	1.1	5159467
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.60 J	0.20	0.53	0.89	5159550	0.39 J	0.25	0.66	1.1	5159467
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.53 U	0.17	0.53	0.89	5159550	0.66 U	0.21	0.66	1.1	5159467
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.53 U	0.23	0.53	0.89	5159550	0.66 U	0.29	0.66	1.1	5159467
Perfluorononanoic Acid (PFNA)	ug/kg	0.53 U	0.15	0.53	0.89	5159550	0.66 U	0.19	0.66	1.1	5159467
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.53 U	0.23	0.53	0.89	5159550	0.66 U	0.29	0.66	1.1	5159467
Perfluorooctane Sulfonate (PFOS)	ug/kg	2.0	0.19	0.53	0.89	5159550	0.66 U	0.23	0.66	1.1	5159467
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.53 U	0.16	0.53	0.89	5159550	0.66 U	0.20	0.66	1.1	5159467
Perfluorotetradecanoic Acid	ug/kg	0.36 U	0.098	0.36	0.89	5159550	0.44 U	0.12	0.44	1.1	5159467
Perfluorotridecanoic Acid	ug/kg	0.36 U	0.11	0.36	0.89	5159550	0.44 U	0.13	0.44	1.1	5159467
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.53 U	0.16	0.53	0.89	5159550	0.66 U	0.20	0.66	1.1	5159467
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	83				5159550	94				5159467
13C2-8:2 Fluorotelomer sulfonate	%	91				5159550	78				5159467
13C2-Perfluorodecanoic acid	%	84				5159550	83				5159467
13C2-Perfluorododecanoic acid	%	90				5159550	77				5159467
13C2-Perfluorohexanoic acid	%	92				5159550	93				5159467
13C2-perfluorotetradecanoic acid	%	86				5159550	80				5159467
13C2-Perfluoroundecanoic acid	%	94				5159550	85				5159467
13C4-Perfluorobutanoic acid	%	93				5159550	88				5159467
13C4-Perfluoroheptanoic acid	%	97				5159550	90				5159467
13C4-Perfluorooctanesulfonate	%	100				5159550	89				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4915
Report Date: 2017/09/18

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV043					FBV044				
Sampling Date		2017/09/04 12:00					2017/09/04 12:20				
COC Number		na					na				
	UNITS	2014E75-1-0.5	DL	LOD	LOQ	QC Batch	2014E75-1-06	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	99				5159550	90				5159467
13C5-Perfluorononanoic acid	%	97				5159550	93				5159467
13C5-Perfluoropentanoic acid	%	87				5159550	89				5159467
13C8-Perfluorooctane Sulfonamide	%	82				5159550	84				5159467
18O2-Perfluorohexanesulfonate	%	85				5159550	81				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
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Maxxam Job #: B7J4915
Report Date: 2017/09/18

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV045	FBV046	FBV047				
Sampling Date		2017/09/04 12:45	2017/09/04 12:05	2017/09/04 12:15				
COC Number		na	na	na				
	UNITS	2014E75-1-13	2014E75-2-0.5	2014E75-2-5.5	DL	LOD	LOQ	QC Batch
Inorganics								
Moisture	%	20	21	20	0.50	N/A	1.0	5157159
Miscellaneous Parameters								
6:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.60 U	0.60 U	0.23	0.60	1.0	5159467
8:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.60 U	0.60 U	0.32	0.60	1.0	5159467
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.60 U	0.32 J	0.60 U	0.17	0.60	1.0	5159467
Perfluorobutanoic acid	ug/kg	0.60 U	0.60 U	0.60 U	0.23	0.60	1.0	5159467
Perfluorodecane Sulfonate	ug/kg	0.60 U	0.60 U	0.60 U	0.23	0.60	1.0	5159467
Perfluorodecanoic Acid (PFDA)	ug/kg	0.40 U	0.40 U	0.40 U	0.13	0.40	1.0	5159467
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.60 U	0.60 U	0.60 U	0.22	0.60	1.0	5159467
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.60 U	0.60 U	0.60 U	0.17	0.60	1.0	5159467
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.60 U	1.7	0.26 J	0.23	0.60	1.0	5159467
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.60 U	0.36 J	0.60 U	0.19	0.60	1.0	5159467
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.60 U	2.9	0.60 U	0.26	0.60	1.0	5159467
Perfluorononanoic Acid (PFNA)	ug/kg	0.60 U	0.60 U	0.60 U	0.17	0.60	1.0	5159467
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.60 U	0.75 J	0.60 U	0.26	0.60	1.0	5159467
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.60 U	4.3	0.60 U	0.21	0.60	1.0	5159467
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.60 U	0.60 U	0.60 U	0.18	0.60	1.0	5159467
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.40 U	0.40 U	0.11	0.40	1.0	5159467
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.40 U	0.40 U	0.12	0.40	1.0	5159467
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.60 U	0.60 U	0.60 U	0.18	0.60	1.0	5159467
Surrogate Recovery (%)								
13C2-6:2 Fluorotelomer sulfonate	%	90	112	95				5159467
13C2-8:2 Fluorotelomer sulfonate	%	84	114	82				5159467
13C2-Perfluorodecanoic acid	%	79	89	85				5159467
13C2-Perfluorododecanoic acid	%	76	86	82				5159467
13C2-Perfluorohexanoic acid	%	86	103	91				5159467
13C2-perfluorotetradecanoic acid	%	68	84	80				5159467
13C2-Perfluoroundecanoic acid	%	83	87	90				5159467
13C4-Perfluorobutanoic acid	%	83	90	97				5159467
13C4-Perfluoroheptanoic acid	%	89	101	98				5159467
13C4-Perfluorooctanesulfonate	%	78	92	86				5159467

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4915
Report Date: 2017/09/18

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV045	FBV046	FBV047				
Sampling Date		2017/09/04 12:45	2017/09/04 12:05	2017/09/04 12:15				
COC Number		na	na	na				
	UNITS	2014E75-1-13	2014E75-2-0.5	2014E75-2-5.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	88	100	94				5159467
13C5-Perfluorononanoic acid	%	88	87	95				5159467
13C5-Perfluoropentanoic acid	%	81	95	93				5159467
13C8-Perfluorooctane Sulfonamide	%	85	82	85				5159467
18O2-Perfluorohexanesulfonate	%	78	83	85				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4915
Report Date: 2017/09/18

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV048	FBV049				
Sampling Date		2017/09/04 12:49	2017/09/04 12:15				
COC Number		na	na				
	UNITS	2014E75-2-10.5	2014E75-2-FD	DL	LOD	LOQ	QC Batch
Inorganics							
Moisture	%	25	23	0.50	N/A	1.0	5157159
Miscellaneous Parameters							
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5159467
8:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.66 U	0.35	0.66	1.1	5159467
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.66 U	0.19	0.66	1.1	5159467
Perfluorobutanoic acid	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.44 U	0.14	0.44	1.1	5159467
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.66 U	0.24	0.66	1.1	5159467
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.66 U	0.66 U	0.19	0.66	1.1	5159467
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5159467
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.66 U	0.66 U	0.21	0.66	1.1	5159467
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.66 U	0.66 U	0.29	0.66	1.1	5159467
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.66 U	0.19	0.66	1.1	5159467
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.66 U	0.29	0.66	1.1	5159467
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.26 J	0.66 U	0.23	0.66	1.1	5159467
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.66 U	0.66 U	0.20	0.66	1.1	5159467
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.44 U	0.12	0.44	1.1	5159467
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.44 U	0.13	0.44	1.1	5159467
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.66 U	0.20	0.66	1.1	5159467
Surrogate Recovery (%)							
13C2-6:2 Fluorotelomer sulfonate	%	102	91				5159467
13C2-8:2 Fluorotelomer sulfonate	%	91	91				5159467
13C2-Perfluorodecanoic acid	%	83	90				5159467
13C2-Perfluorododecanoic acid	%	87	90				5159467
13C2-Perfluorohexanoic acid	%	98	105				5159467
13C2-perfluorotetradecanoic acid	%	89	86				5159467
13C2-Perfluoroundecanoic acid	%	95	94				5159467
13C4-Perfluorobutanoic acid	%	93	102				5159467
13C4-Perfluoroheptanoic acid	%	98	104				5159467
13C4-Perfluorooctanesulfonate	%	96	98				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4915
Report Date: 2017/09/18

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV048	FBV049				
Sampling Date		2017/09/04 12:49	2017/09/04 12:15				
COC Number		na	na				
	UNITS	2014E75-2-10.5	2014E75-2-FD	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	95	109				5159467
13C5-Perfluorononanoic acid	%	102	106				5159467
13C5-Perfluoropentanoic acid	%	95	94				5159467
13C8-Perfluorooctane Sulfonamide	%	87	94				5159467
18O2-Perfluorohexanesulfonate	%	99	88				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4915
Report Date: 2017/09/18

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV043 **Collected:** 2017/09/04
Sample ID: 2014E75-1-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159550	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV044 **Collected:** 2017/09/04
Sample ID: 2014E75-1-06 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV045 **Collected:** 2017/09/04
Sample ID: 2014E75-1-13 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV046 **Collected:** 2017/09/04
Sample ID: 2014E75-2-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV047 **Collected:** 2017/09/04
Sample ID: 2014E75-2-5.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV048 **Collected:** 2017/09/04
Sample ID: 2014E75-2-10.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

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Maxxam Job #: B7J4915
Report Date: 2017/09/18

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV049
Sample ID: 2014E75-2-FD
Matrix: Soil

Collected: 2017/09/04
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam Analytics International Corporation o/a Maxxam Analytics

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Maxxam Job #: B7J4915
Report Date: 2017/09/18

Oneida Total Integrated Enterprises
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GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5157159	GG2	RPD - Sample/Sample Dup	Moisture	2017/09/09	1.7		%	20
5159467	AD9	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		84	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		87	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		79	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		50	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		88	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		86	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		89	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		82	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		86	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		105	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		105	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		110	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		109	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		116	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		108	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		103	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		107	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		114	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		154 (1)	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		107	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		105	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		109	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		111	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		104	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		116	%	70 - 130
5159467	AD9	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		94	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		84	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		62	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		87	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		91	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		87	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		83	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		89	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		122	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		103	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		116	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/09/14		110	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		119	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		114	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		108	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		109	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		120	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		139 (2)	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		109	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		106	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		111	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		109	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		133 (2)	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		116	%	70 - 130
5159467	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/14	10		%	30
			8:2 Fluorotelomer sulfonate	2017/09/14	11		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	2.0		%	30
			Perfluorobutanoic acid	2017/09/14	5.5		%	30
			Perfluorodecane Sulfonate	2017/09/14	1.0		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/14	2.1		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	6.1		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/14	5.1		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	1.7		%	25
			Perfluorotetradecanoic Acid	2017/09/14	5.4		%	30
			Perfluorotridecanoic Acid	2017/09/14	9.8		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	9.1		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	2.0		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	0.35		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	1.1		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	1.4		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	25		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	0.21		%	30
5159467	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		87	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		90	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		76	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		82	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		92	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		99	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		81	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		86	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		114	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		114	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		115	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		114	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		123	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		129	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		118	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		114	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		120	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		125	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		107	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		112	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		112	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		106	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		110	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		111	%	70 - 130
5159467	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		113	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		106	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		99	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		96	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		108	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		87	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		99	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		108	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		113	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		109	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		114	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		107	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		106	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		97	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		103	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
5159550	AD9	Matrix Spike(FBV043)	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		81	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		74	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		80	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		85	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		80	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		80	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		86	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		84	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		89	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		84	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		93	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		88	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		108	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		118	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		106	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		108	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		116	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		121	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		115	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		120	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		115	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		123	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		120	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		122	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		109	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		100	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		118	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		113	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		125	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		109	%	70 - 130
5159550	AD9	Matrix Spike DUP(FBV043)	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		69	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		69	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		74	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		64	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		80	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		68	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		68	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		75	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		73	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		76	%	50 - 150

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Maxxam Job #: B7J4915
Report Date: 2017/09/18

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluorooctanoic acid	2017/09/14		76	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		78	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		79	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		61	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		67	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		113	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		127	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		119	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		113	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		106	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		107	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		121	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		106	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		123	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		113	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		116	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		115	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		112	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		117	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		107	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		111	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		126	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		108	%	70 - 130
5159550	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/14	4.0		%	30
			8:2 Fluorotelomer sulfonate	2017/09/14	7.8		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	12		%	30
			Perfluorobutanoic acid	2017/09/14	4.2		%	30
			Perfluorodecane Sulfonate	2017/09/14	9.2		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/14	12		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	5.9		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/14	12		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	6.4		%	25
			Perfluorotetradecanoic Acid	2017/09/14	7.8		%	30
			Perfluorotridecanoic Acid	2017/09/14	3.4		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	6.3		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	2.8		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	16		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	9.7		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	1.5		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	0.92		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	1.2		%	30

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) Recovery of the matrix spike was above the upper control limit. Laboratory spiked soil resulted in satisfactory recovery of the compound of interest. When considered together, these QC data suggest that matrix interferences may be biasing the data high. For results that were not detected (ND), this potential bias has no impact.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Maxxam Job #: B7J4915
Report Date: 2017/09/18

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Brad Newman, Scientific Service Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/19
Report #: R4720938
Version: 2 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4915
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	2	2017/09/12	2017/09/14	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	7	N/A	2017/09/09	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	7	2017/09/12	2017/09/14	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
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CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4915
Received: 2017/09/07, 15:11

Encryption Key

Stephanie Pollen
Project Manager
19 Sep 2017 14:47:27

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B7J4915
Report Date: 2017/09/19

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV050					FBV051				
Sampling Date		2017/09/04 15:30					2017/09/04 15:40				
COC Number		na					na				
	UNITS	2014E75-2-W11	DL	LOD	LOQ	QC Batch	2014E75-1-W12	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0032	0.010	0.020	5159684	0.010 U	0.0032	0.010	0.020	5159684
8:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0036	0.010	0.020	5159684	0.010 U	0.0036	0.010	0.020	5159684
Perfluorobutanoic acid	ug/L	0.010 U	0.0043	0.010	0.020	5159684	0.19	0.0043	0.010	0.020	5159684
Perfluorobutane Sulfonate (PFBS)	ug/L	0.12	0.0048	0.010	0.020	5159684	0.047	0.0048	0.010	0.020	5159684
Perfluorodecane Sulfonate	ug/L	0.010 U	0.0046	0.010	0.020	5159684	0.010 U	0.0046	0.010	0.020	5159684
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.058	0.0033	0.010	0.020	5159684	0.036	0.0033	0.010	0.020	5159684
Perfluorohexanoic Acid (PFHxA)	ug/L	0.16	0.0029	0.010	0.020	5159684	0.091	0.0029	0.010	0.020	5159684
Perfluorohexane Sulfonate (PFHxS)	ug/L	1.2 (1)	0.034	0.10	0.20	5159684	0.63	0.0034	0.010	0.020	5159684
Perfluorononanoic Acid (PFNA)	ug/L	0.010 U	0.0038	0.010	0.020	5159684	0.010 U	0.0038	0.010	0.020	5159684
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.0036	0.010	0.020	5159684	0.010 U	0.0036	0.010	0.020	5166631
Perfluoropentanoic Acid (PFPeA)	ug/L	0.093	0.0027	0.010	0.020	5159684	0.055	0.0027	0.010	0.020	5159684
Perfluorotetradecanoic Acid	ug/L	0.10 U (2)	0.038	0.10	0.20	5166631	0.010 U	0.0038	0.010	0.020	5159684
Perfluorotridecanoic Acid	ug/L	0.10 U (2)	0.033	0.10	0.20	5166631	0.010 U	0.0033	0.010	0.020	5159684
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0043	0.010	0.020	5159684	0.010 U	0.0043	0.010	0.020	5159684
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.0040	0.010	0.020	5159684	0.010 U	0.0040	0.010	0.020	5159684
Perfluorododecanoic Acid (PFDoA)	ug/L	0.10 U (2)	0.028	0.10	0.20	5166631	0.010 U	0.0028	0.010	0.020	5166631
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.20	0.0046	0.010	0.020	5159684	0.12	0.0046	0.010	0.020	5159684
Perfluorooctane Sulfonate (PFOS)	ug/L	0.82	0.0026	0.010	0.020	5159684	0.83	0.0026	0.010	0.020	5159684
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	100				5159684	97				5159684
13C2-8:2 Fluorotelomer sulfonate	%	93				5159684	88				5159684
13C2-Perfluorodecanoic acid	%	77				5159684	69				5159684
13C2-Perfluorododecanoic acid	%	63				5166631	16 (3)				5166631

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

(2) Due to low recovery of the associated extracted internal standard analyte, results were reported from a sample that was extracted and analyzed using a smaller sample volume. Detection limit was adjusted accordingly (10x).

(3) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low. Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the low extracted internal standard analyte recovery. Insufficient sample remains for re-analysis.

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Maxxam Job #: B7J4915
Report Date: 2017/09/19

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV050					FBV051				
Sampling Date		2017/09/04 15:30					2017/09/04 15:40				
COC Number		na					na				
	UNITS	2014E75-2-W11	DL	LOD	LOQ	QC Batch	2014E75-1-W12	DL	LOD	LOQ	QC Batch
13C2-Perfluorohexanoic acid	%	89				5159684	92				5159684
13C2-perfluorotetradecanoic acid	%	62				5166631	56				5159684
13C2-Perfluoroundecanoic acid	%	69				5159684	51				5159684
13C4-Perfluorobutanoic acid	%	87				5159684	81				5159684
13C4-Perfluoroheptanoic acid	%	84				5159684	85				5159684
13C4-Perfluorooctanesulfonate	%	90				5159684	75				5159684
13C4-Perfluorooctanoic acid	%	88				5159684	86				5159684
13C5-Perfluorononanoic acid	%	82				5159684	88				5159684
13C5-Perfluoropentanoic acid	%	81				5159684	93				5159684
13C8-Perfluorooctane Sulfonamide	%	62				5159684	41 (1)				5166631
18O2-Perfluorohexanesulfonate	%	86				5159684	89				5159684

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low. Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the low extracted internal standard analyte recovery. Insufficient sample remains for re-analysis.

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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV043					FBV044				
Sampling Date		2017/09/04 12:00					2017/09/04 12:20				
COC Number		na					na				
	UNITS	2014E75-1-0.5	DL	LOD	LOQ	QC Batch	2014E75-1-06	DL	LOD	LOQ	QC Batch
Inorganics											
Moisture	%	13	0.50	N/A	1.0	5157159	28	0.50	N/A	1.0	5157159
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	5159550	0.66 U	0.25	0.66	1.1	5159467
8:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.28	0.53	0.89	5159550	0.66 U	0.35	0.66	1.1	5159467
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.53 U	0.15	0.53	0.89	5159550	0.66 U	0.19	0.66	1.1	5159467
Perfluorobutanoic acid	ug/kg	0.53 U	0.20	0.53	0.89	5159550	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecane Sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	5159550	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecanoic Acid (PFDA)	ug/kg	0.36 U	0.12	0.36	0.89	5159550	0.44 U	0.14	0.44	1.1	5159467
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.53 U	0.20	0.53	0.89	5159550	0.66 U	0.24	0.66	1.1	5159467
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.53 U	0.15	0.53	0.89	5159550	0.66 U	0.19	0.66	1.1	5159467
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.60 J	0.20	0.53	0.89	5159550	0.39 J	0.25	0.66	1.1	5159467
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.53 U	0.17	0.53	0.89	5159550	0.66 U	0.21	0.66	1.1	5159467
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.53 U	0.23	0.53	0.89	5159550	0.66 U	0.29	0.66	1.1	5159467
Perfluorononanoic Acid (PFNA)	ug/kg	0.53 U	0.15	0.53	0.89	5159550	0.66 U	0.19	0.66	1.1	5159467
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.53 U	0.23	0.53	0.89	5159550	0.66 U	0.29	0.66	1.1	5159467
Perfluorooctane Sulfonate (PFOS)	ug/kg	2.0	0.19	0.53	0.89	5159550	0.66 U	0.23	0.66	1.1	5159467
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.53 U	0.16	0.53	0.89	5159550	0.66 U	0.20	0.66	1.1	5159467
Perfluorotetradecanoic Acid	ug/kg	0.36 U	0.098	0.36	0.89	5159550	0.44 U	0.12	0.44	1.1	5159467
Perfluorotridecanoic Acid	ug/kg	0.36 U	0.11	0.36	0.89	5159550	0.44 U	0.13	0.44	1.1	5159467
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.53 U	0.16	0.53	0.89	5159550	0.66 U	0.20	0.66	1.1	5159467
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	83				5159550	94				5159467
13C2-8:2 Fluorotelomer sulfonate	%	91				5159550	78				5159467
13C2-Perfluorodecanoic acid	%	84				5159550	83				5159467
13C2-Perfluorododecanoic acid	%	90				5159550	77				5159467
13C2-Perfluorohexanoic acid	%	92				5159550	93				5159467
13C2-perfluorotetradecanoic acid	%	86				5159550	80				5159467
13C2-Perfluoroundecanoic acid	%	94				5159550	85				5159467
13C4-Perfluorobutanoic acid	%	93				5159550	88				5159467
13C4-Perfluoroheptanoic acid	%	97				5159550	90				5159467
13C4-Perfluorooctanesulfonate	%	100				5159550	89				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4915
Report Date: 2017/09/19

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV043					FBV044				
Sampling Date		2017/09/04 12:00					2017/09/04 12:20				
COC Number		na					na				
	UNITS	**2014E75-1-0.5**	**DL**	**LOD**	**LOQ**	**QC Batch**	**2014E75-1-06**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	99				5159550	90				5159467
13C5-Perfluorononanoic acid	%	97				5159550	93				5159467
13C5-Perfluoropentanoic acid	%	87				5159550	89				5159467
13C8-Perfluorooctane Sulfonamide	%	82				5159550	84				5159467
18O2-Perfluorohexanesulfonate	%	85				5159550	81				5159467

DL = Detection Limit
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LOQ = Limit of Quantitation
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N/A = Not Applicable

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Maxxam Job #: B7J4915
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV045	FBV046	FBV047				
Sampling Date		2017/09/04 12:45	2017/09/04 12:05	2017/09/04 12:15				
COC Number		na	na	na				
	UNITS	2014E75-1-13	2014E75-2-0.5	2014E75-2-5.5	DL	LOD	LOQ	QC Batch
Inorganics								
Moisture	%	20	21	20	0.50	N/A	1.0	5157159
Miscellaneous Parameters								
6:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.60 U	0.60 U	0.23	0.60	1.0	5159467
8:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.60 U	0.60 U	0.32	0.60	1.0	5159467
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.60 U	0.32 J	0.60 U	0.17	0.60	1.0	5159467
Perfluorobutanoic acid	ug/kg	0.60 U	0.60 U	0.60 U	0.23	0.60	1.0	5159467
Perfluorodecane Sulfonate	ug/kg	0.60 U	0.60 U	0.60 U	0.23	0.60	1.0	5159467
Perfluorodecanoic Acid (PFDA)	ug/kg	0.40 U	0.40 U	0.40 U	0.13	0.40	1.0	5159467
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.60 U	0.60 U	0.60 U	0.22	0.60	1.0	5159467
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.60 U	0.60 U	0.60 U	0.17	0.60	1.0	5159467
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.60 U	1.7	0.26 J	0.23	0.60	1.0	5159467
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.60 U	0.36 J	0.60 U	0.19	0.60	1.0	5159467
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.60 U	2.9	0.60 U	0.26	0.60	1.0	5159467
Perfluorononanoic Acid (PFNA)	ug/kg	0.60 U	0.60 U	0.60 U	0.17	0.60	1.0	5159467
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.60 U	0.75 J	0.60 U	0.26	0.60	1.0	5159467
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.60 U	4.3	0.60 U	0.21	0.60	1.0	5159467
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.60 U	0.60 U	0.60 U	0.18	0.60	1.0	5159467
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.40 U	0.40 U	0.11	0.40	1.0	5159467
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.40 U	0.40 U	0.12	0.40	1.0	5159467
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.60 U	0.60 U	0.60 U	0.18	0.60	1.0	5159467
Surrogate Recovery (%)								
13C2-6:2 Fluorotelomer sulfonate	%	90	112	95				5159467
13C2-8:2 Fluorotelomer sulfonate	%	84	114	82				5159467
13C2-Perfluorodecanoic acid	%	79	89	85				5159467
13C2-Perfluorododecanoic acid	%	76	86	82				5159467
13C2-Perfluorohexanoic acid	%	86	103	91				5159467
13C2-perfluorotetradecanoic acid	%	68	84	80				5159467
13C2-Perfluoroundecanoic acid	%	83	87	90				5159467
13C4-Perfluorobutanoic acid	%	83	90	97				5159467
13C4-Perfluoroheptanoic acid	%	89	101	98				5159467
13C4-Perfluorooctanesulfonate	%	78	92	86				5159467

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4915
Report Date: 2017/09/19

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV045	FBV046	FBV047				
Sampling Date		2017/09/04 12:45	2017/09/04 12:05	2017/09/04 12:15				
COC Number		na	na	na				
	UNITS	**2014E75-1-13**	**2014E75-2-0.5**	**2014E75-2-5.5**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	88	100	94				5159467
13C5-Perfluorononanoic acid	%	88	87	95				5159467
13C5-Perfluoropentanoic acid	%	81	95	93				5159467
13C8-Perfluorooctane Sulfonamide	%	85	82	85				5159467
18O2-Perfluorohexanesulfonate	%	78	83	85				5159467

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV048	FBV049				
Sampling Date		2017/09/04 12:49	2017/09/04 12:15				
COC Number		na	na				
	UNITS	2014E75-2-10.5	2014E75-2-FD	DL	LOD	LOQ	QC Batch
Inorganics							
Moisture	%	25	23	0.50	N/A	1.0	5157159
Miscellaneous Parameters							
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5159467
8:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.66 U	0.35	0.66	1.1	5159467
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.66 U	0.19	0.66	1.1	5159467
Perfluorobutanoic acid	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5159467
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.44 U	0.14	0.44	1.1	5159467
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.66 U	0.24	0.66	1.1	5159467
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.66 U	0.66 U	0.19	0.66	1.1	5159467
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5159467
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.66 U	0.66 U	0.21	0.66	1.1	5159467
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.66 U	0.66 U	0.29	0.66	1.1	5159467
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.66 U	0.19	0.66	1.1	5159467
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.66 U	0.29	0.66	1.1	5159467
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.26 J	0.66 U	0.23	0.66	1.1	5159467
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.66 U	0.66 U	0.20	0.66	1.1	5159467
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.44 U	0.12	0.44	1.1	5159467
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.44 U	0.13	0.44	1.1	5159467
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.66 U	0.20	0.66	1.1	5159467
Surrogate Recovery (%)							
13C2-6:2 Fluorotelomer sulfonate	%	102	91				5159467
13C2-8:2 Fluorotelomer sulfonate	%	91	91				5159467
13C2-Perfluorodecanoic acid	%	83	90				5159467
13C2-Perfluorododecanoic acid	%	87	90				5159467
13C2-Perfluorohexanoic acid	%	98	105				5159467
13C2-perfluorotetradecanoic acid	%	89	86				5159467
13C2-Perfluoroundecanoic acid	%	95	94				5159467
13C4-Perfluorobutanoic acid	%	93	102				5159467
13C4-Perfluoroheptanoic acid	%	98	104				5159467
13C4-Perfluorooctanesulfonate	%	96	98				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4915
Report Date: 2017/09/19

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV048	FBV049				
Sampling Date		2017/09/04 12:49	2017/09/04 12:15				
COC Number		na	na				
	UNITS	**2014E75-2-10.5**	**2014E75-2-FD**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	95	109				5159467
13C5-Perfluorononanoic acid	%	102	106				5159467
13C5-Perfluoropentanoic acid	%	95	94				5159467
13C8-Perfluorooctane Sulfonamide	%	87	94				5159467
18O2-Perfluorohexanesulfonate	%	99	88				5159467

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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TEST SUMMARY

Maxxam ID: FBV043 **Collected:** 2017/09/04
Sample ID: 2014E75-1-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159550	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV044 **Collected:** 2017/09/04
Sample ID: 2014E75-1-06 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV045 **Collected:** 2017/09/04
Sample ID: 2014E75-1-13 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV046 **Collected:** 2017/09/04
Sample ID: 2014E75-2-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV047 **Collected:** 2017/09/04
Sample ID: 2014E75-2-5.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV048 **Collected:** 2017/09/04
Sample ID: 2014E75-2-10.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

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Maxxam Job #: B7J4915
Report Date: 2017/09/19

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV049 **Collected:** 2017/09/04
Sample ID: 2014E75-2-FD **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157159	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5159467	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV050 **Collected:** 2017/09/04
Sample ID: 2014E75-2-W11 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159684	2017/09/12	2017/09/14	Anjan Desai

Maxxam ID: FBV051 **Collected:** 2017/09/04
Sample ID: 2014E75-1-W12 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159684	2017/09/12	2017/09/14	Anjan Desai

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.9°C
Package 3	2.5°C
Package 4	1.7°C

Sample FBV050, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample FBV051, PFOS and PFOA in water by SPE/LCMS: Test repeated.

Results relate only to the items tested.

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Oneida Total Integrated Enterprises
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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5157159	GG2	RPD - Sample/Sample Dup	Moisture	2017/09/09	1.7		%	20
5159467	AD9	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		84	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		87	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		79	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		50	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		88	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		86	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		89	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		82	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		86	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		105	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		105	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		110	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		109	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		116	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		108	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		103	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		107	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		114	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		154 (1)	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		107	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		105	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		109	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		111	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		104	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		116	%	70 - 130
5159467	AD9	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		94	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		84	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		62	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		87	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		91	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		87	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		83	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		89	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		122	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		103	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		116	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/09/14		110	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		119	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		114	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		108	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		109	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		120	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		139 (2)	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		109	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		106	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		111	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		109	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		133 (2)	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		116	%	70 - 130
5159467	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/14	10		%	30
			8:2 Fluorotelomer sulfonate	2017/09/14	11		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	2.0		%	30
			Perfluorobutanoic acid	2017/09/14	5.5		%	30
			Perfluorodecane Sulfonate	2017/09/14	1.0		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/14	2.1		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	6.1		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/14	5.1		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	1.7		%	25
			Perfluorotetradecanoic Acid	2017/09/14	5.4		%	30
			Perfluorotridecanoic Acid	2017/09/14	9.8		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	9.1		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	2.0		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	0.35		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	1.1		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	1.4		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	25		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	0.21		%	30
5159467	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		87	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		90	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		76	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		82	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		92	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		99	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		81	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		86	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		114	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		114	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		115	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		114	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		123	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		129	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		118	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		114	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		120	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		125	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		107	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		112	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		112	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		106	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		110	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		111	%	70 - 130
5159467	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		113	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		106	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		99	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		96	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		108	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		87	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		99	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		108	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		113	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		109	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		114	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		107	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		106	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		97	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		103	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/14	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	0.60 U, LOD=0.60		ug/kg	
5159550	AD9	Matrix Spike(FBV043)	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		81	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		74	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		80	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		85	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		80	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		80	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		86	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		84	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		89	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		84	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		93	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		88	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		108	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		118	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		106	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		108	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		116	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		121	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		115	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		120	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		115	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		123	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		120	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		122	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		109	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		100	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		118	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		113	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		125	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		109	%	70 - 130
5159550	AD9	Matrix Spike DUP(FBV043)	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		69	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		69	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		74	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/14		64	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		80	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		68	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		68	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		75	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		73	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		76	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluorooctanoic acid	2017/09/14		76	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		78	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		79	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		61	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		67	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		113	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		127	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		119	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		113	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		106	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		107	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/14		121	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		106	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		123	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		113	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		116	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		115	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		112	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		117	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		107	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		111	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		126	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		108	%	70 - 130
5159550	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/14	4.0		%	30
			8:2 Fluorotelomer sulfonate	2017/09/14	7.8		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	12		%	30
			Perfluorobutanoic acid	2017/09/14	4.2		%	30
			Perfluorodecane Sulfonate	2017/09/14	9.2		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/14	12		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/14	5.9		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/14	12		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	6.4		%	25
			Perfluorotetradecanoic Acid	2017/09/14	7.8		%	30
			Perfluorotridecanoic Acid	2017/09/14	3.4		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	6.3		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	2.8		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	16		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	9.7		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	1.5		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	0.92		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	1.2		%	30
5159684	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		95	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		101	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		96	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		97	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		82	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		92	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		97	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		98	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		92	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		91	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		91	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C8-Perfluorooctane Sulfonamide	2017/09/14		84	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		100	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		106	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		108	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		111	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		105	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		96	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		104	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		106	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		97	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		114	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		107	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		114	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		101	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		121	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		112	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		101	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		112	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		106	%	70 - 130
5159684	AD9	Spiked Blank DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		98	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		98	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		87	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		90	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		96	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		92	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		96	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		95	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		88	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		96	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14		99	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/14		106	%	70 - 130
			Perfluorobutanoic acid	2017/09/14		108	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/14		109	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/14		103	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14		108	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/14		112	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14		104	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/14		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14		107	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/14		112	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/14		106	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/14		122	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14		98	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/14		115	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14		112	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/14		115	%	70 - 130
5159684	AD9	RPD	6:2 Fluorotelomer sulfonate	2017/09/14	6.7		%	30
			8:2 Fluorotelomer sulfonate	2017/09/14	1.8		%	30
			Perfluorobutanoic acid	2017/09/14	2.9		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	4.0		%	30
			Perfluorodecane Sulfonate	2017/09/14	6.8		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	4.3		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	6.0		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	6.9		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/14	1.3		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	0.81		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	2.2		%	30
			Perfluorotetradecanoic Acid	2017/09/14	4.6		%	30
			Perfluorotridecanoic Acid	2017/09/14	1.1		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	13		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/14	13		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	0.67		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	8.0		%	30
5159684	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/14		99	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/14		94	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/14		86	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/14		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/14		69	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/14		76	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/14		91	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/14		91	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/14		80	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/14		90	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/14		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/14		86	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/14		83	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/14		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/14	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/14	0.0048 J, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/14	0.010 U, LOD=0.010		ug/L	

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Maxxam Job #: B7J4915
Report Date: 2017/09/19

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorotridecanoic Acid	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/14	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/14	0.010 U, LOD=0.010		ug/L	
5166631	AD9	Spiked Blank	13C2-Perfluorododecanoic acid	2017/09/18		81	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/18		71	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/18		77	%	50 - 150
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/18		106	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/18		100	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/18		107	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/18		96	%	70 - 130
5166631	AD9	Spiked Blank DUP	13C2-Perfluorododecanoic acid	2017/09/18		72	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/18		69	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/18		77	%	50 - 150
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/18		107	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/18		101	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/18		107	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/18		111	%	70 - 130
5166631	AD9	RPD	Perfluorooctane Sulfonamide (PFOSA)	2017/09/18	1.1		%	30
			Perfluorotetradecanoic Acid	2017/09/18	0.17		%	30
			Perfluorotridecanoic Acid	2017/09/18	0.20		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/18	14		%	30
5166631	AD9	Method Blank	13C2-Perfluorododecanoic acid	2017/09/18		76	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/18		67	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/18		77	%	50 - 150
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/18	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/18	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/18	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/18	0.010 U, LOD=0.010		ug/L	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) Recovery of the matrix spike was above the upper control limit. Laboratory spiked soil resulted in satisfactory recovery of the compound of interest. When considered together, these QC data suggest that matrix interferences may be biasing the data high. For results that were not detected (ND), this potential bias has no impact.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Maxxam Job #: B7J4915
Report Date: 2017/09/19

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Brad Newman, Scientific Service Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/27
Report #: R4738997
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4920
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	3	2017/09/11	2017/09/24	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	6	N/A	2017/09/11	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	6	2017/09/13	2017/09/22	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

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MAXXAM JOB #: B7J4920
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Encryption Key

Stephanie Pollen
Project Manager
27 Sep 2017 17:09:06

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B7J4920
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV062				FBV063				
Sampling Date		2017/08/28 16:10				2017/08/31 07:50				
COC Number		na				na				
	UNITS	FS1-1-W11	DL	LOD	LOQ	FS1-2-W10	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/L	0.0053 J	0.0032	0.010	0.020	0.069 (1)	0.0064	0.020	0.040	5158366
8:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0036	0.010	0.020	0.020 U (1)	0.0072	0.020	0.040	5158366
Perfluorobutanoic acid	ug/L	0.11	0.0043	0.010	0.020	0.32 (1)	0.0086	0.020	0.040	5158366
Perfluorobutane Sulfonate (PFBS)	ug/L	0.084	0.0048	0.010	0.020	0.54 (1)	0.0096	0.020	0.040	5158366
Perfluorodecane Sulfonate	ug/L	0.010 U	0.0046	0.010	0.020	0.020 U (1)	0.0092	0.020	0.040	5158366
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.12	0.0033	0.010	0.020	0.49 (1)	0.0066	0.020	0.040	5158366
Perfluorohexanoic Acid (PFHxA)	ug/L	0.26	0.0029	0.010	0.020	1.7 (1)	0.0058	0.020	0.040	5158366
Perfluorohexane Sulfonate (PFHxS)	ug/L	1.3 (2)	0.034	0.10	0.20	4.0 (3)	0.068	0.20	0.40	5158366
Perfluorononanoic Acid (PFNA)	ug/L	0.087	0.0038	0.010	0.020	0.062 (1)	0.0076	0.020	0.040	5158366
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.0036	0.010	0.020	0.020 U (1)	0.0072	0.020	0.040	5158366
Perfluoropentanoic Acid (PFPeA)	ug/L	0.19	0.0027	0.010	0.020	1.1 (1)	0.0054	0.020	0.040	5158366
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	0.020 U (1)	0.0076	0.020	0.040	5158366
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0033	0.010	0.020	0.020 U (1)	0.0066	0.020	0.040	5158366
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0043	0.010	0.020	0.020 U (1)	0.0086	0.020	0.040	5158366
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.0040	0.010	0.020	0.020 U (1)	0.0080	0.020	0.040	5158366
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.0028	0.010	0.020	0.020 U (1)	0.0056	0.020	0.040	5158366
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.27	0.0046	0.010	0.020	0.86 (1)	0.0092	0.020	0.040	5158366
Perfluorooctane Sulfonate (PFOS)	ug/L	0.60	0.0026	0.010	0.020	0.96 (1)	0.0052	0.020	0.040	5158366
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	79				91				5158366
13C2-8:2 Fluorotelomer sulfonate	%	82				82				5158366
13C2-Perfluorodecanoic acid	%	83				85				5158366
13C2-Perfluorododecanoic acid	%	69				74				5158366
13C2-Perfluorohexanoic acid	%	89				90				5158366
13C2-perfluorotetradecanoic acid	%	68				62				5158366
13C2-Perfluoroundecanoic acid	%	77				79				5158366

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x).

(2) Due to high concentrations of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

(3) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (20x).

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7J4920
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV062				FBV063				
Sampling Date		2017/08/28 16:10				2017/08/31 07:50				
COC Number		na				na				
	UNITS	FS1-1-W11	DL	LOD	LOQ	FS1-2-W10	DL	LOD	LOQ	QC Batch
13C4-Perfluorobutanoic acid	%	65				71				5158366
13C4-Perfluoroheptanoic acid	%	87				91				5158366
13C4-Perfluorooctanesulfonate	%	97				94				5158366
13C4-Perfluorooctanoic acid	%	89				93				5158366
13C5-Perfluorononanoic acid	%	90				91				5158366
13C5-Perfluoropentanoic acid	%	82				86				5158366
13C8-Perfluorooctane Sulfonamide	%	70				80				5158366
18O2-Perfluorohexanesulfonate	%	91				101				5158366

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Your P.O. #: 10995
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RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV064				
Sampling Date		2017/08/31 08:26				
COC Number		na				
	UNITS	FS1-3-W10	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/L	2.6 (1)	0.032	0.10	0.20	5158366
8:2 Fluorotelomer sulfonate	ug/L	0.58 (1)	0.036	0.10	0.20	5158366
Perfluorobutanoic acid	ug/L	0.54 (1)	0.043	0.10	0.20	5158366
Perfluorobutane Sulfonate (PFBS)	ug/L	1.3 (1)	0.048	0.10	0.20	5158366
Perfluorodecane Sulfonate	ug/L	0.10 U (1)	0.046	0.10	0.20	5158366
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.62 (1)	0.033	0.10	0.20	5158366
Perfluorohexanoic Acid (PFHxA)	ug/L	2.8 (1)	0.029	0.10	0.20	5158366
Perfluorohexane Sulfonate (PFHxS)	ug/L	8.5 (1)	0.034	0.10	0.20	5158366
Perfluorononanoic Acid (PFNA)	ug/L	0.10 U (1)	0.038	0.10	0.20	5158366
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.10 U (1)	0.036	0.10	0.20	5158366
Perfluoropentanoic Acid (PFPeA)	ug/L	1.7 (1)	0.027	0.10	0.20	5158366
Perfluorotetradecanoic Acid	ug/L	0.10 U (1)	0.038	0.10	0.20	5158366
Perfluorotridecanoic Acid	ug/L	0.10 U (1)	0.033	0.10	0.20	5158366
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.10 U (1)	0.043	0.10	0.20	5158366
Perfluorodecanoic Acid (PFDA)	ug/L	0.10 U (1)	0.040	0.10	0.20	5158366
Perfluorododecanoic Acid (PFDoA)	ug/L	0.10 U (1)	0.028	0.10	0.20	5158366
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.87 (1)	0.046	0.10	0.20	5158366
Perfluorooctane Sulfonate (PFOS)	ug/L	28 (2)	0.26	1.0	2.0	5158366
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	84				5158366
13C2-8:2 Fluorotelomer sulfonate	%	96				5158366
13C2-Perfluorodecanoic acid	%	98				5158366
13C2-Perfluorododecanoic acid	%	90				5158366
13C2-Perfluorohexanoic acid	%	94				5158366
13C2-perfluorotetradecanoic acid	%	86				5158366
13C2-Perfluoroundecanoic acid	%	91				5158366

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
(2) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

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RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV064				
Sampling Date		2017/08/31 08:26				
COC Number		na				
	UNITS	FS1-3-W10	DL	LOD	LOQ	QC Batch
13C4-Perfluorobutanoic acid	%	82				5158366
13C4-Perfluoroheptanoic acid	%	94				5158366
13C4-Perfluorooctanesulfonate	%	87				5158366
13C4-Perfluorooctanoic acid	%	91				5158366
13C5-Perfluorononanoic acid	%	94				5158366
13C5-Perfluoropentanoic acid	%	87				5158366
13C8-Perfluorooctane Sulfonamide	%	89				5158366
18O2-Perfluorohexanesulfonate	%	95				5158366

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Report Date: 2017/09/27

Oneida Total Integrated Enterprises
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Your P.O. #: 10995
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RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV056				FBV057				FBV058				
Sampling Date		2017/08/30 08:35				2017/08/30 09:35				2017/08/30 09:42				
COC Number		na				na				na				
	UNITS	FS1-3-0.5	DL	LOD	LOQ	FS1-3-08	DL	LOD	LOQ	FS1-3-17	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	31	0.50	N/A	1.0	16	0.50	N/A	1.0	20	0.50	N/A	1.0	5157944
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	98 (1)	2.5	6.6	11	0.79 J	0.25	0.66	1.1	0.46 J	0.22	0.58	0.96	5161582
8:2 Fluorotelomer sulfonate	ug/kg	4.0 J (1)	3.5	6.6	11	0.66 U	0.35	0.66	1.1	0.58 U	0.31	0.58	0.96	5161582
Perfluorobutane Sulfonate (PFBS)	ug/kg	8.4 J (1)	1.9	6.6	11	0.82 J	0.19	0.66	1.1	0.58 U	0.16	0.58	0.96	5161582
Perfluorobutanoic acid	ug/kg	6.6 U (1)	2.5	6.6	11	0.43 J	0.25	0.66	1.1	0.58 U	0.22	0.58	0.96	5161582
Perfluorodecane Sulfonate	ug/kg	6.6 U (1)	2.5	6.6	11	0.66 U	0.25	0.66	1.1	0.58 U	0.22	0.58	0.96	5161582
Perfluorodecanoic Acid (PFDA)	ug/kg	4.4 U (1)	1.4	4.4	11	0.44 U	0.14	0.44	1.1	0.38 U	0.12	0.38	0.96	5161582
Perfluorododecanoic Acid (PFDoA)	ug/kg	6.6 U (1)	2.4	6.6	11	0.66 U	0.24	0.66	1.1	0.58 U	0.21	0.58	0.96	5161582
Perfluoroheptanoic Acid (PFHpA)	ug/kg	9.5 J (1)	1.9	6.6	11	0.98 J	0.19	0.66	1.1	0.58 U	0.16	0.58	0.96	5161582
Perfluorohexane Sulfonate (PFHxS)	ug/kg	250 (1)	2.5	6.6	11	12	0.25	0.66	1.1	1.4	0.22	0.58	0.96	5161582
Perfluorohexanoic Acid (PFHxA)	ug/kg	70 (1)	2.1	6.6	11	4.5	0.21	0.66	1.1	0.49 J	0.18	0.58	0.96	5161582
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	44 (1)	2.9	6.6	11	0.81 J	0.29	0.66	1.1	0.58 U	0.25	0.58	0.96	5161582
Perfluorononanoic Acid (PFNA)	ug/kg	6.6 U (1)	1.9	6.6	11	0.66 U	0.19	0.66	1.1	0.58 U	0.16	0.58	0.96	5161582
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	6.6 U (1)	2.9	6.6	11	0.66 U	0.29	0.66	1.1	0.58 U	0.25	0.58	0.96	5161582
Perfluorooctane Sulfonate (PFOS)	ug/kg	780 (2)	23	66	110	0.69 J	0.23	0.66	1.1	6.4	0.20	0.58	0.96	5161582
Perfluoropentanoic Acid (PFPeA)	ug/kg	19 (1)	2.0	6.6	11	1.8	0.20	0.66	1.1	0.58 U	0.17	0.58	0.96	5161582
Perfluorotetradecanoic Acid	ug/kg	4.4 U (1)	1.2	4.4	11	0.44 U	0.12	0.44	1.1	0.38 U	0.11	0.38	0.96	5161582
Perfluorotridecanoic Acid	ug/kg	4.4 U (1)	1.3	4.4	11	0.44 U	0.13	0.44	1.1	0.38 U	0.12	0.38	0.96	5161582
Perfluoroundecanoic Acid (PFUnA)	ug/kg	6.6 U (1)	2.0	6.6	11	0.66 U	0.20	0.66	1.1	0.58 U	0.17	0.58	0.96	5161582
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	95				69				82				5161582
13C2-8:2 Fluorotelomer sulfonate	%	95				72				75				5161582
13C2-Perfluorodecanoic acid	%	100				78				80				5161582
13C2-Perfluorododecanoic acid	%	104				69				72				5161582
13C2-Perfluorohexanoic acid	%	100				70				72				5161582
13C2-perfluorotetradecanoic acid	%	110				69				69				5161582
13C2-Perfluoroundecanoic acid	%	106				74				74				5161582
13C4-Perfluorobutanoic acid	%	95				74				75				5161582

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentrations of the target analytes, sample required 10x dilution. Detection limit was adjusted accordingly.
(2) Due to high concentrations of the target analytes, sample required 100x dilution. Detection limit was adjusted accordingly.

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Your P.O. #: 10995
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RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV056				FBV057				FBV058				
Sampling Date		2017/08/30 08:35				2017/08/30 09:35				2017/08/30 09:42				
COC Number		na				na				na				
	UNITS	**FS1-3-0.5**	**DL**	**LOD**	**LOQ**	**FS1-3-08**	**DL**	**LOD**	**LOQ**	**FS1-3-17**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluoroheptanoic acid	%	102				69				75				5161582
13C4-Perfluorooctanesulfonate	%	89				78				79				5161582
13C4-Perfluorooctanoic acid	%	98				78				75				5161582
13C5-Perfluorononanoic acid	%	97				67				74				5161582
13C5-Perfluoropentanoic acid	%	101				74				77				5161582
13C8-Perfluorooctane Sulfonamide	%	101				61				65				5161582
18O2-Perfluorohexanesulfonate	%	103				69				77				5161582

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV059			FBV060				FBV061				
Sampling Date		2017/08/30 08:00			2017/08/30 08:55				2017/08/30 09:00				
COC Number		na			na				na				
	UNITS	FS1-2-0.5	LOD	LOQ	FS1-2-08	DL	LOD	LOQ	FS1-2-17	DL	LOD	LOQ	QC Batch
Inorganics													
Moisture	%	21	N/A	1.0	20	0.50	N/A	1.0	28	0.50	N/A	1.0	5157944
Miscellaneous Parameters													
6:2 Fluorotelomer sulfonate	ug/kg	0.59 U	0.59	0.99	0.60 U	0.23	0.60	1.0	0.72 U	0.28	0.72	1.2	5161582
8:2 Fluorotelomer sulfonate	ug/kg	0.59 U	0.59	0.99	0.60 U	0.32	0.60	1.0	0.72 U	0.38	0.72	1.2	5161582
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.40 J	0.59	0.99	0.60 U	0.17	0.60	1.0	0.72 U	0.20	0.72	1.2	5161582
Perfluorobutanoic acid	ug/kg	0.59 U	0.59	0.99	0.60 U	0.23	0.60	1.0	0.72 U	0.28	0.72	1.2	5161582
Perfluorodecane Sulfonate	ug/kg	0.59 U	0.59	0.99	0.60 U	0.23	0.60	1.0	0.72 U	0.28	0.72	1.2	5161582
Perfluorodecanoic Acid (PFDA)	ug/kg	0.40 U	0.40	0.99	0.40 U	0.13	0.40	1.0	0.48 U	0.16	0.48	1.2	5161582
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.22	0.60	1.0	0.72 U	0.26	0.72	1.2	5161582
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.59 U	0.59	0.99	0.41 J	0.17	0.60	1.0	0.72 U	0.20	0.72	1.2	5161582
Perfluorohexane Sulfonate (PFHxS)	ug/kg	10	0.59	0.99	3.8	0.23	0.60	1.0	1.2 J	0.28	0.72	1.2	5161582
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.53 J	0.59	0.99	0.74 J	0.19	0.60	1.0	0.38 J	0.23	0.72	1.2	5161582
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	2.0	0.59	0.99	1.4	0.26	0.60	1.0	0.72 U	0.31	0.72	1.2	5161582
Perfluorononanoic Acid (PFNA)	ug/kg	1.2	0.59	0.99	0.60 U	0.17	0.60	1.0	0.72 U	0.20	0.72	1.2	5161582
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.26	0.60	1.0	0.72 U	0.31	0.72	1.2	5161582
Perfluorooctane Sulfonate (PFOS)	ug/kg	26	0.59	0.99	1.2	0.21	0.60	1.0	0.72 U	0.25	0.72	1.2	5161582
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.18	0.60	1.0	0.72 U	0.22	0.72	1.2	5161582
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.40	0.99	0.40 U	0.11	0.40	1.0	0.48 U	0.13	0.48	1.2	5161582
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.40	0.99	0.40 U	0.12	0.40	1.0	0.48 U	0.14	0.48	1.2	5161582
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.18	0.60	1.0	0.72 U	0.22	0.72	1.2	5161582
Surrogate Recovery (%)													
13C2-6:2 Fluorotelomer sulfonate	%	73			73				76				5161582
13C2-8:2 Fluorotelomer sulfonate	%	67			70				66				5161582
13C2-Perfluorodecanoic acid	%	69			73				68				5161582
13C2-Perfluorododecanoic acid	%	68			71				64				5161582
13C2-Perfluorohexanoic acid	%	72			78				70				5161582
13C2-perfluorotetradecanoic acid	%	63			65				63				5161582
13C2-Perfluoroundecanoic acid	%	71			76				69				5161582
13C4-Perfluorobutanoic acid	%	73			75				72				5161582
13C4-Perfluoroheptanoic acid	%	71			77				69				5161582
13C4-Perfluorooctanesulfonate	%	72			81				66				5161582

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Job #: B7J4920
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV059			FBV060				FBV061				
Sampling Date		2017/08/30 08:00			2017/08/30 08:55				2017/08/30 09:00				
COC Number		na			na				na				
	UNITS	**FS1-2-0.5**	**LOD**	**LOQ**	**FS1-2-08**	**DL**	**LOD**	**LOQ**	**FS1-2-17**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	74			73				75				5161582
13C5-Perfluorononanoic acid	%	75			79				68				5161582
13C5-Perfluoropentanoic acid	%	74			74				74				5161582
13C8-Perfluorooctane Sulfonamide	%	64			66				63				5161582
18O2-Perfluorohexanesulfonate	%	64			78				69				5161582

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4920
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV056 **Collected:** 2017/08/30
Sample ID: FS1-3-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157944	N/A	2017/09/11	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV057 **Collected:** 2017/08/30
Sample ID: FS1-3-08 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157944	N/A	2017/09/11	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV058 **Collected:** 2017/08/30
Sample ID: FS1-3-17 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157944	N/A	2017/09/11	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV059 **Collected:** 2017/08/30
Sample ID: FS1-2-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157944	N/A	2017/09/11	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV060 **Collected:** 2017/08/30
Sample ID: FS1-2-08 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157944	N/A	2017/09/11	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

Maxxam ID: FBV061 **Collected:** 2017/08/30
Sample ID: FS1-2-17 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157944	N/A	2017/09/11	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5161582	2017/09/13	2017/09/22	Marian Godax

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Maxxam Job #: B7J4920
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV062 **Collected:** 2017/08/28
Sample ID: FS1-1-W11 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

Maxxam ID: FBV063 **Collected:** 2017/08/31
Sample ID: FS1-2-W10 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

Maxxam ID: FBV064 **Collected:** 2017/08/31
Sample ID: FS1-3-W10 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.9°C
Package 3	2.5°C
Package 4	1.7°C

Results relate only to the items tested.

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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
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Sampler Initials: AG

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5157944	CYN	RPD - Sample/Sample Dup	Moisture	2017/09/11	7.3		%	20
5158366	M_G	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		82	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		92	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		98	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		80	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		87	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		93	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		88	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		93	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		104	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		114	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		108	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		87	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		103	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		103	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		104	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		108	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		93	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		98	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		100	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		105	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		99	%	70 - 130
5158366	M_G	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		83	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		96	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		99	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		89	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		89	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		92	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		97	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		103	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		101	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		118	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		106	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/09/24		99	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		108	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		111	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		105	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		105	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		107	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		103	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		101	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		108	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		108	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		105	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		114	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		105	%	70 - 130
5158366	M_G	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/24	8.1		%	30
			8:2 Fluorotelomer sulfonate	2017/09/24	2.6		%	30
			Perfluorobutanoic acid	2017/09/24	3.5		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/24	1.4		%	30
			Perfluorodecane Sulfonate	2017/09/24	13		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24	5.1		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/24	7.7		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24	0.93		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/24	0.085		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24	5.5		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/24	1.1		%	30
			Perfluorotetradecanoic Acid	2017/09/24	10		%	30
			Perfluorotridecanoic Acid	2017/09/24	2.5		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24	1.3		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/24	5.8		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/24	5.4		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24	7.6		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/24	5.9		%	30
5158366	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		98	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		100	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		93	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		102	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		94	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		97	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		101	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		101	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		103	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		103	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		102	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		95	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		105	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		101	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		110	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		104	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		103	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		110	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		108	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		106	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		104	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		110	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		104	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		104	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		115	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		106	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		108	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		111	%	70 - 130
5158366	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		105	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		101	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		94	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		84	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		99	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		79	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		78	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		103	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		94	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		102	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		100	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		96	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		114	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/24	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
5161582	M_G	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/22		68	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/22		73	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/22		75	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/22		68	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/22		84	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/22		73	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/22		76	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/22		82	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/22		73	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/22		78	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/22		79	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/22		75	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/22		84	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/22		66	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/22		72	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/22		114	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/22		129	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/22		123	%	70 - 130
			Perfluorobutanoic acid	2017/09/22		104	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/22		118	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/22		117	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/22		125	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/22		112	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/22		119	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/22		118	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/22		112	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/22		112	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/22		115	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/22		121	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/22		108	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/22		110	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/22		108	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/22		105	%	70 - 130
5161582	M_G	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/22		77	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/22		77	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/22		80	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/22		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/22		81	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/22		78	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/22		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/22		80	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/22		80	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/22		75	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluorooctanoic acid	2017/09/22		81	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/22		77	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/22		81	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/22		70	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/22		75	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/22		109	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/22		121	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/22		120	%	70 - 130
			Perfluorobutanoic acid	2017/09/22		110	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/22		110	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/22		117	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/22		110	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/22		110	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/22		116	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/22		111	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/22		110	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/22		113	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/22		104	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/22		113	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/22		111	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/22		107	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/22		110	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/22		108	%	70 - 130
5161582	M_G	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/22	4.9		%	30
			8:2 Fluorotelomer sulfonate	2017/09/22	6.1		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/22	2.3		%	30
			Perfluorobutanoic acid	2017/09/22	5.8		%	30
			Perfluorodecane Sulfonate	2017/09/22	6.9		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/22	0.45		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/22	12		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/22	1.9		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/22	2.2		%	25
			Perfluorotetradecanoic Acid	2017/09/22	5.9		%	30
			Perfluorotridecanoic Acid	2017/09/22	1.8		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/22	0.82		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/22	10		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/22	7.1		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/22	3.1		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/22	3.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/22	2.1		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/22	2.8		%	30
5161582	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/22		75	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/22		79	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/22		80	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/22		74	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/22		80	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/22		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/22		75	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/22		86	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/22		77	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/22		77	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/22		82	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/22		78	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C5-Perfluoropentanoic acid	2017/09/22		85	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/22		69	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/22		83	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/22		114	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/22		110	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/22		110	%	70 - 130
			Perfluorobutanoic acid	2017/09/22		104	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/22		104	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/22		107	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/22		111	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/22		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/22		111	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/22		116	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/22		116	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/22		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/22		106	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/22		102	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/22		111	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/22		106	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/22		110	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/22		101	%	70 - 130
5161582	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/22		76	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/22		75	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/22		77	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/22		74	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/22		78	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/22		70	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/22		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/22		78	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/22		78	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/22		79	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/22		80	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/22		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/22		82	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/22		64	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/22		66	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/22	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	

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Maxxam Job #: B7J4920
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/22	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/22	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/22	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/22	0.60 U, LOD=0.60		ug/kg	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Maxxam Job #: B7J4920
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Colm McNamara, Senior Analyst, Liquid Chromatography

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/09/27
Report #: R4739719
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4922
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	4	2017/09/12	2017/09/27	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	10	N/A	2017/09/09	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	10	2017/09/12	2017/09/16	CAM SOP-00894	EPA537 m

Sample Matrix: SEDIMENT
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	1	N/A	2017/09/09	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	1	2017/09/12	2017/09/16	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
27 Sep 2017 17:13:29

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV086				FBV087				
Sampling Date		2017/09/01 13:00				2017/09/01 13:05				
COC Number		na				na				
	UNITS	FS4-1-W09	DL	LOD	LOQ	FS4-3-W12	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/L	1.6 (1)	0.016	0.050	0.10	0.70 (2)	0.0064	0.020	0.040	5159901
8:2 Fluorotelomer sulfonate	ug/L	0.49 (1)	0.018	0.050	0.10	0.33 (2)	0.0072	0.020	0.040	5159901
Perfluorobutanoic acid	ug/L	0.44 (1)	0.022	0.050	0.10	0.32 (2)	0.0086	0.020	0.040	5159901
Perfluorobutane Sulfonate (PFBS)	ug/L	0.79 (1)	0.024	0.050	0.10	0.57 (2)	0.0096	0.020	0.040	5159901
Perfluorodecane Sulfonate	ug/L	0.050 U (1)	0.023	0.050	0.10	0.020 U (2)	0.0092	0.020	0.040	5159901
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.60 (1)	0.017	0.050	0.10	0.38 (2)	0.0066	0.020	0.040	5159901
Perfluorohexanoic Acid (PFHxA)	ug/L	2.1 (1)	0.015	0.050	0.10	1.3 (2)	0.0058	0.020	0.040	5159901
Perfluorohexane Sulfonate (PFHxS)	ug/L	6.6 (3)	0.17	0.50	1.0	4.3 (4)	0.068	0.20	0.40	5159901
Perfluorononanoic Acid (PFNA)	ug/L	0.096 J (1)	0.019	0.050	0.10	0.047 (2)	0.0076	0.020	0.040	5159901
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.026 J (1)	0.018	0.050	0.10	0.025 J (2)	0.0072	0.020	0.040	5159901
Perfluoropentanoic Acid (PFPeA)	ug/L	1.1 (1)	0.014	0.050	0.10	0.77 (2)	0.0054	0.020	0.040	5159901
Perfluorotetradecanoic Acid	ug/L	0.050 U (1)	0.019	0.050	0.10	0.020 U (2)	0.0076	0.020	0.040	5159901
Perfluorotridecanoic Acid	ug/L	0.050 U (1)	0.017	0.050	0.10	0.020 U (2)	0.0066	0.020	0.040	5159901
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.050 U (1)	0.022	0.050	0.10	0.020 U (2)	0.0086	0.020	0.040	5159901
Perfluorodecanoic Acid (PFDA)	ug/L	0.050 U (1)	0.020	0.050	0.10	0.020 U (2)	0.0080	0.020	0.040	5159901
Perfluorododecanoic Acid (PFDoA)	ug/L	0.050 U (1)	0.014	0.050	0.10	0.020 U (2)	0.0056	0.020	0.040	5159901
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.72 (1)	0.023	0.050	0.10	0.46 (2)	0.0092	0.020	0.040	5159901
Perfluorooctane Sulfonate (PFOS)	ug/L	17 (3)	0.13	0.50	1.0	9.2 (4)	0.052	0.20	0.40	5159901
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	87				81				5159901
13C2-8:2 Fluorotelomer sulfonate	%	94				90				5159901
13C2-Perfluorodecanoic acid	%	85				84				5159901
13C2-Perfluorododecanoic acid	%	87				78				5159901
13C2-Perfluorohexanoic acid	%	91				98				5159901

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (5x).

(2) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x).

(3) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (50x).

(4) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (20x).

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV086				FBV087				
Sampling Date		2017/09/01 13:00				2017/09/01 13:05				
COC Number		na				na				
	UNITS	FS4-1-W09	DL	LOD	LOQ	FS4-3-W12	DL	LOD	LOQ	QC Batch
13C2-perfluorotetradecanoic acid	%	76				70				5159901
13C2-Perfluoroundecanoic acid	%	86				77				5159901
13C4-Perfluorobutanoic acid	%	88				94				5159901
13C4-Perfluoroheptanoic acid	%	92				94				5159901
13C4-Perfluorooctanesulfonate	%	82				79				5159901
13C4-Perfluorooctanoic acid	%	93				98				5159901
13C5-Perfluorononanoic acid	%	94				87				5159901
13C5-Perfluoropentanoic acid	%	97				97				5159901
13C8-Perfluorooctane Sulfonamide	%	77				73				5159901
18O2-Perfluorohexanesulfonate	%	96				94				5159901

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV088	FBV089				
Sampling Date		2017/09/01 13:15	2017/09/01 13:15				
COC Number		na	na				
	UNITS	FS4-2-W11	FS4-2-WFD	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters							
6:2 Fluorotelomer sulfonate	ug/L	1.0 (1)	1.1 (1)	0.016	0.050	0.10	5159901
8:2 Fluorotelomer sulfonate	ug/L	0.38 (1)	0.34 (1)	0.018	0.050	0.10	5159901
Perfluorobutanoic acid	ug/L	0.53 (1)	0.53 (1)	0.022	0.050	0.10	5159901
Perfluorobutane Sulfonate (PFBS)	ug/L	1.1 (1)	0.99 (1)	0.024	0.050	0.10	5159901
Perfluorodecane Sulfonate	ug/L	0.050 U (1)	0.050 U (1)	0.023	0.050	0.10	5159901
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.56 (1)	0.55 (1)	0.017	0.050	0.10	5159901
Perfluorohexanoic Acid (PFHxA)	ug/L	2.7 (1)	2.6 (1)	0.015	0.050	0.10	5159901
Perfluorohexane Sulfonate (PFHxS)	ug/L	9.3 (2)	9.3 (2)	0.17	0.50	1.0	5159901
Perfluorononanoic Acid (PFNA)	ug/L	0.059 J (1)	0.066 J (1)	0.019	0.050	0.10	5159901
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.040 J (1)	0.030 J (1)	0.018	0.050	0.10	5159901
Perfluoropentanoic Acid (PFPeA)	ug/L	1.2 (1)	1.1 (1)	0.014	0.050	0.10	5159901
Perfluorotetradecanoic Acid	ug/L	0.050 U (1)	0.050 U (1)	0.019	0.050	0.10	5159901
Perfluorotridecanoic Acid	ug/L	0.050 U (1)	0.050 U (1)	0.017	0.050	0.10	5159901
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.050 U (1)	0.050 U (1)	0.022	0.050	0.10	5159901
Perfluorodecanoic Acid (PFDA)	ug/L	0.050 U (1)	0.050 U (1)	0.020	0.050	0.10	5159901
Perfluorododecanoic Acid (PFDoA)	ug/L	0.050 U (1)	0.050 U (1)	0.014	0.050	0.10	5159901
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.75 (1)	0.80 (1)	0.023	0.050	0.10	5159901
Perfluorooctane Sulfonate (PFOS)	ug/L	32 (2)	30 (2)	0.13	0.50	1.0	5159901
Surrogate Recovery (%)							
13C2-6:2 Fluorotelomer sulfonate	%	86	86				5159901
13C2-8:2 Fluorotelomer sulfonate	%	91	102				5159901
13C2-Perfluorodecanoic acid	%	93	84				5159901
13C2-Perfluorododecanoic acid	%	91	81				5159901
13C2-Perfluorohexanoic acid	%	91	93				5159901
13C2-perfluorotetradecanoic acid	%	76	73				5159901
13C2-Perfluoroundecanoic acid	%	86	81				5159901
13C4-Perfluorobutanoic acid	%	92	91				5159901
13C4-Perfluoroheptanoic acid	%	88	89				5159901

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (5x).

(2) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (50x).

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV088	FBV089				
Sampling Date		2017/09/01 13:15	2017/09/01 13:15				
COC Number		na	na				
	UNITS	FS4-2-W11	FS4-2-WFD	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanesulfonate	%	87	87				5159901
13C4-Perfluorooctanoic acid	%	95	88				5159901
13C5-Perfluorononanoic acid	%	86	84				5159901
13C5-Perfluoropentanoic acid	%	90	95				5159901
13C8-Perfluorooctane Sulfonamide	%	79	73				5159901
18O2-Perfluorohexanesulfonate	%	101	92				5159901

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV076				FBV077				FBV078				
Sampling Date		2017/09/01 08:55				2017/09/01 09:27				2017/09/01 09:30				
COC Number		na				na				na				
	UNITS	FS4-3-0.5	DL	LOD	LOQ	FS4-3-06	DL	LOD	LOQ	FS4-3-11	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	9.2	0.50	N/A	1.0	14	0.50	N/A	1.0	25	0.50	N/A	1.0	5157131
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	0.55 U	0.21	0.55	0.92	0.65 U	0.25	0.65	1.1	5160185
8:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.28	0.53	0.89	0.55 U	0.29	0.55	0.92	0.65 U	0.35	0.65	1.1	5160185
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.53 U	0.15	0.53	0.89	1.1	0.16	0.55	0.92	0.65 U	0.19	0.65	1.1	5160185
Perfluorobutanoic acid	ug/kg	0.53 U	0.20	0.53	0.89	0.55 U	0.21	0.55	0.92	0.65 U	0.25	0.65	1.1	5160185
Perfluorodecane Sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	0.55 U	0.21	0.55	0.92	0.65 U	0.25	0.65	1.1	5160185
Perfluorodecanoic Acid (PFDA)	ug/kg	0.16 J	0.12	0.36	0.89	0.37 U	0.12	0.37	0.92	0.44 U	0.14	0.44	1.1	5160185
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.53 U	0.20	0.53	0.89	0.55 U	0.20	0.55	0.92	0.65 U	0.24	0.65	1.1	5160185
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.53 U	0.15	0.53	0.89	0.55 U	0.16	0.55	0.92	0.65 U	0.19	0.65	1.1	5160185
Perfluorohexane Sulfonate (PFHxS)	ug/kg	2.1	0.20	0.53	0.89	0.92	0.21	0.55	0.92	1.3	0.25	0.65	1.1	5160185
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.20 J	0.17	0.53	0.89	0.20 J	0.17	0.55	0.92	0.26 J	0.21	0.65	1.1	5160185
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.27 J	0.23	0.53	0.89	0.55 U	0.24	0.55	0.92	0.65 U	0.28	0.65	1.1	5160185
Perfluorononanoic Acid (PFNA)	ug/kg	0.35 J	0.15	0.53	0.89	0.55 U	0.16	0.55	0.92	0.65 U	0.19	0.65	1.1	5160185
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.53 U	0.23	0.53	0.89	0.55 U	0.24	0.55	0.92	0.65 U	0.28	0.65	1.1	5160185
Perfluorooctane Sulfonate (PFOS)	ug/kg	38	0.19	0.53	0.89	1.9	0.19	0.55	0.92	8.2	0.23	0.65	1.1	5160185
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.53 U	0.16	0.53	0.89	0.55 U	0.17	0.55	0.92	0.65 U	0.20	0.65	1.1	5160185
Perfluorotetradecanoic Acid	ug/kg	0.36 U	0.098	0.36	0.89	0.37 U	0.10	0.37	0.92	0.44 U	0.12	0.44	1.1	5160185
Perfluorotridecanoic Acid	ug/kg	0.36 U	0.11	0.36	0.89	0.37 U	0.11	0.37	0.92	0.44 U	0.13	0.44	1.1	5160185
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.53 U	0.16	0.53	0.89	0.55 U	0.17	0.55	0.92	0.65 U	0.20	0.65	1.1	5160185
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	88				78				82				5160185
13C2-8:2 Fluorotelomer sulfonate	%	92				84				82				5160185
13C2-Perfluorodecanoic acid	%	90				79				78				5160185
13C2-Perfluorododecanoic acid	%	80				75				77				5160185
13C2-Perfluorohexanoic acid	%	91				86				79				5160185
13C2-perfluorotetradecanoic acid	%	72				72				71				5160185
13C2-Perfluoroundecanoic acid	%	83				78				75				5160185
13C4-Perfluorobutanoic acid	%	89				74				80				5160185
13C4-Perfluoroheptanoic acid	%	87				87				84				5160185
13C4-Perfluorooctanesulfonate	%	85				83				77				5160185

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV076				FBV077				FBV078				
Sampling Date		2017/09/01 08:55				2017/09/01 09:27				2017/09/01 09:30				
COC Number		na				na				na				
	UNITS	FS4-3-0.5	DL	LOD	LOQ	FS4-3-06	DL	LOD	LOQ	FS4-3-11	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	86				84				80				5160185
13C5-Perfluorononanoic acid	%	87				78				80				5160185
13C5-Perfluoropentanoic acid	%	87				83				84				5160185
13C8-Perfluorooctane Sulfonamide	%	78				77				72				5160185
18O2-Perfluorohexanesulfonate	%	86				88				82				5160185

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV079				FBV080			FBV081				
Sampling Date		2017/09/01 09:52				2017/09/01 10:30			2017/09/01 10:35				
COC Number		na				na			na				
	UNITS	FS4-1-0.5	DL	LOD	LOQ	FS4-1-06	DL	LOD	FS4-1-11	DL	LOD	LOQ	QC Batch
Inorganics													
Moisture	%	9.2	0.50	N/A	1.0	21	0.50	N/A	23	0.50	N/A	1.0	5157131
Miscellaneous Parameters													
6:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	0.65 U	0.25	0.65	0.67 U	0.26	0.67	1.1	5160185
8:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.28	0.53	0.89	0.65 U	0.35	0.65	0.67 U	0.36	0.67	1.1	5160185
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.53 U	0.15	0.53	0.89	2.2	0.18	0.65	1.9	0.19	0.67	1.1	5160185
Perfluorobutanoic acid	ug/kg	0.59 J	0.20	0.53	0.89	0.65 U	0.25	0.65	0.51 J	0.26	0.67	1.1	5160185
Perfluorodecane Sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	0.65 U	0.25	0.65	0.67 U	0.26	0.67	1.1	5160185
Perfluorodecanoic Acid (PFDA)	ug/kg	0.36 U	0.12	0.36	0.89	0.43 U	0.14	0.43	0.44 U	0.14	0.44	1.1	5160185
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.53 U	0.20	0.53	0.89	0.65 U	0.24	0.65	0.67 U	0.24	0.67	1.1	5160185
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.53 U	0.15	0.53	0.89	0.65 U	0.18	0.65	0.24 J	0.19	0.67	1.1	5160185
Perfluorohexane Sulfonate (PFHxS)	ug/kg	3.8	0.20	0.53	0.89	4.2	0.25	0.65	7.8	0.26	0.67	1.1	5160185
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.50 J	0.17	0.53	0.89	0.83 J	0.21	0.65	2.7	0.21	0.67	1.1	5160185
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.26 J	0.23	0.53	0.89	0.65 U	0.28	0.65	0.67 U	0.29	0.67	1.1	5160185
Perfluorononanoic Acid (PFNA)	ug/kg	0.24 J	0.15	0.53	0.89	0.65 U	0.18	0.65	0.67 U	0.19	0.67	1.1	5160185
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.53 U	0.23	0.53	0.89	0.65 U	0.28	0.65	0.67 U	0.29	0.67	1.1	5160185
Perfluorooctane Sulfonate (PFOS)	ug/kg	75 (1)	1.9	5.3	8.9	3.0	0.23	0.65	11	0.23	0.67	1.1	5160185
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.58 J	0.16	0.53	0.89	0.65 U	0.19	0.65	0.64 J	0.20	0.67	1.1	5160185
Perfluorotetradecanoic Acid	ug/kg	0.36 U	0.098	0.36	0.89	0.43 U	0.12	0.43	0.44 U	0.12	0.44	1.1	5160185
Perfluorotridecanoic Acid	ug/kg	0.36 U	0.11	0.36	0.89	0.43 U	0.13	0.43	0.44 U	0.13	0.44	1.1	5160185
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.53 U	0.16	0.53	0.89	0.65 U	0.19	0.65	0.67 U	0.20	0.67	1.1	5160185
Surrogate Recovery (%)													
13C2-6:2 Fluorotelomer sulfonate	%	104				89			82				5160185
13C2-8:2 Fluorotelomer sulfonate	%	93				75			83				5160185
13C2-Perfluorodecanoic acid	%	93				80			78				5160185
13C2-Perfluorododecanoic acid	%	85				82			75				5160185
13C2-Perfluorohexanoic acid	%	91				84			83				5160185
13C2-perfluorotetradecanoic acid	%	85				71			76				5160185
13C2-Perfluoroundecanoic acid	%	83				81			78				5160185
13C4-Perfluorobutanoic acid	%	92				85			84				5160185
13C4-Perfluoroheptanoic acid	%	93				78			84				5160185

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, sample required 10x dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV079				FBV080			FBV081				
Sampling Date		2017/09/01 09:52				2017/09/01 10:30			2017/09/01 10:35				
COC Number		na				na			na				
	UNITS	FS4-1-0.5	DL	LOD	LOQ	FS4-1-06	DL	LOD	FS4-1-11	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanesulfonate	%	88				78			90				5160185
13C4-Perfluorooctanoic acid	%	95				86			88				5160185
13C5-Perfluorononanoic acid	%	92				86			81				5160185
13C5-Perfluoropentanoic acid	%	94				81			82				5160185
13C8-Perfluorooctane Sulfonamide	%	86				76			72				5160185
18O2-Perfluorohexanesulfonate	%	96				78			87				5160185

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV081				FBV082				FBV083				
Sampling Date		2017/09/01 10:35				2017/09/01 11:19				2017/09/01 12:00				
COC Number		na				na				na				
	UNITS	FS4-1-11 Lab-Dup	DL	LOD	LOQ	FS4-2-0.5	DL	LOD	LOQ	FS4-2-06	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	23	0.50	N/A	1.0	19	0.50	N/A	1.0	14	0.50	N/A	1.0	5157131
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	N/A	0.26	0.67	1.1	0.66 U	0.25	0.66	1.1	0.55 U	0.21	0.55	0.92	5160185
8:2 Fluorotelomer sulfonate	ug/kg	N/A	0.36	0.67	1.1	0.66 U	0.35	0.66	1.1	0.55 U	0.29	0.55	0.92	5160185
Perfluorobutane Sulfonate (PFBS)	ug/kg	N/A	0.19	0.67	1.1	0.66 U	0.19	0.66	1.1	0.18 J	0.16	0.55	0.92	5160185
Perfluorobutanoic acid	ug/kg	N/A	0.26	0.67	1.1	0.66 U	0.25	0.66	1.1	0.55 U	0.21	0.55	0.92	5160185
Perfluorodecane Sulfonate	ug/kg	N/A	0.26	0.67	1.1	0.66 U	0.25	0.66	1.1	0.55 U	0.21	0.55	0.92	5160185
Perfluorodecanoic Acid (PFDA)	ug/kg	N/A	0.14	0.44	1.1	0.44 U	0.14	0.44	1.1	0.37 U	0.12	0.37	0.92	5160185
Perfluorododecanoic Acid (PFDoA)	ug/kg	N/A	0.24	0.67	1.1	0.66 U	0.24	0.66	1.1	0.55 U	0.20	0.55	0.92	5160185
Perfluoroheptanoic Acid (PFHpA)	ug/kg	N/A	0.19	0.67	1.1	0.66 U	0.19	0.66	1.1	0.55 U	0.16	0.55	0.92	5160185
Perfluorohexane Sulfonate (PFHxS)	ug/kg	N/A	0.26	0.67	1.1	0.78 J	0.25	0.66	1.1	3.9	0.21	0.55	0.92	5160185
Perfluorohexanoic Acid (PFHxA)	ug/kg	N/A	0.21	0.67	1.1	0.21 J	0.21	0.66	1.1	0.55 U	0.17	0.55	0.92	5160185
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	N/A	0.29	0.67	1.1	0.66 U	0.29	0.66	1.1	0.55 U	0.24	0.55	0.92	5160185
Perfluorononanoic Acid (PFNA)	ug/kg	N/A	0.19	0.67	1.1	0.66 U	0.19	0.66	1.1	0.55 U	0.16	0.55	0.92	5160185
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	N/A	0.29	0.67	1.1	0.66 U	0.29	0.66	1.1	0.55 U	0.24	0.55	0.92	5160185
Perfluorooctane Sulfonate (PFOS)	ug/kg	N/A	0.23	0.67	1.1	14	0.23	0.66	1.1	0.55 U	0.19	0.55	0.92	5160185
Perfluoropentanoic Acid (PFPeA)	ug/kg	N/A	0.20	0.67	1.1	0.66 U	0.20	0.66	1.1	0.55 U	0.17	0.55	0.92	5160185
Perfluorotetradecanoic Acid	ug/kg	N/A	0.12	0.44	1.1	0.44 U	0.12	0.44	1.1	0.37 U	0.10	0.37	0.92	5160185
Perfluorotridecanoic Acid	ug/kg	N/A	0.13	0.44	1.1	0.44 U	0.13	0.44	1.1	0.37 U	0.11	0.37	0.92	5160185
Perfluoroundecanoic Acid (PFUnA)	ug/kg	N/A	0.20	0.67	1.1	0.66 U	0.20	0.66	1.1	0.55 U	0.17	0.55	0.92	5160185
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	N/A				87				86				5160185
13C2-8:2 Fluorotelomer sulfonate	%	N/A	N/A	N/A		91				86				5160185
13C2-Perfluorodecanoic acid	%	N/A	N/A	N/A		83				88				5160185
13C2-Perfluorododecanoic acid	%	N/A	N/A	N/A		83				83				5160185
13C2-Perfluorohexanoic acid	%	N/A	N/A	N/A		88				90				5160185
13C2-perfluorotetradecanoic acid	%	N/A	N/A	N/A		71				74				5160185
13C2-Perfluoroundecanoic acid	%	N/A	N/A	N/A		83				81				5160185
13C4-Perfluorobutanoic acid	%	N/A	N/A	N/A		90				83				5160185
13C4-Perfluoroheptanoic acid	%	N/A	N/A	N/A		87				85				5160185

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV081				FBV082				FBV083				
Sampling Date		2017/09/01 10:35				2017/09/01 11:19				2017/09/01 12:00				
COC Number		na				na				na				
	UNITS	**FS4-1-11 Lab-Dup**	**DL**	**LOD**	**LOQ**	**FS4-2-0.5**	**DL**	**LOD**	**LOQ**	**FS4-2-06**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanesulfonate	%	N/A	N/A	N/A		80				83				5160185
13C4-Perfluorooctanoic acid	%	N/A	N/A	N/A		90				93				5160185
13C5-Perfluorononanoic acid	%	N/A	N/A	N/A		81				85				5160185
13C5-Perfluoropentanoic acid	%	N/A	N/A	N/A		85				82				5160185
13C8-Perfluorooctane Sulfonamide	%	N/A	N/A	N/A		70				78				5160185
18O2-Perfluorohexanesulfonate	%	N/A	N/A	N/A		84				76				5160185

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Report Date: 2017/09/27

Oneida Total Integrated Enterprises
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Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV084				FBV085				
Sampling Date		2017/09/01 12:05				2017/09/01 11:19				
COC Number		na				na				
	UNITS	FS4-2-11	DL	LOD	LOQ	FS4-2-FD	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	27	0.50	N/A	1.0	14	0.50	N/A	1.0	5157131
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.31 J	0.26	0.67	1.1	0.56 U	0.21	0.56	0.93	5160185
8:2 Fluorotelomer sulfonate	ug/kg	0.67 U	0.36	0.67	1.1	0.56 U	0.30	0.56	0.93	5160185
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.64 J	0.19	0.67	1.1	0.56 U	0.16	0.56	0.93	5160185
Perfluorobutanoic acid	ug/kg	0.67 U	0.26	0.67	1.1	0.56 U	0.21	0.56	0.93	5160185
Perfluorodecane Sulfonate	ug/kg	0.67 U	0.26	0.67	1.1	0.56 U	0.21	0.56	0.93	5160185
Perfluorodecanoic Acid (PFDA)	ug/kg	0.45 U	0.15	0.45	1.1	0.37 U	0.12	0.37	0.93	5160185
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.67 U	0.25	0.67	1.1	0.56 U	0.20	0.56	0.93	5160185
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.67 U	0.19	0.67	1.1	0.56 U	0.16	0.56	0.93	5160185
Perfluorohexane Sulfonate (PFHxS)	ug/kg	6.3	0.26	0.67	1.1	0.60 J	0.21	0.56	0.93	5160185
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.62 J	0.21	0.67	1.1	0.56 U	0.18	0.56	0.93	5160185
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.67 U	0.29	0.67	1.1	0.56 U	0.24	0.56	0.93	5160185
Perfluorononanoic Acid (PFNA)	ug/kg	0.67 U	0.19	0.67	1.1	0.56 U	0.16	0.56	0.93	5160185
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.67 U	0.29	0.67	1.1	0.56 U	0.24	0.56	0.93	5160185
Perfluorooctane Sulfonate (PFOS)	ug/kg	15	0.24	0.67	1.1	13	0.20	0.56	0.93	5160185
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.67 U	0.20	0.67	1.1	0.56 U	0.17	0.56	0.93	5160185
Perfluorotetradecanoic Acid	ug/kg	0.45 U	0.12	0.45	1.1	0.37 U	0.10	0.37	0.93	5160185
Perfluorotridecanoic Acid	ug/kg	0.45 U	0.13	0.45	1.1	0.37 U	0.11	0.37	0.93	5160185
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.67 U	0.20	0.67	1.1	0.56 U	0.17	0.56	0.93	5160185
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	83				83				5160185
13C2-8:2 Fluorotelomer sulfonate	%	82				80				5160185
13C2-Perfluorodecanoic acid	%	78				86				5160185
13C2-Perfluorododecanoic acid	%	72				76				5160185
13C2-Perfluorohexanoic acid	%	78				84				5160185
13C2-perfluorotetradecanoic acid	%	67				69				5160185
13C2-Perfluoroundecanoic acid	%	73				82				5160185
13C4-Perfluorobutanoic acid	%	76				84				5160185
13C4-Perfluoroheptanoic acid	%	76				85				5160185
13C4-Perfluorooctanesulfonate	%	80				82				5160185

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV084				FBV085				
Sampling Date		2017/09/01 12:05				2017/09/01 11:19				
COC Number		na				na				
	UNITS	FS4-2-11	DL	LOD	LOQ	FS4-2-FD	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	77				81				5160185
13C5-Perfluorononanoic acid	%	81				84				5160185
13C5-Perfluoropentanoic acid	%	78				80				5160185
13C8-Perfluorooctane Sulfonamide	%	68				76				5160185
18O2-Perfluorohexanesulfonate	%	70				86				5160185

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Oneida Total Integrated Enterprises
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RESULTS OF ANALYSES OF SEDIMENT

Maxxam ID		FBV090				
Sampling Date		2017/09/01 13:45				
COC Number		na				
	UNITS	FS4-SED-1	DL	LOD	LOQ	QC Batch
Inorganics						
Moisture	%	21	0.50	N/A	1.0	5157131
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	5160453
8:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.35	0.66	1.1	5160453
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.19	0.66	1.1	5160453
Perfluorobutanoic acid	ug/kg	0.66 U	0.25	0.66	1.1	5160453
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	5160453
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.14	0.44	1.1	5160453
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.24	0.66	1.1	5160453
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.66 U	0.19	0.66	1.1	5160453
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.96 J	0.25	0.66	1.1	5160453
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.66 U	0.21	0.66	1.1	5160453
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.66 U	0.29	0.66	1.1	5160453
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.19	0.66	1.1	5160453
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.29	0.66	1.1	5160453
Perfluorooctane Sulfonate (PFOS)	ug/kg	8.4	0.23	0.66	1.1	5160453
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.66 U	0.20	0.66	1.1	5160453
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.12	0.44	1.1	5160453
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.13	0.44	1.1	5160453
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.20	0.66	1.1	5160453
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	82				5160453
13C2-8:2 Fluorotelomer sulfonate	%	87				5160453
13C2-Perfluorodecanoic acid	%	81				5160453
13C2-Perfluorododecanoic acid	%	77				5160453
13C2-Perfluorohexanoic acid	%	75				5160453
13C2-perfluorotetradecanoic acid	%	66				5160453
13C2-Perfluoroundecanoic acid	%	83				5160453
13C4-Perfluorobutanoic acid	%	80				5160453
13C4-Perfluoroheptanoic acid	%	78				5160453
13C4-Perfluorooctanesulfonate	%	77				5160453

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SEDIMENT

Maxxam ID		FBV090				
Sampling Date		2017/09/01 13:45				
COC Number		na				
	UNITS	**FS4-SED-1**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	80				5160453
13C5-Perfluorononanoic acid	%	79				5160453
13C5-Perfluoropentanoic acid	%	78				5160453
13C8-Perfluorooctane Sulfonamide	%	73				5160453
18O2-Perfluorohexanesulfonate	%	80				5160453

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV076 **Collected:** 2017/09/01
Sample ID: FS4-3-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV077 **Collected:** 2017/09/01
Sample ID: FS4-3-06 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV078 **Collected:** 2017/09/01
Sample ID: FS4-3-11 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV079 **Collected:** 2017/09/01
Sample ID: FS4-1-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV080 **Collected:** 2017/09/01
Sample ID: FS4-1-06 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV081 **Collected:** 2017/09/01
Sample ID: FS4-1-11 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV081 Dup
Sample ID: FS4-1-11
Matrix: Soil

Collected: 2017/09/01
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan

Maxxam ID: FBV082
Sample ID: FS4-2-0.5
Matrix: Soil

Collected: 2017/09/01
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV083
Sample ID: FS4-2-06
Matrix: Soil

Collected: 2017/09/01
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV084
Sample ID: FS4-2-11
Matrix: Soil

Collected: 2017/09/01
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV085
Sample ID: FS4-2-FD
Matrix: Soil

Collected: 2017/09/01
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV086
Sample ID: FS4-1-W09
Matrix: Ground Water

Collected: 2017/09/01
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159901	2017/09/12	2017/09/27	Marian Godax

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV087 **Collected:** 2017/09/01
Sample ID: FS4-3-W12 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159901	2017/09/12	2017/09/27	Marian Godax

Maxxam ID: FBV088 **Collected:** 2017/09/01
Sample ID: FS4-2-W11 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159901	2017/09/12	2017/09/27	Marian Godax

Maxxam ID: FBV089 **Collected:** 2017/09/01
Sample ID: FS4-2-WFD **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159901	2017/09/12	2017/09/27	Marian Godax

Maxxam ID: FBV090 **Collected:** 2017/09/01
Sample ID: FS4-SED-1 **Shipped:**
Matrix: SEDIMENT **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160453	2017/09/12	2017/09/16	Daniela Zupu

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.9°C
Package 3	2.5°C
Package 4	1.7°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5157131	GG2	RPD - Sample/Sample Dup	Moisture	2017/09/09	0		%	20
5159901	M_G	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/27		84	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/27		96	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/27		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/27		93	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/27		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/27		77	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/27		91	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/27		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/27		99	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/27		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/27		100	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/27		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/27		95	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/27		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/27		95	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/27		98	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/27		99	%	70 - 130
			Perfluorobutanoic acid	2017/09/27		94	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/27		101	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/27		89	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/27		92	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/27		101	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/27		93	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/27		103	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/27		101	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/27		110	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/27		111	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/27		108	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/27		99	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/27		98	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/27		91	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/27		96	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/27		102	%	70 - 130
5159901	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/27		92	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/27		90	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/27		95	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/27		89	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/27		97	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/27		79	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/27		90	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/27		101	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/27		95	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/27		89	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/27		92	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/27		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/27		97	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/27		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/27		96	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/27		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/27		98	%	70 - 130
			Perfluorobutanoic acid	2017/09/27		88	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/27		91	%	70 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/09/27		88	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/27		94	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/27		91	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/27		89	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/27		90	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/27		92	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/27		96	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/27		96	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/27		103	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/27		94	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/27		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/27		95	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/27		98	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/27		92	%	70 - 130
5159901	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/27		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/27		96	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/27		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/27		84	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/27		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/27		73	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/27		86	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/27		100	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/27		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/27		85	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/27		90	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/27		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/27		97	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/27		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/27		95	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/27	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/27	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorotridecanoic Acid	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/27	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/27	0.010 U, LOD=0.010		ug/L	
5159901	M_G	RPD - Sample/Sample Dup	6:2 Fluorotelomer sulfonate	2017/09/27	NC		%	30
			8:2 Fluorotelomer sulfonate	2017/09/27	NC		%	30
			Perfluorobutanoic acid	2017/09/27	4.4		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/27	NC		%	30
			Perfluorodecane Sulfonate	2017/09/27	NC		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/27	13		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/27	1.6		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/27	NC		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/27	NC		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/27	NC		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/27	2.7		%	30
			Perfluorotetradecanoic Acid	2017/09/27	NC		%	30
			Perfluorotridecanoic Acid	2017/09/27	NC		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/27	NC		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/27	NC		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/27	NC		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/27	NC		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/27	NC		%	30
5160185	DZU	Matrix Spike(FBV076)	13C2-6:2 Fluorotelomer sulfonate	2017/09/16		82	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/16		91	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/16		91	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/16		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/16		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/16		83	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/16		92	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/16		87	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/16		87	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/16		83	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/16		86	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/16		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/16		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/16		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/16		84	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/16		102	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/16		96	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/16		103	%	70 - 130
			Perfluorobutanoic acid	2017/09/16		97	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/16		97	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/16		100	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/16		106	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/16		88	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16		93	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/16		99	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/16		100	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16		100	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16		97	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16		98	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/16		101	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16		105	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/16		NC	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/16		97	%	70 - 130
5160185	DZU	Matrix Spike DUP(FBV076)	13C2-6:2 Fluorotelomer sulfonate	2017/09/16		90	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/16		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/16		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/16		87	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/16		97	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/16		82	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/16		84	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/16		96	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/16		86	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/16		87	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/16		99	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/16		83	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/16		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/16		78	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/16		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/16		90	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/16		100	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/16		93	%	70 - 130
			Perfluorobutanoic acid	2017/09/16		88	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/16		90	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/16		99	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/16		90	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/16		100	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16		92	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/16		88	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/16		91	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16		91	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16		98	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16		95	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/16		88	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16		88	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/16		NC	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/16		96	%	70 - 130
5160185	DZU	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/16	13		%	30
			8:2 Fluorotelomer sulfonate	2017/09/16	4.3		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/16	10		%	30
			Perfluorobutanoic acid	2017/09/16	9.4		%	30
			Perfluorodecane Sulfonate	2017/09/16	7.5		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/16	1.2		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/16	16		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/16	12		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16	0.41		%	25
			Perfluorotetradecanoic Acid	2017/09/16	12		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorotridecanoic Acid	2017/09/16	9.2		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16	9.1		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16	1.4		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16	2.7		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/16	13		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16	18		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/16	NC		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/16	0.40		%	30
5160185	DZU	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/16		89	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/16		89	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/16		87	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/16		86	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/16		85	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/16		86	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/16		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/16		90	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/16		88	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/16		84	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/16		83	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/16		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/16		86	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/16		84	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/16		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/16		90	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/16		89	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/16		87	%	70 - 130
			Perfluorobutanoic acid	2017/09/16		90	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/16		98	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/16		94	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/16		95	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/16		89	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16		96	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/16		94	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/16		88	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16		98	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16		93	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16		82	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/16		98	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16		107	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/16		93	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/16		95	%	70 - 130
5160185	DZU	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/16		95	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/16		78	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/16		83	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/16		78	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/16		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/16		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/16		80	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/16		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/16		86	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/16		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/16		80	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/16		81	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C5-Perfluoropentanoic acid	2017/09/16		82	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/16		81	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/16		79	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/16	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/16	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/16	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
5160453	DZU	Matrix Spike(FBV090)	13C2-6:2 Fluorotelomer sulfonate	2017/09/16		72	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/16		80	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/16		74	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/16		76	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/16		74	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/16		73	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/16		74	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/16		75	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/16		69	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/16		79	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/16		73	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/16		75	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/16		72	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/16		75	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			18O2-Perfluorohexanesulfonate	2017/09/16		75	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/16		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/16		94	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/16		94	%	70 - 130
			Perfluorobutanoic acid	2017/09/16		96	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/16		94	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/16		99	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/16		93	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/16		92	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16		90	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/16		88	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/16		89	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16		91	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16		102	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16		85	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/16		98	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16		100	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/16		79	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/16		96	%	70 - 130
5160453	DZU	Matrix Spike DUP(FBV090)	13C2-6:2 Fluorotelomer sulfonate	2017/09/16		79	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/16		91	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/16		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/16		74	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/16		77	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/16		66	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/16		75	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/16		82	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/16		78	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/16		77	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/16		81	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/16		74	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/16		82	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/16		67	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/16		75	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/16		94	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/16		85	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/16		97	%	70 - 130
			Perfluorobutanoic acid	2017/09/16		93	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/16		86	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/16		93	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/16		100	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/16		100	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16		102	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/16		103	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/16		100	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16		98	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16		92	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16		97	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/16		99	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16		98	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/16		98	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/16		94	%	70 - 130
5160453	DZU	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/16	0.70		%	30

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			8:2 Fluorotelomer sulfonate	2017/09/16	9.6		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/16	3.1		%	30
			Perfluorobutanoic acid	2017/09/16	3.1		%	30
			Perfluorodecane Sulfonate	2017/09/16	9.9		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/16	5.9		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/16	7.1		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/16	7.5		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16	13		%	25
			Perfluorotetradecanoic Acid	2017/09/16	15		%	30
			Perfluorotridecanoic Acid	2017/09/16	12		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16	7.1		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16	9.8		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16	13		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/16	1.2		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16	1.4		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/16	22		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/16	2.3		%	30

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Maxxam Job #: B7J4922
Report Date: 2017/09/27

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/02
Report #: R4752872
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4924
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	3	2017/09/12	2017/09/25	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	9	N/A	2017/09/09	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	5	2017/09/12	2017/09/16	CAM SOP-00894	EPA537 m
PFOS and PFOA in soil by SPE/LCMS (1)	4	2017/09/14	2017/09/29	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/02
Report #: R4752872
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4924
Received: 2017/09/07, 15:11

Encryption Key

Stephanie Pollen
Project Manager
02 Oct 2017 09:13:29

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7J4924
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV094			FBV094			FBV095	FBV095				
Sampling Date		2017/09/01 10:35			2017/09/01 10:35			2017/09/01 10:55	2017/09/01 10:55				
COC Number		na			na			na	na				
	UNITS	FS2-3-W11	LOD	LOQ	FS2-3-W11 Lab-Dup	LOD	LOQ	FS2-2-W10	FS2-2-W10 Lab-Dup	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters													
6:2 Fluorotelomer sulfonate	ug/L	37 (1)	1.0	2.0	N/A	1.0	2.0	55 (1)	51 (1)	0.32	1.0	2.0	5159252
8:2 Fluorotelomer sulfonate	ug/L	8.0 (1)	1.0	2.0	N/A	1.0	2.0	31 (1)	34 (1)	0.36	1.0	2.0	5159252
Perfluorobutanoic acid	ug/L	5.5 (1)	1.0	2.0	N/A	1.0	2.0	5.8 (1)	6.0 (1)	0.43	1.0	2.0	5159252
Perfluorobutane Sulfonate (PFBS)	ug/L	12 (1)	1.0	2.0	N/A	1.0	2.0	12 (1)	11 (1)	0.48	1.0	2.0	5159252
Perfluorodecane Sulfonate	ug/L	1.0 U (1)	1.0	2.0	N/A	1.0	2.0	1.0 U (1)	1.0 U (1)	0.46	1.0	2.0	5159252
Perfluoroheptanoic Acid (PFHpA)	ug/L	4.9 (1)	1.0	2.0	N/A	1.0	2.0	5.7 (1)	5.7 (1)	0.33	1.0	2.0	5159252
Perfluorohexanoic Acid (PFHxA)	ug/L	40 (1)	1.0	2.0	N/A	1.0	2.0	33 (1)	31 (1)	0.29	1.0	2.0	5159252
Perfluorohexane Sulfonate (PFHxS)	ug/L	76 (1)	1.0	2.0	N/A	1.0	2.0	68 (1)	62 (1)	0.34	1.0	2.0	5159252
Perfluorononanoic Acid (PFNA)	ug/L	1.0 U (1)	1.0	2.0	N/A	1.0	2.0	1.0 U (1)	1.0 U (1)	0.38	1.0	2.0	5159252
Perfluorooctane Sulfonamide (PFOSA)	ug/L	9.6 (1)	1.0	2.0	N/A	1.0	2.0	3.6 (1)	3.2 (1)	0.36	1.0	2.0	5159252
Perfluoropentanoic Acid (PFPeA)	ug/L	12 (1)	1.0	2.0	N/A	1.0	2.0	16 (1)	17 (1)	0.27	1.0	2.0	5159252
Perfluorotetradecanoic Acid	ug/L	1.0 U (1)	1.0	2.0	N/A	1.0	2.0	1.0 U (1)	1.0 U (1)	0.38	1.0	2.0	5159252
Perfluorotridecanoic Acid	ug/L	1.0 U (1)	1.0	2.0	N/A	1.0	2.0	1.0 U (1)	1.0 U (1)	0.33	1.0	2.0	5159252
Perfluoroundecanoic Acid (PFUnA)	ug/L	1.0 U (1)	1.0	2.0	N/A	1.0	2.0	1.0 U (1)	1.0 U (1)	0.43	1.0	2.0	5159252
Perfluorodecanoic Acid (PFDA)	ug/L	1.0 U (1)	1.0	2.0	N/A	1.0	2.0	1.0 U (1)	1.0 U (1)	0.40	1.0	2.0	5159252
Perfluorododecanoic Acid (PFDoA)	ug/L	1.0 U (1)	1.0	2.0	N/A	1.0	2.0	1.0 U (1)	1.0 U (1)	0.28	1.0	2.0	5159252
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	29 (1)	1.0	2.0	N/A	1.0	2.0	23 (1)	24 (1)	0.46	1.0	2.0	5159252
Perfluorooctane Sulfonate (PFOS)	ug/L	410 (2)	50	80	400	50	80	340 (2)	410	23	50	80	5160314
Surrogate Recovery (%)													
13C2-6:2 Fluorotelomer sulfonate	%	94			N/A			88	87				5159252
13C2-8:2 Fluorotelomer sulfonate	%	98			N/A	N/A	N/A	97	87				5159252
13C2-Perfluorodecanoic acid	%	89			N/A	N/A	N/A	94	87				5159252
13C2-Perfluorododecanoic acid	%	84			N/A	N/A	N/A	85	80				5159252
13C2-Perfluorohexanoic acid	%	98			N/A	N/A	N/A	96	94				5159252
13C2-perfluorotetradecanoic acid	%	75			N/A	N/A	N/A	77	77				5159252
13C2-Perfluoroundecanoic acid	%	85			N/A	N/A	N/A	83	83				5159252
13C4-Perfluorobutanoic acid	%	93			N/A	N/A	N/A	94	89				5159252

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(2) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.Post spike sample recovery is not applicable due to native concentration.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7J4924
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV094			FBV094			FBV095	FBV095				
Sampling Date		2017/09/01 10:35			2017/09/01 10:35			2017/09/01 10:55	2017/09/01 10:55				
COC Number		na			na			na	na				
	UNITS	FS2-3-W11	LOD	LOQ	FS2-3-W11 Lab-Dup	LOD	LOQ	FS2-2-W10	FS2-2-W10 Lab-Dup	DL	LOD	LOQ	QC Batch
13C4-Perfluoroheptanoic acid	%	94			N/A	N/A	N/A	93	90				5159252
13C4-Perfluorooctanesulfonate	%	90			95			106	92				5160314
13C4-Perfluorooctanoic acid	%	101			N/A	N/A	N/A	97	90				5159252
13C5-Perfluorononanoic acid	%	94			N/A	N/A	N/A	96	93				5159252
13C5-Perfluoropentanoic acid	%	100			N/A	N/A	N/A	94	87				5159252
13C8-Perfluorooctane Sulfonamide	%	84			N/A	N/A	N/A	78	83				5159252
18O2-Perfluorohexanesulfonate	%	100			N/A	N/A	N/A	96	99				5159252

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Maxxam Job #: B7J4924
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV096			FBV096				
Sampling Date		2017/09/01 11:15			2017/09/01 11:15				
COC Number		na			na				
	UNITS	FS2-1-W16	LOD	LOQ	FS2-1-W16 Lab-Dup	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters									
6:2 Fluorotelomer sulfonate	ug/L	76 (1)	1.0	2.0	N/A	0.32	1.0	2.0	5159252
8:2 Fluorotelomer sulfonate	ug/L	6.2 (1)	1.0	2.0	N/A	0.36	1.0	2.0	5159252
Perfluorobutanoic acid	ug/L	12 (1)	1.0	2.0	N/A	0.43	1.0	2.0	5159252
Perfluorobutane Sulfonate (PFBS)	ug/L	31 (1)	1.0	2.0	N/A	0.48	1.0	2.0	5159252
Perfluorodecane Sulfonate	ug/L	1.0 U (1)	1.0	2.0	N/A	0.46	1.0	2.0	5159252
Perfluoroheptanoic Acid (PFHpA)	ug/L	8.9 (1)	1.0	2.0	N/A	0.33	1.0	2.0	5159252
Perfluorohexanoic Acid (PFHxA)	ug/L	63 (1)	1.0	2.0	N/A	0.29	1.0	2.0	5159252
Perfluorohexane Sulfonate (PFHxS)	ug/L	190 (2)	50	80	200	24	50	80	5160314
Perfluorononanoic Acid (PFNA)	ug/L	1.0 U (1)	1.0	2.0	N/A	0.38	1.0	2.0	5159252
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.88 J (1)	1.0	2.0	N/A	0.36	1.0	2.0	5159252
Perfluoropentanoic Acid (PFPeA)	ug/L	24 (1)	1.0	2.0	N/A	0.27	1.0	2.0	5159252
Perfluorotetradecanoic Acid	ug/L	1.0 U (1)	1.0	2.0	N/A	0.38	1.0	2.0	5159252
Perfluorotridecanoic Acid	ug/L	1.0 U (1)	1.0	2.0	N/A	0.33	1.0	2.0	5159252
Perfluoroundecanoic Acid (PFUnA)	ug/L	1.0 U (1)	1.0	2.0	N/A	0.43	1.0	2.0	5159252
Perfluorodecanoic Acid (PFDA)	ug/L	1.0 U (1)	1.0	2.0	N/A	0.40	1.0	2.0	5159252
Perfluorododecanoic Acid (PFDoA)	ug/L	1.0 U (1)	1.0	2.0	N/A	0.28	1.0	2.0	5159252
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	22 (1)	1.0	2.0	N/A	0.46	1.0	2.0	5159252
Perfluorooctane Sulfonate (PFOS)	ug/L	690 (2)	50	80	620	23	50	80	5160314
Surrogate Recovery (%)									
13C2-6:2 Fluorotelomer sulfonate	%	89			N/A			5159252	
13C2-8:2 Fluorotelomer sulfonate	%	90			N/A	N/A	N/A	5159252	
13C2-Perfluorodecanoic acid	%	88			N/A	N/A	N/A	5159252	
13C2-Perfluorododecanoic acid	%	84			N/A	N/A	N/A	5159252	
13C2-Perfluorohexanoic acid	%	90			N/A	N/A	N/A	5159252	
13C2-perfluorotetradecanoic acid	%	75			N/A	N/A	N/A	5159252	
13C2-Perfluoroundecanoic acid	%	83			N/A	N/A	N/A	5159252	

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).
(2) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.Post spike sample recovery is not applicable due to native concentration.

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Maxxam Job #: B7J4924
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV096			FBV096				
Sampling Date		2017/09/01 11:15			2017/09/01 11:15				
COC Number		na			na				
	UNITS	FS2-1-W16	LOD	LOQ	FS2-1-W16 Lab-Dup	DL	LOD	LOQ	QC Batch
13C4-Perfluorobutanoic acid	%	96			N/A	N/A	N/A		5159252
13C4-Perfluoroheptanoic acid	%	89			N/A	N/A	N/A		5159252
13C4-Perfluorooctanesulfonate	%	85			93				5160314
13C4-Perfluorooctanoic acid	%	92			N/A	N/A	N/A		5159252
13C5-Perfluorononanoic acid	%	88			N/A	N/A	N/A		5159252
13C5-Perfluoropentanoic acid	%	94			N/A	N/A	N/A		5159252
13C8-Perfluorooctane Sulfonamide	%	77			N/A	N/A	N/A		5159252
18O2-Perfluorohexanesulfonate	%	92			93				5160314

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV097				FBV098				FBV099				
Sampling Date		2017/08/30 15:10				2017/08/30 15:40				2017/08/30 15:55				
COC Number		na				na				na				
	UNITS	FS2-3-01	DL	LOD	LOQ	FS2-3-11	DL	LOD	LOQ	FS2-3-14.5	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	15	0.50	N/A	1.0	16	0.50	N/A	1.0	22	0.50	N/A	1.0	5157131
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.23	0.60	1.0	1.7	0.21	0.55	0.91	5.1	0.25	0.65	1.1	5160185
8:2 Fluorotelomer sulfonate	ug/kg	0.52 J	0.32	0.60	1.0	3.8	0.29	0.55	0.91	5.2	0.35	0.65	1.1	5160185
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.60 U	0.17	0.60	1.0	0.48 J	0.15	0.55	0.91	0.96 J	0.19	0.65	1.1	5160185
Perfluorobutanoic acid	ug/kg	0.42 J	0.23	0.60	1.0	0.26 J	0.21	0.55	0.91	0.65 J	0.25	0.65	1.1	5160185
Perfluorodecane Sulfonate	ug/kg	4.3	0.23	0.60	1.0	0.32 J	0.21	0.55	0.91	0.65 U	0.25	0.65	1.1	5160185
Perfluorodecanoic Acid (PFDA)	ug/kg	0.53 J	0.13	0.40	1.0	0.36 U	0.12	0.36	0.91	0.44 U	0.14	0.44	1.1	5160185
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.31 J	0.22	0.60	1.0	0.55 U	0.20	0.55	0.91	0.65 U	0.24	0.65	1.1	5160185
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.59 J	0.17	0.60	1.0	0.51 J	0.15	0.55	0.91	0.77 J	0.19	0.65	1.1	5160185
Perfluorohexane Sulfonate (PFHxS)	ug/kg	11	0.23	0.60	1.0	6.7	0.21	0.55	0.91	10	0.25	0.65	1.1	5160185
Perfluorohexanoic Acid (PFHxA)	ug/kg	3.6	0.19	0.60	1.0	3.0	0.17	0.55	0.91	5.3	0.21	0.65	1.1	5160185
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	2.6	0.26	0.60	1.0	1.4	0.24	0.55	0.91	3.8	0.28	0.65	1.1	5160185
Perfluorononanoic Acid (PFNA)	ug/kg	0.45 J	0.17	0.60	1.0	0.55 U	0.15	0.55	0.91	0.65 U	0.19	0.65	1.1	5160185
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	9.5	0.26	0.60	1.0	15	0.24	0.55	0.91	6.1	0.28	0.65	1.1	5160185
Perfluorooctane Sulfonate (PFOS)	ug/kg	75 (1)	2.1	6.0	10	59 (1)	1.9	5.5	9.1	100 (1)	2.3	6.5	11	5160185
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.81 J	0.18	0.60	1.0	1.2	0.16	0.55	0.91	2.1	0.20	0.65	1.1	5160185
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.11	0.40	1.0	0.36 U	0.10	0.36	0.91	0.44 U	0.12	0.44	1.1	5160185
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.12	0.40	1.0	0.36 U	0.11	0.36	0.91	0.44 U	0.13	0.44	1.1	5160185
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.71 J	0.18	0.60	1.0	0.55 U	0.16	0.55	0.91	0.65 U	0.20	0.65	1.1	5160185
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	92				83				86				5160185
13C2-8:2 Fluorotelomer sulfonate	%	94				75				78				5160185
13C2-Perfluorodecanoic acid	%	84				76				76				5160185
13C2-Perfluorododecanoic acid	%	78				71				70				5160185
13C2-Perfluorohexanoic acid	%	82				76				79				5160185
13C2-perfluorotetradecanoic acid	%	77				69				69				5160185
13C2-Perfluoroundecanoic acid	%	78				72				73				5160185
13C4-Perfluorobutanoic acid	%	87				84				73				5160185
13C4-Perfluoroheptanoic acid	%	85				80				80				5160185

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, sample required 10x dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B7J4924
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV097				FBV098				FBV099				
Sampling Date		2017/08/30 15:10				2017/08/30 15:40				2017/08/30 15:55				
COC Number		na				na				na				
	UNITS	**FS2-3-01**	**DL**	**LOD**	**LOQ**	**FS2-3-11**	**DL**	**LOD**	**LOQ**	**FS2-3-14.5**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanesulfonate	%	86				103				95				5160185
13C4-Perfluorooctanoic acid	%	85				77				75				5160185
13C5-Perfluorononanoic acid	%	85				78				83				5160185
13C5-Perfluoropentanoic acid	%	89				79				77				5160185
13C8-Perfluorooctane Sulfonamide	%	71				66				71				5160185
18O2-Perfluorohexanesulfonate	%	88				74				89				5160185

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
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Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV100				FBV101				
Sampling Date		2017/08/31 12:05				2017/08/31 12:10				
COC Number		na				na				
	UNITS	FS2-1-0.5	DL	LOD	LOQ	FS2-1-07	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	19	0.50	N/A	1.0	14	0.50	N/A	1.0	5157131
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	53 (1)	2.6	6.8	11	46 (1)	2.2	5.8	9.6	5160185
8:2 Fluorotelomer sulfonate	ug/kg	310 (1)	3.6	6.8	11	14	0.31	0.58	0.96	5160185
Perfluorobutane Sulfonate (PFBS)	ug/kg	6.1 J (1)	1.9	6.8	11	6.5	0.16	0.58	0.96	5160185
Perfluorobutanoic acid	ug/kg	4.0 J (1)	2.6	6.8	11	9.5	0.22	0.58	0.96	5160185
Perfluorodecane Sulfonate	ug/kg	6.8 U (1)	2.6	6.8	11	0.62 J	0.22	0.58	0.96	5160185
Perfluorodecanoic Acid (PFDA)	ug/kg	4.5 U (1)	1.5	4.5	11	0.12 J	0.12	0.38	0.96	5160185
Perfluorododecanoic Acid (PFDoA)	ug/kg	6.8 U (1)	2.5	6.8	11	0.58 U	0.21	0.58	0.96	5160185
Perfluoroheptanoic Acid (PFHpA)	ug/kg	7.1 J (1)	1.9	6.8	11	2.3	0.16	0.58	0.96	5160185
Perfluorohexane Sulfonate (PFHxS)	ug/kg	160 (1)	2.6	6.8	11	30	0.22	0.58	0.96	5160185
Perfluorohexanoic Acid (PFHxA)	ug/kg	26 (1)	2.1	6.8	11	19	0.18	0.58	0.96	5160185
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	32 (1)	2.9	6.8	11	5.3	0.25	0.58	0.96	5160185
Perfluorononanoic Acid (PFNA)	ug/kg	6.8 U (1)	1.9	6.8	11	0.58 U	0.16	0.58	0.96	5160185
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	90 (1)	2.9	6.8	11	1.6	0.25	0.58	0.96	5160185
Perfluorooctane Sulfonate (PFOS)	ug/kg	2100 (2)	24	68	110	410 (1)	2.0	5.8	9.6	5160185
Perfluoropentanoic Acid (PFPeA)	ug/kg	16 (1)	2.0	6.8	11	14	0.17	0.58	0.96	5160185
Perfluorotetradecanoic Acid	ug/kg	4.5 U (1)	1.2	4.5	11	0.38 U	0.11	0.38	0.96	5160185
Perfluorotridecanoic Acid	ug/kg	4.5 U (1)	1.4	4.5	11	0.38 U	0.12	0.38	0.96	5160185
Perfluoroundecanoic Acid (PFUnA)	ug/kg	6.8 U (1)	2.0	6.8	11	0.58 U	0.17	0.58	0.96	5160185
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	93				104				5160185
13C2-8:2 Fluorotelomer sulfonate	%	86				90				5160185
13C2-Perfluorodecanoic acid	%	94				82				5160185
13C2-Perfluorododecanoic acid	%	97				81				5160185
13C2-Perfluorohexanoic acid	%	98				91				5160185
13C2-perfluorotetradecanoic acid	%	96				78				5160185
13C2-Perfluoroundecanoic acid	%	95				80				5160185

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentration of the target analyte, sample required 10x dilution. Detection limit was adjusted accordingly.

(2) Due to high concentration of the target analyte, sample required 100x dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B7J4924
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV100				FBV101				
Sampling Date		2017/08/31 12:05				2017/08/31 12:10				
COC Number		na				na				
	UNITS	FS2-1-0.5	DL	LOD	LOQ	FS2-1-07	DL	LOD	LOQ	QC Batch
13C4-Perfluorobutanoic acid	%	94				98				5160185
13C4-Perfluoroheptanoic acid	%	100				86				5160185
13C4-Perfluorooctanesulfonate	%	94				100				5160185
13C4-Perfluorooctanoic acid	%	94				88				5160185
13C5-Perfluorononanoic acid	%	98				86				5160185
13C5-Perfluoropentanoic acid	%	94				87				5160185
13C8-Perfluorooctane Sulfonamide	%	92				79				5160185
18O2-Perfluorohexanesulfonate	%	91				91				5160185

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV102				FBV103				FBV104				
Sampling Date		2017/08/31 12:30				2017/08/31 10:30				2017/08/31 10:40				
COC Number		na				na				na				
	UNITS	FS2-1-12	DL	LOD	LOQ	FS2-2-0.5	DL	LOD	LOQ	FS2-2-07	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	21	0.50	N/A	1.0	12	0.50	N/A	1.0	17	0.50	N/A	1.0	5157131
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	5.8 J (1)	2.3	6.0	10	2.8 J (1)	2.0	5.2	8.7	130 (1)	2.1	5.5	9.2	5163624
8:2 Fluorotelomer sulfonate	ug/kg	6.7 J (1)	3.2	6.0	10	6.2 J (1)	2.8	5.2	8.7	24 (1)	2.9	5.5	9.2	5163624
Perfluorobutane Sulfonate (PFBS)	ug/kg	6.0 U (1)	1.7	6.0	10	7.9 J (1)	1.5	5.2	8.7	10 (1)	1.6	5.5	9.2	5163624
Perfluorobutanoic acid	ug/kg	6.0 U (1)	2.3	6.0	10	5.2 U (1)	2.0	5.2	8.7	7.2 J (1)	2.1	5.5	9.2	5163624
Perfluorodecane Sulfonate	ug/kg	6.0 U (1)	2.3	6.0	10	5.2 U (1)	2.0	5.2	8.7	5.5 U (1)	2.1	5.5	9.2	5163624
Perfluorodecanoic Acid (PFDA)	ug/kg	4.0 U (1)	1.3	4.0	10	3.5 U (1)	1.1	3.5	8.7	3.7 U (1)	1.2	3.7	9.2	5163624
Perfluorododecanoic Acid (PFDoA)	ug/kg	6.0 U (1)	2.2	6.0	10	5.2 U (1)	1.9	5.2	8.7	5.5 U (1)	2.0	5.5	9.2	5163624
Perfluoroheptanoic Acid (PFHpA)	ug/kg	6.0 U (1)	1.7	6.0	10	5.6 J (1)	1.5	5.2	8.7	3.5 J (1)	1.6	5.5	9.2	5163624
Perfluorohexane Sulfonate (PFHxS)	ug/kg	5.1 J (1)	2.3	6.0	10	180 (1)	2.0	5.2	8.7	130 (1)	2.1	5.5	9.2	5163624
Perfluorohexanoic Acid (PFHxA)	ug/kg	3.0 J (1)	1.9	6.0	10	19 (1)	1.7	5.2	8.7	27 (1)	1.7	5.5	9.2	5163624
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	6.0 U (1)	2.6	6.0	10	170 (1)	2.3	5.2	8.7	24 (1)	2.4	5.5	9.2	5163624
Perfluorononanoic Acid (PFNA)	ug/kg	6.0 U (1)	1.7	6.0	10	5.2 U (1)	1.5	5.2	8.7	5.5 U (1)	1.6	5.5	9.2	5163624
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	6.0 U (1)	2.6	6.0	10	88 (1)	2.3	5.2	8.7	15 (1)	2.4	5.5	9.2	5163624
Perfluorooctane Sulfonate (PFOS)	ug/kg	85 (1)	2.1	6.0	10	550 (2)	18	52	87	380 (1)	1.9	5.5	9.2	5163624
Perfluoropentanoic Acid (PFPeA)	ug/kg	6.0 U (1)	1.8	6.0	10	3.9 J (1)	1.6	5.2	8.7	11 (1)	1.7	5.5	9.2	5163624
Perfluorotetradecanoic Acid	ug/kg	4.0 U (1)	1.1	4.0	10	3.5 U (1)	0.96	3.5	8.7	3.7 U (1)	1.0	3.7	9.2	5163624
Perfluorotridecanoic Acid	ug/kg	4.0 U (1)	1.2	4.0	10	3.5 U (1)	1.0	3.5	8.7	3.7 U (1)	1.1	3.7	9.2	5163624
Perfluoroundecanoic Acid (PFUnA)	ug/kg	6.0 U (1)	1.8	6.0	10	5.2 U (1)	1.6	5.2	8.7	5.5 U (1)	1.7	5.5	9.2	5163624
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	91				86				98				5163624
13C2-8:2 Fluorotelomer sulfonate	%	80				83				91				5163624
13C2-Perfluorodecanoic acid	%	90				81				90				5163624
13C2-Perfluorododecanoic acid	%	84				87				91				5163624
13C2-Perfluorohexanoic acid	%	83				82				100				5163624
13C2-perfluorotetradecanoic acid	%	88				83				95				5163624
13C2-Perfluoroundecanoic acid	%	84				80				94				5163624
13C4-Perfluorobutanoic acid	%	86				82				88				5163624

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, sample required 10x dilution. Detection limit was adjusted accordingly.
(2) Due to high concentration of the target analyte, sample required 100x dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B7J4924
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV102				FBV103				FBV104				
Sampling Date		2017/08/31 12:30				2017/08/31 10:30				2017/08/31 10:40				
COC Number		na				na				na				
	UNITS	**FS2-1-12**	**DL**	**LOD**	**LOQ**	**FS2-2-0.5**	**DL**	**LOD**	**LOQ**	**FS2-2-07**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluoroheptanoic acid	%	85				84				95				5163624
13C4-Perfluorooctanesulfonate	%	86				102				98				5163624
13C4-Perfluorooctanoic acid	%	85				84				97				5163624
13C5-Perfluorononanoic acid	%	84				87				103				5163624
13C5-Perfluoropentanoic acid	%	90				86				94				5163624
13C8-Perfluorooctane Sulfonamide	%	85				88				95				5163624
18O2-Perfluorohexanesulfonate	%	79				88				98				5163624

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Job #: B7J4924
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Oneida Total Integrated Enterprises
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RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV105				
Sampling Date		2017/08/31 10:47				
COC Number		na				
	UNITS	FS2-2-11	DL	LOD	LOQ	QC Batch
Inorganics						
Moisture	%	16	0.50	N/A	1.0	5157131
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/kg	6.0 J (1)	2.5	6.6	11	5163624
8:2 Fluorotelomer sulfonate	ug/kg	7.4 J (1)	3.5	6.6	11	5163624
Perfluorobutane Sulfonate (PFBS)	ug/kg	6.6 U (1)	1.9	6.6	11	5163624
Perfluorobutanoic acid	ug/kg	6.6 U (1)	2.5	6.6	11	5163624
Perfluorodecane Sulfonate	ug/kg	6.6 U (1)	2.5	6.6	11	5163624
Perfluorodecanoic Acid (PFDA)	ug/kg	4.4 U (1)	1.4	4.4	11	5163624
Perfluorododecanoic Acid (PFDoA)	ug/kg	6.6 U (1)	2.4	6.6	11	5163624
Perfluoroheptanoic Acid (PFHpA)	ug/kg	6.6 U (1)	1.9	6.6	11	5163624
Perfluorohexane Sulfonate (PFHxS)	ug/kg	6.8 J (1)	2.5	6.6	11	5163624
Perfluorohexanoic Acid (PFHxA)	ug/kg	3.2 J (1)	2.1	6.6	11	5163624
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	6.6 U (1)	2.9	6.6	11	5163624
Perfluorononanoic Acid (PFNA)	ug/kg	6.6 U (1)	1.9	6.6	11	5163624
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	6.6 U (1)	2.9	6.6	11	5163624
Perfluorooctane Sulfonate (PFOS)	ug/kg	47 (1)	2.3	6.6	11	5163624
Perfluoropentanoic Acid (PFPeA)	ug/kg	6.6 U (1)	2.0	6.6	11	5163624
Perfluorotetradecanoic Acid	ug/kg	4.4 U (1)	1.2	4.4	11	5163624
Perfluorotridecanoic Acid	ug/kg	4.4 U (1)	1.3	4.4	11	5163624
Perfluoroundecanoic Acid (PFUnA)	ug/kg	6.6 U (1)	2.0	6.6	11	5163624
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	96				5163624
13C2-8:2 Fluorotelomer sulfonate	%	91				5163624
13C2-Perfluorodecanoic acid	%	100				5163624
13C2-Perfluorododecanoic acid	%	97				5163624
13C2-Perfluorohexanoic acid	%	92				5163624
13C2-perfluorotetradecanoic acid	%	100				5163624
13C2-Perfluoroundecanoic acid	%	104				5163624
13C4-Perfluorobutanoic acid	%	94				5163624

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QC Batch = Quality Control Batch
N/A = Not Applicable
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Maxxam Job #: B7J4924
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV105				
Sampling Date		2017/08/31 10:47				
COC Number		na				
	UNITS	**FS2-2-11**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluoroheptanoic acid	%	100				5163624
13C4-Perfluorooctanesulfonate	%	94				5163624
13C4-Perfluorooctanoic acid	%	100				5163624
13C5-Perfluorononanoic acid	%	96				5163624
13C5-Perfluoropentanoic acid	%	92				5163624
13C8-Perfluorooctane Sulfonamide	%	98				5163624
18O2-Perfluorohexanesulfonate	%	97				5163624

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV094 **Collected:** 2017/09/01
Sample ID: FS2-3-W11 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159252	2017/09/12	2017/09/25	Marian Godax

Maxxam ID: FBV094 Dup **Collected:** 2017/09/01
Sample ID: FS2-3-W11 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5160314	2017/09/12	2017/09/15	Anjan Desai

Maxxam ID: FBV095 **Collected:** 2017/09/01
Sample ID: FS2-2-W10 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159252	2017/09/12	2017/09/25	Marian Godax

Maxxam ID: FBV095 Dup **Collected:** 2017/09/01
Sample ID: FS2-2-W10 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159252	2017/09/12	2017/09/25	Marian Godax

Maxxam ID: FBV096 **Collected:** 2017/09/01
Sample ID: FS2-1-W16 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159252	2017/09/12	2017/09/25	Marian Godax

Maxxam ID: FBV096 Dup **Collected:** 2017/09/01
Sample ID: FS2-1-W16 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5160314	2017/09/12	2017/09/15	Anjan Desai

Maxxam ID: FBV097 **Collected:** 2017/08/30
Sample ID: FS2-3-01 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

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Maxxam Job #: B7J4924
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV098
Sample ID: FS2-3-11
Matrix: Soil

Collected: 2017/08/30
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV099
Sample ID: FS2-3-14.5
Matrix: Soil

Collected: 2017/08/30
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV100
Sample ID: FS2-1-0.5
Matrix: Soil

Collected: 2017/08/31
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV101
Sample ID: FS2-1-07
Matrix: Soil

Collected: 2017/08/31
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5160185	2017/09/12	2017/09/16	Daniela Zupu

Maxxam ID: FBV102
Sample ID: FS2-1-12
Matrix: Soil

Collected: 2017/08/31
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5163624	2017/09/14	2017/09/29	Daniela Zupu

Maxxam ID: FBV103
Sample ID: FS2-2-0.5
Matrix: Soil

Collected: 2017/08/31
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5163624	2017/09/14	2017/09/29	Daniela Zupu

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Maxxam Job #: B7J4924
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV104
Sample ID: FS2-2-07
Matrix: Soil

Collected: 2017/08/31
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5163624	2017/09/14	2017/09/29	Daniela Zupu

Maxxam ID: FBV105
Sample ID: FS2-2-11
Matrix: Soil

Collected: 2017/08/31
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5157131	N/A	2017/09/09	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5163624	2017/09/14	2017/09/29	Daniela Zupu

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.8°C
Package 3	2.5°C
Package 4	1.7°C

Sample FBV094, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample FBV095, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample FBV096, PFOS and PFOA in water by SPE/LCMS: Test repeated.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5157131	GG2	RPD - Sample/Sample Dup	Moisture	2017/09/09	0		%	20
5159252	M_G	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		66	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		84	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		83	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		76	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		72	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		76	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		78	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		89	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		88	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		72	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		92	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25		121	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/25		108	%	70 - 130
			Perfluorobutanoic acid	2017/09/25		104	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/25		113	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/25		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25		113	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/25		113	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25		NC	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/25		115	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25		113	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/25		111	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/25		109	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/25		109	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25		119	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/25		114	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/25		107	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25		120	%	70 - 130
5159252	M_G	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		74	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		85	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		90	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		96	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		77	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		83	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		83	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		95	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		98	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		93	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		83	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		101	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25		115	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/25		119	%	70 - 130
			Perfluorobutanoic acid	2017/09/25		112	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/25		103	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/25		109	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25		113	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/25		124	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25		NC	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/25		116	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25		112	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/25		124	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/25		115	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/25		117	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25		122	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/25		123	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/25		113	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25		124	%	70 - 130
5159252	M_G	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/25	4.8		%	30
			8:2 Fluorotelomer sulfonate	2017/09/25	9.2		%	30
			Perfluorobutanoic acid	2017/09/25	7.2		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/25	9.2		%	30
			Perfluorodecane Sulfonate	2017/09/25	4.5		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25	0.30		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/25	9.5		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25	NC		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/25	1.6		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25	0.77		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/25	12		%	30
			Perfluorotetradecanoic Acid	2017/09/25	6.0		%	30
			Perfluorotridecanoic Acid	2017/09/25	7.3		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25	2.5		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/25	7.1		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/25	5.6		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25	3.3		%	30
5159252	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		81	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		83	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		73	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		76	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		85	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		85	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		75	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		83	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25		115	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/25		114	%	70 - 130
			Perfluorobutanoic acid	2017/09/25		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/25		116	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/25		115	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25		123	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/25		116	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25		110	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/25		116	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25		116	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/25		108	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/25		109	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorotridecanoic Acid	2017/09/25		111	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25		117	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/25		123	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/25		118	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25		119	%	70 - 130
5159252	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		106	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		95	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		90	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		78	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		86	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		93	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		89	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		98	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		97	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		96	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5159252	M_G	RPD - Sample/Sample Dup	6:2 Fluorotelomer sulfonate	2017/09/25	6.9 (1)		%	30
			8:2 Fluorotelomer sulfonate	2017/09/25	11 (1)		%	30
			Perfluorobutanoic acid	2017/09/25	2.3 (1)		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/25	10 (1)		%	30
			Perfluorodecane Sulfonate	2017/09/25	NC (1)		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25	0.23 (1)		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/25	4.4 (1)		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25	8.2 (1)		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/25	NC (1)		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25	10 (1)		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/25	5.4 (1)		%	30
			Perfluorotetradecanoic Acid	2017/09/25	NC (1)		%	30
			Perfluorotridecanoic Acid	2017/09/25	NC (1)		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25	NC (1)		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/25	NC (1)		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/25	NC (1)		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25	5.9 (1)		%	30
5160185	DZU	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/16		82	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/16		91	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/16		91	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/16		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/16		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/16		83	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/16		92	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/16		87	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/16		87	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/16		83	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/16		86	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/16		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/16		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/16		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/16		84	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/16		102	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/16		96	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/16		103	%	70 - 130
			Perfluorobutanoic acid	2017/09/16		97	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/16		97	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/16		100	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/16		106	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/16		88	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16		93	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/16		99	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/16		100	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16		100	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16		97	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16		98	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/16		101	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16		105	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/16		NC	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/16		97	%	70 - 130
5160185	DZU	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/16		90	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/16		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/16		81	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C2-Perfluorododecanoic acid	2017/09/16		87	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/16		97	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/16		82	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/16		84	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/16		96	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/16		86	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/16		87	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/16		99	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/16		83	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/16		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/16		78	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/16		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/16		90	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/16		100	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/16		93	%	70 - 130
			Perfluorobutanoic acid	2017/09/16		88	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/16		90	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/16		99	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/16		90	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/16		100	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16		92	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/16		88	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/16		91	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16		91	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16		98	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16		95	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/16		88	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16		88	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/16		NC	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/16		96	%	70 - 130
5160185	DZU	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/16	13		%	30
			8:2 Fluorotelomer sulfonate	2017/09/16	4.3		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/16	10		%	30
			Perfluorobutanoic acid	2017/09/16	9.4		%	30
			Perfluorodecane Sulfonate	2017/09/16	7.5		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/16	1.2		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/16	16		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/16	12		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16	0.41		%	25
			Perfluorotetradecanoic Acid	2017/09/16	12		%	30
			Perfluorotridecanoic Acid	2017/09/16	9.2		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16	9.1		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16	1.4		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16	2.7		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/16	13		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16	18		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/16	NC		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/16	0.40		%	30
5160185	DZU	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/16		89	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/16		89	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/16		87	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/16		86	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/16		85	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C2-perfluorotetradecanoic acid	2017/09/16		86	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/16		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/16		90	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/16		88	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/16		84	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/16		83	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/16		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/16		86	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/16		84	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/16		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/16		90	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/16		89	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/16		87	%	70 - 130
			Perfluorobutanoic acid	2017/09/16		90	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/16		98	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/16		94	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/16		95	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/16		89	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16		96	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/16		94	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/16		88	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16		98	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16		93	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16		82	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/16		98	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16		107	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/16		93	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/16		95	%	70 - 130
5160185	DZU	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/16		95	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/16		78	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/16		83	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/16		78	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/16		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/16		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/16		80	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/16		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/16		86	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/16		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/16		80	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/16		81	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/16		82	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/16		81	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/16		79	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/16	0.60 U, LOD=0.60		ug/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecanoic Acid (PFDA)	2017/09/16	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/16	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/16	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/16	0.60 U, LOD=0.60		ug/kg	
5160314	AD9	Spiked Blank	13C4-Perfluorooctanesulfonate	2017/09/15		93	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/15		92	%	50 - 150
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15		99	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/15		99	%	70 - 130
5160314	AD9	Spiked Blank DUP	13C4-Perfluorooctanesulfonate	2017/09/15		88	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/15		97	%	50 - 150
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15		91	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/15		95	%	70 - 130
5160314	AD9	RPD	Perfluorohexane Sulfonate (PFHxS)	2017/09/15	8.4		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	3.5		%	30
5160314	AD9	Method Blank	13C4-Perfluorooctanesulfonate	2017/09/15		88	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/15		87	%	50 - 150
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15	0.50 U, LOD=0.50		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	0.40 U, LOD=0.40		ug/L	
5160314	AD9	RPD - Sample/Sample Dup	Perfluorohexane Sulfonate (PFHxS)	2017/09/15	5.4 (2)		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	3.6 (3)		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	2.7		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	18		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/15	6.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/15	10		%	30
5163624	DZU	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/28		94	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/28		90	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/28		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/28		86	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/28		91	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C2-perfluorotetradecanoic acid	2017/09/28		43 (4)	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/28		91	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/28		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/28		90	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/28		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/28		93	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/28		91	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/28		101	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/28		80	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/28		97	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/28		87	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/28		86	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/28		94	%	70 - 130
			Perfluorobutanoic acid	2017/09/28		87	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/28		89	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/28		98	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/28		84	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/28		93	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/28		95	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/28		92	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/28		134 (5)	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/28		91	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/28		102	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/28		87	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/28		97	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/28		97	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/28		89	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/28		86	%	70 - 130
5163624	DZU	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/28		88	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/28		88	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/28		88	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/28		83	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/28		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/28		61	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/28		88	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/28		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/28		87	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/28		87	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/28		86	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/28		87	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/28		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/28		84	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/28		89	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/28		87	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/28		87	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/28		94	%	70 - 130
			Perfluorobutanoic acid	2017/09/28		97	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/28		94	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/28		96	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/28		91	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/28		92	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/28		89	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/28		100	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorotridecanoic Acid	2017/09/28		112	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/28		100	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/28		99	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/28		89	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/28		93	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/28		100	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/28		97	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/28		87	%	70 - 130
5163624	DZU	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/28	0.38		%	30
			8:2 Fluorotelomer sulfonate	2017/09/28	1.2		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/28	0.42		%	30
			Perfluorobutanoic acid	2017/09/28	11		%	30
			Perfluorodecane Sulfonate	2017/09/28	6.1		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/28	2.2		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/28	7.1		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/28	1.9		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/28	6.5		%	25
			Perfluorotetradecanoic Acid	2017/09/28	8.1		%	30
			Perfluorotridecanoic Acid	2017/09/28	18		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/28	9.5		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/28	2.7		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/28	1.7		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/28	4.1		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/28	2.8		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/28	8.6		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/28	1.4		%	30
5163624	DZU	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/28		69	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/28		72	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/28		74	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/28		65	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/28		74	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/28		57	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/28		72	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/28		76	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/28		73	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/28		68	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/28		74	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/28		72	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/28		76	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/28		68	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/28		75	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/28		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/28		86	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/28		90	%	70 - 130
			Perfluorobutanoic acid	2017/09/28		90	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/28		91	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/28		89	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/28		93	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/28		92	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/28		87	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/28		99	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/28		100	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/28		91	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroheptanoic Acid (PFHpA)	2017/09/28		97	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/28		88	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/28		91	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/28		89	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/28		97	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/28		90	%	70 - 130
5163624	DZU	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/28		81	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/28		77	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/28		74	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/28		68	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/28		78	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/28		60	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/28		71	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/28		78	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/28		80	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/28		77	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/28		76	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/28		77	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/28		75	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/28		67	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/28		76	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/28	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/28	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/28	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/28	0.60 U, LOD=0.60		ug/kg	

Maxxam Job #: B7J4924
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonate (PFOS)	2017/09/28	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/28	0.60 U, LOD=0.60		ug/kg	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(2) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.Post spike sample recovery is not applicable due to native concentration.

(3) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.Post spike sample recovery is not applicable due to native concentration..

(4) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked soil resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low. Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the low extracted internal standard analyte recovery.

(5) Recovery of the matrix spike was above the upper control limit. Laboratory spiked soil resulted in satisfactory recovery of the compound of interest. When considered together, these QC data suggest that matrix interferences may be biasing the data high. For results that were not detected (ND), this potential bias has no impact.

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Maxxam Job #: B7J4924
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Cristina Carriere, Scientific Service Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/05
Report #: R4763265
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4941
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	1	2017/09/12	2017/09/25	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	3	N/A	2017/09/08	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	2	2017/09/28	2017/10/03	CAM SOP-00894	EPA537 m
PFOS and PFOA in soil by SPE/LCMS (1)	1	2017/09/28	2017/10/04	CAM SOP-00894	EPA537 m

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	1	2017/09/13	2017/09/23	CAM SOP-00894	EPA 537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/05
Report #: R4763265
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CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4941

Received: 2017/09/07, 15:11

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
05 Oct 2017 20:27:53

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B7J4941
Report Date: 2017/10/05

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV240				
Sampling Date		2017/09/01 14:05				
COC Number		na				
	UNITS	1986C141B-1-W10	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/L	0.049	0.0032	0.010	0.020	5159252
8:2 Fluorotelomer sulfonate	ug/L	0.040	0.0036	0.010	0.020	5159252
Perfluorobutanoic acid	ug/L	0.35	0.0043	0.010	0.020	5159252
Perfluorobutane Sulfonate (PFBS)	ug/L	0.21	0.0048	0.010	0.020	5159252
Perfluorodecane Sulfonate	ug/L	0.010 U	0.0046	0.010	0.020	5159252
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.043	0.0033	0.010	0.020	5159252
Perfluorohexanoic Acid (PFHxA)	ug/L	0.078	0.0029	0.010	0.020	5159252
Perfluorohexane Sulfonate (PFHxS)	ug/L	1.5 (1)	0.034	0.10	0.20	5159252
Perfluorononanoic Acid (PFNA)	ug/L	0.015 J	0.0038	0.010	0.020	5159252
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.012 J	0.0036	0.010	0.020	5159252
Perfluoropentanoic Acid (PFPeA)	ug/L	0.058	0.0027	0.010	0.020	5159252
Perfluorotetradecanoic Acid	ug/L	0.10 U (2)	0.038	0.10	0.20	5159252
Perfluorotridecanoic Acid	ug/L	0.10 U (2)	0.033	0.10	0.20	5159252
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0043	0.010	0.020	5159252
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.0040	0.010	0.020	5159252
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.0028	0.010	0.020	5159252
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.12	0.0046	0.010	0.020	5159252
Perfluorooctane Sulfonate (PFOS)	ug/L	3.1 (1)	0.026	0.10	0.20	5159252
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	80				5159252
13C2-8:2 Fluorotelomer sulfonate	%	87				5159252
13C2-Perfluorodecanoic acid	%	98				5159252
13C2-Perfluorododecanoic acid	%	79				5159252
13C2-Perfluorohexanoic acid	%	95				5159252
13C2-perfluorotetradecanoic acid	%	97				5159252
13C2-Perfluoroundecanoic acid	%	81				5159252
13C4-Perfluorobutanoic acid	%	69				5159252

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
(2) Due to low recovery of the associated extracted internal standard in the native sample, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

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Report Date: 2017/10/05

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV240				
Sampling Date		2017/09/01 14:05				
COC Number		na				
	UNITS	**1986C141B-1-W10**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluoroheptanoic acid	%	91				5159252
13C4-Perfluorooctanesulfonate	%	110				5159252
13C4-Perfluorooctanoic acid	%	101				5159252
13C5-Perfluorononanoic acid	%	92				5159252
13C5-Perfluoropentanoic acid	%	91				5159252
13C8-Perfluorooctane Sulfonamide	%	74				5159252
18O2-Perfluorohexanesulfonate	%	99				5159252

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N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV241				FBV242				
Sampling Date		2017/08/31 14:53				2017/08/31 14:55				
COC Number		na				na				
	UNITS	86C141B-1-09	DL	LOD	LOQ	86C141B-1-12	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	26	0.50	N/A	1.0	22	0.50	N/A	1.0	5156415
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	0.59 U	0.23	0.59	0.98	5186997
8:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.35	0.66	1.1	0.59 U	0.31	0.59	0.98	5186997
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.19	0.66	1.1	0.59 U	0.17	0.59	0.98	5186997
Perfluorobutanoic acid	ug/kg	0.66 U	0.25	0.66	1.1	0.59 U	0.23	0.59	0.98	5186997
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	0.59 U	0.23	0.59	0.98	5186997
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.14	0.44	1.1	0.39 U	0.13	0.39	0.98	5186997
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.24	0.66	1.1	0.59 U	0.22	0.59	0.98	5186997
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.66 U	0.19	0.66	1.1	0.59 U	0.17	0.59	0.98	5186997
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.62 J	0.25	0.66	1.1	0.67 J	0.23	0.59	0.98	5186997
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.66 U	0.21	0.66	1.1	0.59 U	0.19	0.59	0.98	5186997
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.78 J	0.29	0.66	1.1	0.59 U	0.25	0.59	0.98	5186997
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.19	0.66	1.1	0.59 U	0.17	0.59	0.98	5186997
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.29	0.66	1.1	0.59 U	0.25	0.59	0.98	5186997
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.46 J	0.23	0.66	1.1	2.0	0.21	0.59	0.98	5186997
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.66 U	0.20	0.66	1.1	0.59 U	0.18	0.59	0.98	5186997
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.12	0.44	1.1	0.39 U	0.11	0.39	0.98	5186997
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.13	0.44	1.1	0.39 U	0.12	0.39	0.98	5186997
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.20	0.66	1.1	0.59 U	0.18	0.59	0.98	5186997
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	94				94				5186997
13C2-8:2 Fluorotelomer sulfonate	%	80				83				5186997
13C2-Perfluorodecanoic acid	%	87				76				5186997
13C2-Perfluorododecanoic acid	%	73				73				5186997
13C2-Perfluorohexanoic acid	%	88				89				5186997
13C2-perfluorotetradecanoic acid	%	78				69				5186997
13C2-Perfluoroundecanoic acid	%	81				83				5186997
13C4-Perfluorobutanoic acid	%	88				90				5186997
13C4-Perfluoroheptanoic acid	%	91				88				5186997
13C4-Perfluorooctanesulfonate	%	86				88				5186997

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Job #: B7J4941
Report Date: 2017/10/05

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV241				FBV242				
Sampling Date		2017/08/31 14:53				2017/08/31 14:55				
COC Number		na				na				
	UNITS	86C141B-1-09	DL	LOD	LOQ	86C141B-1-12	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	88				91				5186997
13C5-Perfluorononanoic acid	%	87				89				5186997
13C5-Perfluoropentanoic acid	%	88				86				5186997
13C8-Perfluorooctane Sulfonamide	%	67				72				5186997
18O2-Perfluorohexanesulfonate	%	83				83				5186997

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
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Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV243				
Sampling Date		2017/08/31 14:35				
COC Number		na				
	UNITS	86C141B-1-0.5	DL	LOD	LOQ	QC Batch
Inorganics						
Moisture	%	5.7	0.50	N/A	1.0	5156415
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/kg	0.52 U	0.20	0.52	0.87	5186997
8:2 Fluorotelomer sulfonate	ug/kg	0.52 U	0.28	0.52	0.87	5186997
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.52 U	0.15	0.52	0.87	5186997
Perfluorobutanoic acid	ug/kg	0.38 J	0.20	0.52	0.87	5186997
Perfluorodecane Sulfonate	ug/kg	0.52 U	0.20	0.52	0.87	5186997
Perfluorodecanoic Acid (PFDA)	ug/kg	0.35 U	0.11	0.35	0.87	5186997
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.52 U	0.19	0.52	0.87	5186997
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.52 U	0.15	0.52	0.87	5186997
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.87	0.20	0.52	0.87	5186997
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.52 U	0.17	0.52	0.87	5186997
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.47 J	0.23	0.52	0.87	5186997
Perfluorononanoic Acid (PFNA)	ug/kg	0.49 J	0.15	0.52	0.87	5186997
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.52 U	0.23	0.52	0.87	5186997
Perfluorooctane Sulfonate (PFOS)	ug/kg	24	0.18	0.52	0.87	5186997
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.31 J	0.16	0.52	0.87	5186997
Perfluorotetradecanoic Acid	ug/kg	0.35 U	0.096	0.35	0.87	5186997
Perfluorotridecanoic Acid	ug/kg	0.35 U	0.10	0.35	0.87	5186997
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.52 U	0.16	0.52	0.87	5186997
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	87				5186997
13C2-8:2 Fluorotelomer sulfonate	%	84				5186997
13C2-Perfluorodecanoic acid	%	86				5186997
13C2-Perfluorododecanoic acid	%	79				5186997
13C2-Perfluorohexanoic acid	%	92				5186997
13C2-perfluorotetradecanoic acid	%	73				5186997
13C2-Perfluoroundecanoic acid	%	85				5186997
13C4-Perfluorobutanoic acid	%	91				5186997
13C4-Perfluoroheptanoic acid	%	94				5186997
13C4-Perfluorooctanesulfonate	%	93				5186997

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RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV243				
Sampling Date		2017/08/31 14:35				
COC Number		na				
	UNITS	**86C141B-1-0.5**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	98				5186997
13C5-Perfluorononanoic acid	%	88				5186997
13C5-Perfluoropentanoic acid	%	97				5186997
13C8-Perfluorooctane Sulfonamide	%	81				5186997
18O2-Perfluorohexanesulfonate	%	94				5186997

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LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
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RESULTS OF ANALYSES OF WATER

Maxxam ID		FBV244				
Sampling Date		2017/09/01 09:30				
COC Number		na				
	UNITS	EQB1-090117	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0032	0.010	0.020	5161541
8:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0036	0.010	0.020	5161541
Perfluorobutanoic acid	ug/L	0.010 U	0.0043	0.010	0.020	5161541
Perfluorobutane Sulfonate (PFBS)	ug/L	0.010 U	0.0048	0.010	0.020	5161541
Perfluorodecane Sulfonate	ug/L	0.010 U	0.0046	0.010	0.020	5161541
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.010 U	0.0033	0.010	0.020	5161541
Perfluorohexanoic Acid (PFHxA)	ug/L	0.010 U	0.0029	0.010	0.020	5161541
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.010 U	0.0034	0.010	0.020	5161541
Perfluorononanoic Acid (PFNA)	ug/L	0.010 U	0.0038	0.010	0.020	5161541
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.0036	0.010	0.020	5161541
Perfluoropentanoic Acid (PFPeA)	ug/L	0.010 U	0.0027	0.010	0.020	5161541
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	5161541
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0033	0.010	0.020	5161541
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0043	0.010	0.020	5161541
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.0040	0.010	0.020	5161541
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.0028	0.010	0.020	5161541
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.010 U	0.0046	0.010	0.020	5161541
Perfluorooctane Sulfonate (PFOS)	ug/L	0.010 U	0.0026	0.010	0.020	5161541
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	88				5161541
13C2-8:2 Fluorotelomer sulfonate	%	73				5161541
13C2-Perfluorodecanoic acid	%	85				5161541
13C2-Perfluorododecanoic acid	%	77				5161541
13C2-Perfluorohexanoic acid	%	98				5161541
13C2-perfluorotetradecanoic acid	%	64				5161541
13C2-Perfluoroundecanoic acid	%	83				5161541
13C4-Perfluorobutanoic acid	%	98				5161541
13C4-Perfluoroheptanoic acid	%	92				5161541
13C4-Perfluorooctanesulfonate	%	101				5161541
13C4-Perfluorooctanoic acid	%	93				5161541
13C5-Perfluorononanoic acid	%	90				5161541

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RESULTS OF ANALYSES OF WATER

Maxxam ID		FBV244				
Sampling Date		2017/09/01 09:30				
COC Number		na				
	UNITS	EQB1-090117	DL	LOD	LOQ	QC Batch
13C5-Perfluoropentanoic acid	%	97				5161541
13C8-Perfluorooctane Sulfonamide	%	67				5161541
18O2-Perfluorohexanesulfonate	%	92				5161541

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QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
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TEST SUMMARY

Maxxam ID: FBV240 **Collected:** 2017/09/01
Sample ID: 1986C141B-1-W10 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159252	2017/09/12	2017/09/25	Marian Godax

Maxxam ID: FBV241 **Collected:** 2017/08/31
Sample ID: 86C141B-1-09 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5186997	2017/09/28	2017/10/03	Marian Godax

Maxxam ID: FBV242 **Collected:** 2017/08/31
Sample ID: 86C141B-1-12 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5186997	2017/09/28	2017/10/03	Marian Godax

Maxxam ID: FBV243 **Collected:** 2017/08/31
Sample ID: 86C141B-1-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5186997	2017/09/28	2017/10/04	Marian Godax

Maxxam ID: FBV244 **Collected:** 2017/09/01
Sample ID: EQB1-090117 **Shipped:**
Matrix: Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5161541	2017/09/13	2017/09/23	Marian Godax

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.9°C
Package 3	2.5°C
Package 4	1.7°C

Results relate only to the items tested.

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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5156415	NS3	RPD - Sample/Sample Dup	Moisture	2017/09/08	0.71		%	20
5159252	M_G	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		66	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		84	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		83	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		76	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		72	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		76	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		78	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		89	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/25		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		88	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		72	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		92	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25		121	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/25		108	%	70 - 130
			Perfluorobutanoic acid	2017/09/25		104	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/25		113	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/25		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25		113	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/25		113	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25		NC	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/25		115	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25		113	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/25		111	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/25		109	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/25		109	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25		119	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/25		114	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/25		107	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25		120	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/25		123	%	70 - 130
5159252	M_G	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		74	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		85	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		90	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		96	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		77	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		83	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		83	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		95	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/25		98	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		95	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		98	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		93	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		83	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		101	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25		115	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/25		119	%	70 - 130
			Perfluorobutanoic acid	2017/09/25		112	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/25		103	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/09/25		109	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25		113	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/25		124	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25		NC	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/25		116	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25		112	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/25		124	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/25		115	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/25		117	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25		122	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/25		123	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/25		113	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25		124	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/25		124	%	70 - 130
5159252	M_G	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/25	4.8		%	30
			8:2 Fluorotelomer sulfonate	2017/09/25	9.2		%	30
			Perfluorobutanoic acid	2017/09/25	7.2		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/25	9.2		%	30
			Perfluorodecane Sulfonate	2017/09/25	4.5		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25	0.30		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/25	9.5		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25	NC		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/25	1.6		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25	0.77		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/25	12		%	30
			Perfluorotetradecanoic Acid	2017/09/25	6.0		%	30
			Perfluorotridecanoic Acid	2017/09/25	7.3		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25	2.5		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/25	7.1		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/25	5.6		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25	3.3		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/25	0.87		%	30
5159252	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		81	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		83	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		73	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		76	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		81	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/25		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		85	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		85	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		75	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		83	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25		115	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/25		114	%	70 - 130
			Perfluorobutanoic acid	2017/09/25		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/25		116	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/25		115	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25		123	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexanoic Acid (PFHxA)	2017/09/25		116	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25		110	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/25		116	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25		116	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/25		108	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/25		109	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/25		111	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25		117	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/25		123	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/25		118	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25		119	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/25		108	%	70 - 130
5159252	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		106	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		95	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		90	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		78	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		86	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		93	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		89	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/25		96	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		98	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		97	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		96	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/25	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/25	0.010 U, LOD=0.010		ug/L	
5159252	M_G	RPD - Sample/Sample Dup	6:2 Fluorotelomer sulfonate	2017/09/25	6.9 (1)		%	30
			8:2 Fluorotelomer sulfonate	2017/09/25	11 (1)		%	30
			Perfluorobutanoic acid	2017/09/25	2.3 (1)		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/25	10 (1)		%	30
			Perfluorodecane Sulfonate	2017/09/25	NC (1)		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25	0.23 (1)		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/25	4.4 (1)		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25	8.2 (1)		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/25	NC (1)		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25	10 (1)		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/25	5.4 (1)		%	30
			Perfluorotetradecanoic Acid	2017/09/25	NC (1)		%	30
			Perfluorotridecanoic Acid	2017/09/25	NC (1)		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25	NC (1)		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/25	NC (1)		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/25	NC (1)		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25	5.9 (1)		%	30
5161541	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/23		96	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/23		91	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/23		85	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/23		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/23		96	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/23		60	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/23		86	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/23		99	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/23		93	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/23		94	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/23		95	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/23		99	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/23		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/23		77	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/23		93	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/23		90	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/23		99	%	70 - 130
			Perfluorobutanoic acid	2017/09/23		98	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/23		93	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/23		86	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/23		96	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/23		93	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/23		92	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/23		94	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/23		101	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/23		97	%	70 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorotetradecanoic Acid	2017/09/23		89	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/23		112	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/23		96	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/23		98	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/23		89	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/23		96	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/23		95	%	70 - 130
5161541	M_G	Spiked Blank DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/23		66	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/23		58	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/23		54	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/23		62	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/23		64	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/23		40 (2)	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/23		59	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/23		75	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/23		64	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/23		65	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/23		61	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/23		56	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/23		64	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/23		47 (2)	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/23		69	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/23		84	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/23		92	%	70 - 130
			Perfluorobutanoic acid	2017/09/23		89	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/23		102	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/23		109	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/23		92	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/23		95	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/23		90	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/23		101	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/23		98	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/23		96	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/23		101	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/23		128	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/23		97	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/23		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/23		88	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/23		93	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/23		92	%	70 - 130
5161541	M_G	RPD	6:2 Fluorotelomer sulfonate	2017/09/23	6.9		%	30
			8:2 Fluorotelomer sulfonate	2017/09/23	7.6		%	30
			Perfluorobutanoic acid	2017/09/23	9.6		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/23	8.8		%	30
			Perfluorodecane Sulfonate	2017/09/23	24		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/23	4.6		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/23	2.5		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/23	2.5		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/23	7.1		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/23	3.5		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/23	1.0		%	30
			Perfluorotetradecanoic Acid	2017/09/23	12		%	30
			Perfluorotridecanoic Acid	2017/09/23	14		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic Acid (PFUnA)	2017/09/23	1.2		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/23	3.3		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/23	1.3		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/23	4.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/23	3.0		%	30
5161541	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/23		90	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/23		87	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/23		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/23		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/23		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/23		66	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/23		84	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/23		97	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/23		92	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/23		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/23		90	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/23		91	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/23		96	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/23		68	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/23		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/23	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/23	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/23	0.010 U, LOD=0.010		ug/L	
5186997	M_G	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/10/03		85	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/03		83	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/03		89	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/03		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/03		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/03		76	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/03		85	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/03		94	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/03		88	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/03		100	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/03		95	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/03		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/03		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/03		80	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/03		90	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/03		92	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/10/03		92	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/10/03		83	%	70 - 130
			Perfluorobutanoic acid	2017/10/03		133 (3)	%	70 - 130
			Perfluorodecane Sulfonate	2017/10/03		83	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/10/03		90	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/10/03		89	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/10/03		87	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/03		86	%	70 - 130
			Perfluorotetradecanoic Acid	2017/10/03		87	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/03		92	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/10/03		94	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/10/03		92	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/10/03		83	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/10/03		91	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/03		83	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/10/03		76	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/10/03		95	%	70 - 130
5186997	M_G	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/10/03		84	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/03		81	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/03		82	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/03		77	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/03		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/03		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/03		83	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/03		94	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/03		91	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/03		91	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/03		94	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/03		92	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/03		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/03		78	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/03		92	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/03		95	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			8:2 Fluorotelomer sulfonate	2017/10/03		95	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/10/03		84	%	70 - 130
			Perfluorobutanoic acid	2017/10/03		89	%	70 - 130
			Perfluorodecane Sulfonate	2017/10/03		92	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/10/03		100	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/10/03		95	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/10/03		89	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/03		90	%	70 - 130
			Perfluorotetradecanoic Acid	2017/10/03		94	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/03		95	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/10/03		95	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/10/03		90	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/10/03		84	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/10/03		90	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/03		86	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/10/03		82	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/10/03		91	%	70 - 130
5186997	M_G	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/10/03	2.2		%	30
			8:2 Fluorotelomer sulfonate	2017/10/03	3.3		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/10/03	0.93		%	30
			Perfluorobutanoic acid	2017/10/03	40 (2)		%	30
			Perfluorodecane Sulfonate	2017/10/03	10		%	30
			Perfluorodecanoic Acid (PFDA)	2017/10/03	10		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/10/03	7.0		%	30
			Perfluorononanoic Acid (PFNA)	2017/10/03	2.0		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/03	4.3		%	25
			Perfluorotetradecanoic Acid	2017/10/03	7.7		%	30
			Perfluorotridecanoic Acid	2017/10/03	3.4		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/10/03	0.87		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/10/03	1.7		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/10/03	0.23		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/10/03	1.2		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/03	3.6		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/10/03	7.7		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/10/03	3.5		%	30
5186997	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/10/03		96	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/03		88	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/03		91	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/03		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/03		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/03		81	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/03		94	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/03		92	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/03		101	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/03		104	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/03		97	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/03		92	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/03		98	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/03		87	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/03		89	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/03		88	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/10/03		93	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/10/03		93	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutanoic acid	2017/10/03		92	%	70 - 130
			Perfluorodecane Sulfonate	2017/10/03		89	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/10/03		92	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/10/03		93	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/10/03		89	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/03		88	%	70 - 130
			Perfluorotetradecanoic Acid	2017/10/03		86	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/03		91	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/10/03		91	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/10/03		86	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/10/03		88	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/10/03		94	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/03		87	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/10/03		77	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/10/03		85	%	70 - 130
5186997	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/10/03		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/03		93	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/03		82	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/03		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/03		95	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/03		77	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/03		84	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/03		97	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/03		93	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/03		89	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/03		94	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/03		88	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/03		96	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/03		78	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/03		86	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/10/03	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/10/03	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/10/03	0.40 U, LOD=0.40		ug/kg	

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Maxxam Job #: B7J4941
Report Date: 2017/10/05

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic Acid (PFUnA)	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/10/03	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/10/03	0.60 U, LOD=0.60		ug/kg	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(3) Recovery of the matrix spike was above the upper control limit. Laboratory spiked soil resulted in satisfactory recovery of the compound of interest. When considered together, these QC data suggest that matrix interferences may be biasing the data high for this specific analyte. For results that were not detected (ND), this potential bias has no impact.

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Maxxam Job #: B7J4941
Report Date: 2017/10/05

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Cristina Carriere, Scientific Service Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/02
Report #: R4753766
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4943
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	1	2017/09/12	2017/09/25	CAM SOP-00894	EPA 537 m
PFOS and PFOA in water by SPE/LCMS (1)	3	2017/09/13	2017/09/23	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	10	N/A	2017/09/08	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	10	2017/09/13	2017/09/30	CAM SOP-00894	EPA537 m

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	1	2017/09/12	2017/09/25	CAM SOP-00894	EPA 537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/02
Report #: R4753766
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4943

Received: 2017/09/07, 15:11

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
02 Oct 2017 14:39:29

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV256					FBV257				
Sampling Date		2017/09/03 14:10					2017/09/03 14:10				
COC Number		na					na				
	UNITS	82/83 C5-1-W13	DL	LOD	LOQ	QC Batch	82/83 C5-1-WFD	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/L	0.29	0.0032	0.010	0.020	5161541	0.28	0.0043	0.014	0.027	5185349
8:2 Fluorotelomer sulfonate	ug/L	0.0098 J	0.0036	0.010	0.020	5161541	0.011 J	0.0036	0.010	0.020	5161541
Perfluorobutanoic acid	ug/L	0.12	0.0043	0.010	0.020	5161541	0.11	0.0043	0.010	0.020	5161541
Perfluorobutane Sulfonate (PFBS)	ug/L	0.17	0.0048	0.010	0.020	5161541	0.14	0.0065	0.014	0.027	5185349
Perfluorodecane Sulfonate	ug/L	0.010 U	0.0046	0.010	0.020	5161541	0.010 U	0.0046	0.010	0.020	5161541
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.071	0.0033	0.010	0.020	5161541	0.077	0.0045	0.014	0.027	5185349
Perfluorohexanoic Acid (PFHxA)	ug/L	0.23	0.0029	0.010	0.020	5161541	0.23	0.0039	0.014	0.027	5185349
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.97	0.0034	0.010	0.020	5161541	0.87	0.0046	0.014	0.027	5185349
Perfluorononanoic Acid (PFNA)	ug/L	0.010 U	0.0038	0.010	0.020	5161541	0.014 U	0.0051	0.014	0.027	5185349
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.0036	0.010	0.020	5161541	0.010 U	0.0036	0.010	0.020	5161541
Perfluoropentanoic Acid (PFPeA)	ug/L	0.15	0.0027	0.010	0.020	5161541	0.15	0.0036	0.014	0.027	5185349
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	5161541	0.010 U	0.0038	0.010	0.020	5161541
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0033	0.010	0.020	5161541	0.010 U	0.0033	0.010	0.020	5161541
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0043	0.010	0.020	5161541	0.010 U	0.0043	0.010	0.020	5161541
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.0040	0.010	0.020	5161541	0.010 U	0.0040	0.010	0.020	5161541
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.0028	0.010	0.020	5161541	0.010 U	0.0028	0.010	0.020	5161541
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.091	0.0046	0.010	0.020	5161541	0.091	0.0062	0.014	0.027	5185349
Perfluorooctane Sulfonate (PFOS)	ug/L	1.2	0.0026	0.010	0.020	5161541	1.1	0.0035	0.014	0.027	5185349
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	72				5161541	66				5185349
13C2-8:2 Fluorotelomer sulfonate	%	75				5161541	143				5161541
13C2-Perfluorodecanoic acid	%	71				5161541	146				5161541
13C2-Perfluorododecanoic acid	%	64				5161541	122				5161541
13C2-Perfluorohexanoic acid	%	78				5161541	80				5185349
13C2-perfluorotetradecanoic acid	%	56				5161541	115				5161541
13C2-Perfluoroundecanoic acid	%	69				5161541	131				5161541
13C4-Perfluorobutanoic acid	%	77				5161541	136				5161541
13C4-Perfluoroheptanoic acid	%	80				5161541	81				5185349
13C4-Perfluorooctanesulfonate	%	80				5161541	74				5185349
13C4-Perfluorooctanoic acid	%	79				5161541	87				5185349
13C5-Perfluorononanoic acid	%	77				5161541	82				5185349

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV256					FBV257				
Sampling Date		2017/09/03 14:10					2017/09/03 14:10				
COC Number		na					na				
	UNITS	**82/83 C5-1-W13**	**DL**	**LOD**	**LOQ**	**QC Batch**	**82/83 C5-1-WFD**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C5-Perfluoropentanoic acid	%	81				5161541	82				5185349
13C8-Perfluorooctane Sulfonamide	%	52				5161541	101				5161541
18O2-Perfluorohexanesulfonate	%	81				5161541	85				5185349

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV258		FBV259				
Sampling Date		2017/09/03 14:30		2017/09/03 15:00				
COC Number		na		na				
	UNITS	82/83 C5-2-W12	QC Batch	82/83 C5-3-W13	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters								
6:2 Fluorotelomer sulfonate	ug/L	0.0054 J	5161541	0.010 U	0.0032	0.010	0.020	5159252
8:2 Fluorotelomer sulfonate	ug/L	0.010 U	5161541	0.010 U	0.0036	0.010	0.020	5159252
Perfluorobutanoic acid	ug/L	0.036	5161541	0.052	0.0043	0.010	0.020	5159252
Perfluorobutane Sulfonate (PFBS)	ug/L	0.083	5161541	0.058	0.0048	0.010	0.020	5159252
Perfluorodecane Sulfonate	ug/L	0.010 U	5161541	0.010 U	0.0046	0.010	0.020	5159252
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.019 J	5161541	0.10	0.0033	0.010	0.020	5159252
Perfluorohexanoic Acid (PFHxA)	ug/L	0.11	5161541	0.17	0.0029	0.010	0.020	5159252
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.42	5161541	0.69	0.0034	0.010	0.020	5159252
Perfluorononanoic Acid (PFNA)	ug/L	0.010 U	5161541	0.014 J	0.0038	0.010	0.020	5159252
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	5161541	0.010 U	0.0036	0.010	0.020	5159252
Perfluoropentanoic Acid (PFPeA)	ug/L	0.066	5161541	0.094	0.0027	0.010	0.020	5159252
Perfluorotetradecanoic Acid	ug/L	0.010 U	5161541	0.010 U	0.0038	0.010	0.020	5159252
Perfluorotridecanoic Acid	ug/L	0.010 U	5161541	0.010 U	0.0033	0.010	0.020	5159252
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	5161541	0.010 U	0.0043	0.010	0.020	5159252
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	5161541	0.010 U	0.0040	0.010	0.020	5159252
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	5161541	0.010 U	0.0028	0.010	0.020	5159252
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.038	5161541	0.10	0.0046	0.010	0.020	5159252
Perfluorooctane Sulfonate (PFOS)	ug/L	0.20	5161541	0.35	0.0026	0.010	0.020	5159252
Surrogate Recovery (%)								
13C2-6:2 Fluorotelomer sulfonate	%	79	5161541	85				5159252
13C2-8:2 Fluorotelomer sulfonate	%	79	5161541	95				5159252
13C2-Perfluorodecanoic acid	%	83	5161541	92				5159252
13C2-Perfluorododecanoic acid	%	78	5161541	89				5159252
13C2-Perfluorohexanoic acid	%	91	5161541	99				5159252
13C2-perfluorotetradecanoic acid	%	69	5161541	78				5159252
13C2-Perfluoroundecanoic acid	%	77	5161541	92				5159252
13C4-Perfluorobutanoic acid	%	91	5161541	82				5159252
13C4-Perfluoroheptanoic acid	%	87	5161541	95				5159252
13C4-Perfluorooctanesulfonate	%	90	5161541	94				5159252
13C4-Perfluorooctanoic acid	%	92	5161541	99				5159252
13C5-Perfluorononanoic acid	%	83	5161541	102				5159252

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV258		FBV259				
Sampling Date		2017/09/03 14:30		2017/09/03 15:00				
COC Number		na		na				
	UNITS	**82/83 C5-2-W12**	**QC Batch**	**82/83 C5-3-W13**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C5-Perfluoropentanoic acid	%	94	5161541	99				5159252
13C8-Perfluorooctane Sulfonamide	%	61	5161541	86				5159252
18O2-Perfluorohexanesulfonate	%	87	5161541	101				5159252

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV246				FBV247				
Sampling Date		2017/09/03 09:05				2017/09/03 09:45				
COC Number		na				na				
	UNITS	82/83 C5-1-0.5	DL	LOD	LOQ	82/83 C5-1-07	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	5.5	0.50	N/A	1.0	19	0.50	N/A	1.0	5156415
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.55 U	0.21	0.55	0.92	0.60 U	0.23	0.60	1.0	5162261
8:2 Fluorotelomer sulfonate	ug/kg	0.55 U	0.29	0.55	0.92	0.60 U	0.32	0.60	1.0	5162261
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.55 U	0.16	0.55	0.92	0.60 U	0.17	0.60	1.0	5162261
Perfluorobutanoic acid	ug/kg	0.55 U	0.21	0.55	0.92	0.60 U	0.23	0.60	1.0	5162261
Perfluorodecane Sulfonate	ug/kg	0.55 U	0.21	0.55	0.92	0.60 U	0.23	0.60	1.0	5162261
Perfluorodecanoic Acid (PFDA)	ug/kg	0.37 U	0.12	0.37	0.92	0.40 U	0.13	0.40	1.0	5162261
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.55 U	0.20	0.55	0.92	0.60 U	0.22	0.60	1.0	5162261
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.55 U	0.16	0.55	0.92	0.60 U	0.17	0.60	1.0	5162261
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.55 U	0.21	0.55	0.92	0.60 U	0.23	0.60	1.0	5162261
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.55 U	0.17	0.55	0.92	0.60 U	0.19	0.60	1.0	5162261
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.55 U	0.24	0.55	0.92	0.60 U	0.26	0.60	1.0	5162261
Perfluorononanoic Acid (PFNA)	ug/kg	0.55 U	0.16	0.55	0.92	0.60 U	0.17	0.60	1.0	5162261
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.55 U	0.24	0.55	0.92	0.60 U	0.26	0.60	1.0	5162261
Perfluorooctane Sulfonate (PFOS)	ug/kg	3.2	0.19	0.55	0.92	0.60 U	0.21	0.60	1.0	5162261
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.65 J	0.17	0.55	0.92	0.22 J	0.18	0.60	1.0	5162261
Perfluorotetradecanoic Acid	ug/kg	0.37 U	0.10	0.37	0.92	0.40 U	0.11	0.40	1.0	5162261
Perfluorotridecanoic Acid	ug/kg	0.37 U	0.11	0.37	0.92	0.40 U	0.12	0.40	1.0	5162261
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.55 U	0.17	0.55	0.92	0.60 U	0.18	0.60	1.0	5162261
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	92				84				5162261
13C2-8:2 Fluorotelomer sulfonate	%	96				92				5162261
13C2-Perfluorodecanoic acid	%	83				89				5162261
13C2-Perfluorododecanoic acid	%	84				83				5162261
13C2-Perfluorohexanoic acid	%	85				90				5162261
13C2-perfluorotetradecanoic acid	%	78				78				5162261
13C2-Perfluoroundecanoic acid	%	87				84				5162261
13C4-Perfluorobutanoic acid	%	89				85				5162261
13C4-Perfluoroheptanoic acid	%	89				81				5162261
13C4-Perfluorooctanesulfonate	%	76				80				5162261

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV246				FBV247				
Sampling Date		2017/09/03 09:05				2017/09/03 09:45				
COC Number		na				na				
	UNITS	**82/83 C5-1-0.5**	**DL**	**LOD**	**LOQ**	**82/83 C5-1-07**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	86				83				5162261
13C5-Perfluorononanoic acid	%	83				82				5162261
13C5-Perfluoropentanoic acid	%	90				87				5162261
13C8-Perfluorooctane Sulfonamide	%	80				77				5162261
18O2-Perfluorohexanesulfonate	%	89				88				5162261

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV248				FBV249				
Sampling Date		2017/09/03 09:52				2017/09/03 10:05				
COC Number		na				na				
	UNITS	82/83 C5-1-12	DL	LOD	LOQ	82/83 C5-2-0.5	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	15	0.50	N/A	1.0	9.3	0.50	N/A	1.0	5156415
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	0.51 U	0.20	0.51	0.85	5162261
8:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.35	0.66	1.1	0.51 U	0.27	0.51	0.85	5162261
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.19	0.66	1.1	0.51 U	0.14	0.51	0.85	5162261
Perfluorobutanoic acid	ug/kg	0.66 U	0.25	0.66	1.1	0.51 U	0.20	0.51	0.85	5162261
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	0.51 U	0.20	0.51	0.85	5162261
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.14	0.44	1.1	0.34 U	0.11	0.34	0.85	5162261
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.24	0.66	1.1	0.51 U	0.19	0.51	0.85	5162261
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.66 U	0.19	0.66	1.1	0.51 U	0.14	0.51	0.85	5162261
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.66 U	0.25	0.66	1.1	0.51 U	0.20	0.51	0.85	5162261
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.66 U	0.21	0.66	1.1	0.51 U	0.16	0.51	0.85	5162261
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.66 U	0.29	0.66	1.1	0.51 U	0.22	0.51	0.85	5162261
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.19	0.66	1.1	0.51 U	0.14	0.51	0.85	5162261
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.29	0.66	1.1	0.51 U	0.22	0.51	0.85	5162261
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.66 U	0.23	0.66	1.1	3.5	0.18	0.51	0.85	5162261
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.66 U	0.20	0.66	1.1	0.51 U	0.15	0.51	0.85	5162261
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.12	0.44	1.1	0.34 U	0.094	0.34	0.85	5162261
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.13	0.44	1.1	0.34 U	0.10	0.34	0.85	5162261
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.20	0.66	1.1	0.51 U	0.15	0.51	0.85	5162261
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	87				79				5162261
13C2-8:2 Fluorotelomer sulfonate	%	84				80				5162261
13C2-Perfluorodecanoic acid	%	83				80				5162261
13C2-Perfluorododecanoic acid	%	73				75				5162261
13C2-Perfluorohexanoic acid	%	89				82				5162261
13C2-perfluorotetradecanoic acid	%	63				74				5162261
13C2-Perfluoroundecanoic acid	%	85				79				5162261
13C4-Perfluorobutanoic acid	%	84				82				5162261
13C4-Perfluoroheptanoic acid	%	77				80				5162261
13C4-Perfluorooctanesulfonate	%	87				72				5162261

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV248				FBV249				
Sampling Date		2017/09/03 09:52				2017/09/03 10:05				
COC Number		na				na				
	UNITS	82/83 C5-1-12	DL	LOD	LOQ	82/83 C5-2-0.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	85				76				5162261
13C5-Perfluorononanoic acid	%	84				81				5162261
13C5-Perfluoropentanoic acid	%	81				84				5162261
13C8-Perfluorooctane Sulfonamide	%	70				69				5162261
18O2-Perfluorohexanesulfonate	%	84				86				5162261

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV250				FBV251				
Sampling Date		2017/09/03 11:35				2017/09/03 12:00				
COC Number		na				na				
	UNITS	82/83 C5-2-07	DL	LOD	LOQ	82/83 C5-2-18	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	10	0.50	N/A	1.0	26	0.50	N/A	1.0	5156415
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	0.78 U	0.30	0.78	1.3	5162261
8:2 Fluorotelomer sulfonate	ug/kg	0.53 U	0.28	0.53	0.89	0.78 U	0.42	0.78	1.3	5162261
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.53 U	0.15	0.53	0.89	0.78 U	0.22	0.78	1.3	5162261
Perfluorobutanoic acid	ug/kg	0.53 U	0.20	0.53	0.89	0.78 U	0.30	0.78	1.3	5162261
Perfluorodecane Sulfonate	ug/kg	0.53 U	0.20	0.53	0.89	0.78 U	0.30	0.78	1.3	5162261
Perfluorodecanoic Acid (PFDA)	ug/kg	0.36 U	0.12	0.36	0.89	0.52 U	0.17	0.52	1.3	5162261
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.53 U	0.20	0.53	0.89	0.78 U	0.29	0.78	1.3	5162261
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.53 U	0.15	0.53	0.89	0.78 U	0.22	0.78	1.3	5162261
Perfluorohexane Sulfonate (PFHxS)	ug/kg	1.5	0.20	0.53	0.89	0.78 U	0.30	0.78	1.3	5162261
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.40 J	0.17	0.53	0.89	0.78 U	0.25	0.78	1.3	5162261
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.53 U	0.23	0.53	0.89	0.78 U	0.34	0.78	1.3	5162261
Perfluorononanoic Acid (PFNA)	ug/kg	0.53 U	0.15	0.53	0.89	0.78 U	0.22	0.78	1.3	5162261
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.53 U	0.23	0.53	0.89	0.78 U	0.34	0.78	1.3	5162261
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.53 U	0.19	0.53	0.89	0.78 U	0.27	0.78	1.3	5162261
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.53 U	0.16	0.53	0.89	0.78 U	0.23	0.78	1.3	5162261
Perfluorotetradecanoic Acid	ug/kg	0.36 U	0.098	0.36	0.89	0.52 U	0.14	0.52	1.3	5162261
Perfluorotridecanoic Acid	ug/kg	0.36 U	0.11	0.36	0.89	0.52 U	0.16	0.52	1.3	5162261
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.53 U	0.16	0.53	0.89	0.78 U	0.23	0.78	1.3	5162261
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	94				91				5162261
13C2-8:2 Fluorotelomer sulfonate	%	99				88				5162261
13C2-Perfluorodecanoic acid	%	100				85				5162261
13C2-Perfluorododecanoic acid	%	91				75				5162261
13C2-Perfluorohexanoic acid	%	99				87				5162261
13C2-perfluorotetradecanoic acid	%	86				77				5162261
13C2-Perfluoroundecanoic acid	%	92				81				5162261
13C4-Perfluorobutanoic acid	%	93				80				5162261
13C4-Perfluoroheptanoic acid	%	90				88				5162261
13C4-Perfluorooctanesulfonate	%	90				78				5162261

DL = Detection Limit
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QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV250				FBV251				
Sampling Date		2017/09/03 11:35				2017/09/03 12:00				
COC Number		na				na				
	UNITS	82/83 C5-2-07	DL	LOD	LOQ	82/83 C5-2-18	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	96				89				5162261
13C5-Perfluorononanoic acid	%	96				89				5162261
13C5-Perfluoropentanoic acid	%	95				82				5162261
13C8-Perfluorooctane Sulfonamide	%	80				72				5162261
18O2-Perfluorohexanesulfonate	%	91				73				5162261

DL = Detection Limit
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QC Batch = Quality Control Batch
N/A = Not Applicable

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Oneida Total Integrated Enterprises
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Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV252				FBV253				
Sampling Date		2017/09/03 12:00				2017/09/03 12:00				
COC Number		na				na				
	UNITS	82/83 C5-2-FD	DL	LOD	LOQ	82/83 C5-3-0.5	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	22	0.50	N/A	1.0	20	0.50	N/A	1.0	5156415
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	0.66 U	0.25	0.66	1.1	5162261
8:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.38	0.72	1.2	0.66 U	0.35	0.66	1.1	5162261
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.72 U	0.20	0.72	1.2	0.66 U	0.19	0.66	1.1	5162261
Perfluorobutanoic acid	ug/kg	0.72 U	0.28	0.72	1.2	0.66 U	0.25	0.66	1.1	5162261
Perfluorodecane Sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	0.66 U	0.25	0.66	1.1	5162261
Perfluorodecanoic Acid (PFDA)	ug/kg	0.48 U	0.16	0.48	1.2	0.44 U	0.14	0.44	1.1	5162261
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.72 U	0.26	0.72	1.2	0.66 U	0.24	0.66	1.1	5162261
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.72 U	0.20	0.72	1.2	0.66 U	0.19	0.66	1.1	5162261
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.72 U	0.28	0.72	1.2	0.50 J	0.25	0.66	1.1	5162261
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.72 U	0.23	0.72	1.2	0.66 U	0.21	0.66	1.1	5162261
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.72 U	0.31	0.72	1.2	0.66 U	0.29	0.66	1.1	5162261
Perfluorononanoic Acid (PFNA)	ug/kg	0.72 U	0.20	0.72	1.2	0.66 U	0.19	0.66	1.1	5162261
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.72 U	0.31	0.72	1.2	0.66 U	0.29	0.66	1.1	5162261
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.72 U	0.25	0.72	1.2	3.6	0.23	0.66	1.1	5162261
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.72 U	0.22	0.72	1.2	0.66 U	0.20	0.66	1.1	5162261
Perfluorotetradecanoic Acid	ug/kg	0.48 U	0.13	0.48	1.2	0.44 U	0.12	0.44	1.1	5162261
Perfluorotridecanoic Acid	ug/kg	0.48 U	0.14	0.48	1.2	0.44 U	0.13	0.44	1.1	5162261
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.72 U	0.22	0.72	1.2	0.66 U	0.20	0.66	1.1	5162261
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	85				76				5162261
13C2-8:2 Fluorotelomer sulfonate	%	82				77				5162261
13C2-Perfluorodecanoic acid	%	76				72				5162261
13C2-Perfluorododecanoic acid	%	76				74				5162261
13C2-Perfluorohexanoic acid	%	79				81				5162261
13C2-perfluorotetradecanoic acid	%	72				68				5162261
13C2-Perfluoroundecanoic acid	%	79				72				5162261
13C4-Perfluorobutanoic acid	%	79				72				5162261
13C4-Perfluoroheptanoic acid	%	77				75				5162261
13C4-Perfluorooctanesulfonate	%	75				76				5162261

DL = Detection Limit
LOD = Limit of Detection
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QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV252				FBV253				
Sampling Date		2017/09/03 12:00				2017/09/03 12:00				
COC Number		na				na				
	UNITS	**82/83 C5-2-FD**	**DL**	**LOD**	**LOQ**	**82/83 C5-3-0.5**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	76				73				5162261
13C5-Perfluorononanoic acid	%	77				76				5162261
13C5-Perfluoropentanoic acid	%	81				76				5162261
13C8-Perfluorooctane Sulfonamide	%	69				65				5162261
18O2-Perfluorohexanesulfonate	%	82				82				5162261

DL = Detection Limit
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QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4943
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV254				FBV260				
Sampling Date		2017/09/03 13:15				2017/09/03 13:25				
COC Number		na				na				
	UNITS	82/83 C5-3-8	DL	LOD	LOQ	82/83 C5-3-14	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	19	0.50	N/A	1.0	21	0.50	N/A	1.0	5156415
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.23	0.60	1.0	0.72 U	0.28	0.72	1.2	5162261
8:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.32	0.60	1.0	0.72 U	0.38	0.72	1.2	5162261
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.60 U	0.17	0.60	1.0	0.72 U	0.20	0.72	1.2	5162261
Perfluorobutanoic acid	ug/kg	0.60 U	0.23	0.60	1.0	0.72 U	0.28	0.72	1.2	5162261
Perfluorodecane Sulfonate	ug/kg	0.60 U	0.23	0.60	1.0	0.72 U	0.28	0.72	1.2	5162261
Perfluorodecanoic Acid (PFDA)	ug/kg	0.40 U	0.13	0.40	1.0	0.48 U	0.16	0.48	1.2	5162261
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.60 U	0.22	0.60	1.0	0.72 U	0.26	0.72	1.2	5162261
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.60 U	0.17	0.60	1.0	0.72 U	0.20	0.72	1.2	5162261
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.60 U	0.23	0.60	1.0	0.72 U	0.28	0.72	1.2	5162261
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.60 U	0.19	0.60	1.0	0.72 U	0.23	0.72	1.2	5162261
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.60 U	0.26	0.60	1.0	0.72 U	0.31	0.72	1.2	5162261
Perfluorononanoic Acid (PFNA)	ug/kg	0.60 U	0.17	0.60	1.0	0.72 U	0.20	0.72	1.2	5162261
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.60 U	0.26	0.60	1.0	0.72 U	0.31	0.72	1.2	5162261
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.60 U	0.21	0.60	1.0	0.72 U	0.25	0.72	1.2	5162261
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.60 U	0.18	0.60	1.0	0.72 U	0.22	0.72	1.2	5162261
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.11	0.40	1.0	0.48 U	0.13	0.48	1.2	5162261
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.12	0.40	1.0	0.48 U	0.14	0.48	1.2	5162261
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.60 U	0.18	0.60	1.0	0.72 U	0.22	0.72	1.2	5162261
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	84				86				5162261
13C2-8:2 Fluorotelomer sulfonate	%	85				80				5162261
13C2-Perfluorodecanoic acid	%	79				77				5162261
13C2-Perfluorododecanoic acid	%	76				73				5162261
13C2-Perfluorohexanoic acid	%	83				85				5162261
13C2-perfluorotetradecanoic acid	%	76				68				5162261
13C2-Perfluoroundecanoic acid	%	76				71				5162261
13C4-Perfluorobutanoic acid	%	80				84				5162261
13C4-Perfluoroheptanoic acid	%	82				84				5162261
13C4-Perfluorooctanesulfonate	%	79				79				5162261

DL = Detection Limit
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N/A = Not Applicable

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV254				FBV260				
Sampling Date		2017/09/03 13:15				2017/09/03 13:25				
COC Number		na				na				
	UNITS	**82/83 C5-3-8**	**DL**	**LOD**	**LOQ**	**82/83 C5-3-14**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	82				81				5162261
13C5-Perfluorononanoic acid	%	81				77				5162261
13C5-Perfluoropentanoic acid	%	82				81				5162261
13C8-Perfluorooctane Sulfonamide	%	70				71				5162261
18O2-Perfluorohexanesulfonate	%	81				83				5162261

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF WATER

Maxxam ID		FBV255				
Sampling Date		2017/09/03 13:55				
COC Number		na				
	UNITS	FRB-1	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0032	0.010	0.020	5159252
8:2 Fluorotelomer sulfonate	ug/L	0.010 U	0.0036	0.010	0.020	5159252
Perfluorobutanoic acid	ug/L	0.010 U	0.0043	0.010	0.020	5159252
Perfluorobutane Sulfonate (PFBS)	ug/L	0.010 U	0.0048	0.010	0.020	5159252
Perfluorodecane Sulfonate	ug/L	0.010 U	0.0046	0.010	0.020	5159252
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.010 U	0.0033	0.010	0.020	5159252
Perfluorohexanoic Acid (PFHxA)	ug/L	0.010 U	0.0029	0.010	0.020	5159252
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.010 U	0.0034	0.010	0.020	5159252
Perfluorononanoic Acid (PFNA)	ug/L	0.010 U	0.0038	0.010	0.020	5159252
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.0036	0.010	0.020	5159252
Perfluoropentanoic Acid (PFPeA)	ug/L	0.010 U	0.0027	0.010	0.020	5159252
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	5159252
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0033	0.010	0.020	5159252
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0043	0.010	0.020	5159252
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.0040	0.010	0.020	5159252
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.0028	0.010	0.020	5159252
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.010 U	0.0046	0.010	0.020	5159252
Perfluorooctane Sulfonate (PFOS)	ug/L	0.010 U	0.0026	0.010	0.020	5159252
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	89				5159252
13C2-8:2 Fluorotelomer sulfonate	%	90				5159252
13C2-Perfluorodecanoic acid	%	79				5159252
13C2-Perfluorododecanoic acid	%	71				5159252
13C2-Perfluorohexanoic acid	%	90				5159252
13C2-perfluorotetradecanoic acid	%	67				5159252
13C2-Perfluoroundecanoic acid	%	78				5159252
13C4-Perfluorobutanoic acid	%	86				5159252
13C4-Perfluoroheptanoic acid	%	92				5159252
13C4-Perfluorooctanesulfonate	%	93				5159252
13C4-Perfluorooctanoic acid	%	91				5159252
13C5-Perfluorononanoic acid	%	88				5159252

DL = Detection Limit
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N/A = Not Applicable

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Maxxam Job #: B7J4943
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF WATER

Maxxam ID		FBV255				
Sampling Date		2017/09/03 13:55				
COC Number		na				
	UNITS	**FRB-1**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C5-Perfluoropentanoic acid	%	86				5159252
13C8-Perfluorooctane Sulfonamide	%	77				5159252
18O2-Perfluorohexanesulfonate	%	88				5159252

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV246
Sample ID: 82/83 C5-1-0.5
Matrix: Soil

Collected: 2017/09/03
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV247
Sample ID: 82/83 C5-1-07
Matrix: Soil

Collected: 2017/09/03
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV248
Sample ID: 82/83 C5-1-12
Matrix: Soil

Collected: 2017/09/03
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV249
Sample ID: 82/83 C5-2-0.5
Matrix: Soil

Collected: 2017/09/03
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV250
Sample ID: 82/83 C5-2-07
Matrix: Soil

Collected: 2017/09/03
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV251
Sample ID: 82/83 C5-2-18
Matrix: Soil

Collected: 2017/09/03
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV252 **Collected:** 2017/09/03
Sample ID: 82/83 C5-2-FD **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV253 **Collected:** 2017/09/03
Sample ID: 82/83 C5-3-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV254 **Collected:** 2017/09/03
Sample ID: 82/83 C5-3-8 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV255 **Collected:** 2017/09/03
Sample ID: FRB-1 **Shipped:**
Matrix: Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159252	2017/09/12	2017/09/25	Marian Godax

Maxxam ID: FBV256 **Collected:** 2017/09/03
Sample ID: 82/83 C5-1-W13 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5161541	2017/09/13	2017/09/23	Marian Godax

Maxxam ID: FBV257 **Collected:** 2017/09/03
Sample ID: 82/83 C5-1-WFD **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5185349	2017/09/27	2017/10/01	Marian Godax

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV258
Sample ID: 82/83 C5-2-W12
Matrix: Ground Water

Collected: 2017/09/03
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5161541	2017/09/13	2017/09/23	Marian Godax

Maxxam ID: FBV259
Sample ID: 82/83 C5-3-W13
Matrix: Ground Water

Collected: 2017/09/03
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5159252	2017/09/12	2017/09/25	Marian Godax

Maxxam ID: FBV260
Sample ID: 82/83 C5-3-14
Matrix: Soil

Collected: 2017/09/03
Shipped:
Received: 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156415	N/A	2017/09/08	Nimarta Singh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

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Sampler Initials: AG

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.9°C
Package 3	2.5°C
Package 4	1.7°C

Sample FBV257 [82/83 C5-1-WFD] : Perfluorinated Compounds (PFCs): Analysis was performed past the method defined holding time. Because of their chemical structure, PFCs are chemically and biologically stable in the environment and resist typical environmental degradation processes. This would suggest a hold time exceedance would not have a significant impact on the data.

Sample FBV257, PFOS and PFOA in water by SPE/LCMS: Test repeated.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5156415	NS3	RPD - Sample/Sample Dup	Moisture	2017/09/08	0.71		%	20
5159252	M_G	Matrix Spike(FBV259)	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		66	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		84	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		83	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		76	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		72	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		76	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		78	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		89	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/25		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		88	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		72	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		92	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25		121	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/25		108	%	70 - 130
			Perfluorobutanoic acid	2017/09/25		104	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/25		113	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/25		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25		113	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/25		113	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25		NC	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/25		115	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25		113	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/25		111	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/25		109	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/25		109	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25		119	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/25		114	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/25		107	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25		120	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/25		123	%	70 - 130
5159252	M_G	Matrix Spike DUP(FBV259)	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		74	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		85	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		90	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		96	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		77	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		83	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		83	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		95	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/25		98	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		95	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		98	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		93	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		83	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		101	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25		115	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/25		119	%	70 - 130
			Perfluorobutanoic acid	2017/09/25		112	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/25		103	%	70 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/09/25		109	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25		113	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/25		124	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25		NC	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/25		116	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25		112	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/25		124	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/25		115	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/25		117	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25		122	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/25		123	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/25		113	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25		124	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/25		124	%	70 - 130
5159252	M_G	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/25	4.8		%	30
			8:2 Fluorotelomer sulfonate	2017/09/25	9.2		%	30
			Perfluorobutanoic acid	2017/09/25	7.2		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/25	9.2		%	30
			Perfluorodecane Sulfonate	2017/09/25	4.5		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25	0.30		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/25	9.5		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25	NC		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/25	1.6		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25	0.77		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/25	12		%	30
			Perfluorotetradecanoic Acid	2017/09/25	6.0		%	30
			Perfluorotridecanoic Acid	2017/09/25	7.3		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25	2.5		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/25	7.1		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/25	5.6		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25	3.3		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/25	0.87		%	30
5159252	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		81	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		83	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		73	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		76	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		81	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/25		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		85	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		85	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		75	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		83	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25		115	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/25		114	%	70 - 130
			Perfluorobutanoic acid	2017/09/25		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/25		116	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/25		115	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25		123	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexanoic Acid (PFHxA)	2017/09/25		116	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25		110	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/25		116	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25		116	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/25		108	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/25		109	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/25		111	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25		117	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/25		123	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/25		118	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25		119	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/25		108	%	70 - 130
5159252	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/25		106	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/25		95	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/25		90	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/25		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/25		92	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/25		78	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/25		86	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/25		93	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/25		89	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/25		96	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/25		98	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/25		97	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/25		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/25		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/25		96	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/25	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/25	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/25	0.010 U, LOD=0.010		ug/L	
5159252	M_G	RPD - Sample/Sample Dup	6:2 Fluorotelomer sulfonate	2017/09/25	6.9 (1)		%	30
			8:2 Fluorotelomer sulfonate	2017/09/25	11 (1)		%	30
			Perfluorobutanoic acid	2017/09/25	2.3 (1)		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/25	10 (1)		%	30
			Perfluorodecane Sulfonate	2017/09/25	NC (1)		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/25	0.23 (1)		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/25	4.4 (1)		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/25	8.2 (1)		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/25	NC (1)		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/25	10 (1)		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/25	5.4 (1)		%	30
			Perfluorotetradecanoic Acid	2017/09/25	NC (1)		%	30
			Perfluorotridecanoic Acid	2017/09/25	NC (1)		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/25	NC (1)		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/25	NC (1)		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/25	NC (1)		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/25	5.9 (1)		%	30
5161541	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/23		96	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/23		91	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/23		85	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/23		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/23		96	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/23		60	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/23		86	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/23		99	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/23		93	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/23		94	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/23		95	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/23		99	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/23		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/23		77	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/23		93	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/23		90	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/23		99	%	70 - 130
			Perfluorobutanoic acid	2017/09/23		98	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/23		93	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/23		86	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/23		96	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/23		93	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/23		92	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/23		94	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/23		101	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/23		97	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorotetradecanoic Acid	2017/09/23		89	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/23		112	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/23		96	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/23		98	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/23		89	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/23		96	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/23		95	%	70 - 130
5161541	M_G	Spiked Blank DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/23		66	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/23		58	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/23		54	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/23		62	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/23		64	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/23		40 (2)	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/23		59	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/23		75	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/23		64	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/23		65	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/23		61	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/23		56	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/23		64	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/23		47 (2)	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/23		69	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/23		84	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/23		92	%	70 - 130
			Perfluorobutanoic acid	2017/09/23		89	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/23		102	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/23		109	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/23		92	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/23		95	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/23		90	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/23		101	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/23		98	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/23		96	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/23		101	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/23		128	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/23		97	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/23		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/23		88	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/23		93	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/23		92	%	70 - 130
5161541	M_G	RPD	6:2 Fluorotelomer sulfonate	2017/09/23	6.9		%	30
			8:2 Fluorotelomer sulfonate	2017/09/23	7.6		%	30
			Perfluorobutanoic acid	2017/09/23	9.6		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/23	8.8		%	30
			Perfluorodecane Sulfonate	2017/09/23	24		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/23	4.6		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/23	2.5		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/23	2.5		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/23	7.1		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/23	3.5		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/23	1.0		%	30
			Perfluorotetradecanoic Acid	2017/09/23	12		%	30
			Perfluorotridecanoic Acid	2017/09/23	14		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic Acid (PFUnA)	2017/09/23	1.2		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/23	3.3		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/23	1.3		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/23	4.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/23	3.0		%	30
5161541	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/23		90	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/23		87	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/23		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/23		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/23		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/23		66	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/23		84	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/23		97	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/23		92	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/23		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/23		90	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/23		91	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/23		96	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/23		68	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/23		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/23	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/23	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/23	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/23	0.010 U, LOD=0.010		ug/L	
5162261	SCH	Matrix Spike(FBV253)	13C2-6:2 Fluorotelomer sulfonate	2017/09/30		78	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/30		77	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/30		79	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/30		77	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/30		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/30		78	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/30		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/30		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/30		83	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/30		74	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/30		77	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/30		83	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/30		85	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		73	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/30		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/30		89	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/30		100	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/30		95	%	70 - 130
			Perfluorobutanoic acid	2017/09/30		91	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/30		101	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/30		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/30		94	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/30		94	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30		86	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/30		98	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/30		94	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/30		99	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/30		94	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/30		92	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/30		86	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/30		104	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/30		101	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/30		98	%	70 - 130
5162261	SCH	Matrix Spike DUP(FBV253)	13C2-6:2 Fluorotelomer sulfonate	2017/09/30		77	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/30		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/30		91	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/30		78	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/30		87	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/30		77	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/30		82	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/30		79	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/30		81	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/30		79	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/30		82	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/30		84	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/30		84	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		74	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/30		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/30		95	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			8:2 Fluorotelomer sulfonate	2017/09/30		92	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/30		96	%	70 - 130
			Perfluorobutanoic acid	2017/09/30		99	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/30		87	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/30		90	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/30		89	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/30		97	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30		89	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/30		98	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/30		96	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/30		96	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/30		97	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/30		96	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/30		91	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/30		101	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/30		108	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/30		97	%	70 - 130
5162261	SCH	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/30	7.0		%	30
			8:2 Fluorotelomer sulfonate	2017/09/30	8.6		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/30	1.6		%	30
			Perfluorobutanoic acid	2017/09/30	8.2		%	30
			Perfluorodecane Sulfonate	2017/09/30	15		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/30	12		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/30	4.8		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/30	3.2		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30	2.6		%	25
			Perfluorotetradecanoic Acid	2017/09/30	0.33		%	30
			Perfluorotridecanoic Acid	2017/09/30	2.0		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/30	3.1		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/30	2.9		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/30	4.2		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/30	6.2		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/30	3.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/30	6.3		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/30	1.4		%	30
5162261	SCH	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/30		83	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/30		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/30		88	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/30		86	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/30		88	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/30		82	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/30		84	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/30		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/30		84	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/30		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/30		83	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/30		85	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/30		88	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		74	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/30		97	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/30		97	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/30		92	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/30		83	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutanoic acid	2017/09/30		93	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/30		89	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/30		94	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/30		87	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/30		95	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30		91	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/30		95	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/30		95	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/30		100	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/30		96	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/30		81	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/30		94	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/30		99	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/30		95	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/30		95	%	70 - 130
5162261	SCH	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/30		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/30		90	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/30		84	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/30		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/30		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/30		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/30		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/30		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/30		89	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/30		78	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/30		87	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/30		82	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/30		88	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		70	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/30		89	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/30	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/30	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/30	0.40 U, LOD=0.40		ug/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic Acid (PFUnA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
5185349	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/10/01		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/01		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/01		86	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/01		91	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/01		85	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/01		81	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/01		85	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/01		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/01		92	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/10/01		93	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/10/01		96	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/10/01		100	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/10/01		88	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/10/01		104	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/10/01		100	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/01		101	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/10/01		90	%	70 - 130
5185349	M_G	Spiked Blank DUP	13C2-6:2 Fluorotelomer sulfonate	2017/10/01		71	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/01		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/01		85	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/01		82	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/01		84	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/01		79	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/01		82	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/01		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/01		103	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/10/01		95	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/10/01		96	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/10/01		97	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/10/01		95	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/10/01		103	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/10/01		104	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/01		100	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/10/01		100	%	70 - 130
5185349	M_G	RPD	6:2 Fluorotelomer sulfonate	2017/10/01	12		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/10/01	3.0		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/10/01	0.39		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/10/01	3.1		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/10/01	7.9		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorononanoic Acid (PFNA)	2017/10/01	1.5		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/10/01	4.2		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/01	1.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/10/01	11		%	30
5185349	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/10/01		84	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/01		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/01		87	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/01		80	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/01		78	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/01		79	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/01		82	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/01		93	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/01	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/10/01	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/10/01	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/10/01	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/10/01	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/10/01	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/10/01	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/01	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/10/01	0.010 U, LOD=0.010		ug/L	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Maxxam Job #: B7J4943
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Colm McNamara, Senior Analyst, Liquid Chromatography

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/02
Report #: R4753065
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4949
Received: 2017/09/07, 15:11

Sample Matrix: Ground Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	2	2017/09/11	2017/09/24	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	8	N/A	2017/09/09	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	8	2017/09/13	2017/09/30	CAM SOP-00894	EPA537 m

Sample Matrix: SEDIMENT
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	2	N/A	2017/09/09	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	2	2017/09/13	2017/09/30	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/02
Report #: R4753065
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J4949

Received: 2017/09/07, 15:11

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
02 Oct 2017 14:21:28

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV278				FBV279				
Sampling Date		2017/08/31 09:18				2017/08/31 09:05				
COC Number		na				na				
	UNITS	B811-1-W10	DL	LOD	LOQ	B811-2-W10	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/L	5.0 (1)	0.064	0.20	0.40	0.012 J	0.0032	0.010	0.020	5158366
8:2 Fluorotelomer sulfonate	ug/L	0.060 (2)	0.0072	0.020	0.040	0.010 U	0.0036	0.010	0.020	5158366
Perfluorobutanoic acid	ug/L	0.47 (2)	0.0086	0.020	0.040	0.044	0.0043	0.010	0.020	5158366
Perfluorobutane Sulfonate (PFBS)	ug/L	0.43 (2)	0.0096	0.020	0.040	0.10	0.0048	0.010	0.020	5158366
Perfluorodecane Sulfonate	ug/L	0.020 U (2)	0.0092	0.020	0.040	0.010 U	0.0046	0.010	0.020	5158366
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.27 (2)	0.0066	0.020	0.040	0.055	0.0033	0.010	0.020	5158366
Perfluorohexanoic Acid (PFHxA)	ug/L	2.3 (1)	0.058	0.20	0.40	0.40	0.0029	0.010	0.020	5158366
Perfluorohexane Sulfonate (PFHxS)	ug/L	4.1 (1)	0.068	0.20	0.40	1.5 (3)	0.034	0.10	0.20	5158366
Perfluorononanoic Acid (PFNA)	ug/L	0.024 J (2)	0.0076	0.020	0.040	0.010 U	0.0038	0.010	0.020	5158366
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.019 J (2)	0.0072	0.020	0.040	0.010 U	0.0036	0.010	0.020	5158366
Perfluoropentanoic Acid (PFPeA)	ug/L	0.81 (2)	0.0054	0.020	0.040	0.096	0.0027	0.010	0.020	5158366
Perfluorotetradecanoic Acid	ug/L	0.020 U (2)	0.0076	0.020	0.040	0.010 U	0.0038	0.010	0.020	5158366
Perfluorotridecanoic Acid	ug/L	0.020 U (2)	0.0066	0.020	0.040	0.010 U	0.0033	0.010	0.020	5158366
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.020 U (2)	0.0086	0.020	0.040	0.010 U	0.0043	0.010	0.020	5158366
Perfluorodecanoic Acid (PFDA)	ug/L	0.020 U (2)	0.0080	0.020	0.040	0.010 U	0.0040	0.010	0.020	5158366
Perfluorododecanoic Acid (PFDoA)	ug/L	0.020 U (2)	0.0056	0.020	0.040	0.010 U	0.0028	0.010	0.020	5158366
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.49 (2)	0.0092	0.020	0.040	0.11	0.0046	0.010	0.020	5158366
Perfluorooctane Sulfonate (PFOS)	ug/L	5.8 (1)	0.052	0.20	0.40	0.36	0.0026	0.010	0.020	5158366
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	84				79				5158366
13C2-8:2 Fluorotelomer sulfonate	%	97				91				5158366
13C2-Perfluorodecanoic acid	%	97				92				5158366
13C2-Perfluorododecanoic acid	%	86				80				5158366
13C2-Perfluorohexanoic acid	%	96				94				5158366
13C2-perfluorotetradecanoic acid	%	76				79				5158366
13C2-Perfluoroundecanoic acid	%	95				86				5158366

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (20x).

(2) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x).

(3) Due to high concentrations of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FBV278				FBV279				
Sampling Date		2017/08/31 09:18				2017/08/31 09:05				
COC Number		na				na				
	UNITS	B811-1-W10	DL	LOD	LOQ	B811-2-W10	DL	LOD	LOQ	QC Batch
13C4-Perfluorobutanoic acid	%	76				80				5158366
13C4-Perfluoroheptanoic acid	%	101				96				5158366
13C4-Perfluorooctanesulfonate	%	95				93				5158366
13C4-Perfluorooctanoic acid	%	101				96				5158366
13C5-Perfluorononanoic acid	%	97				94				5158366
13C5-Perfluoropentanoic acid	%	96				93				5158366
13C8-Perfluorooctane Sulfonamide	%	88				84				5158366
18O2-Perfluorohexanesulfonate	%	108				106				5158366

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV268	FBV269	FBV270				FBV271				
Sampling Date		2017/08/30 12:45	2017/08/30 13:40	2017/08/30 13:45				2017/08/30 11:30				
COC Number		na	na	na				na				
	UNITS	B811-1-0.5	B811-1-08	B811-1-22	DL	LOD	LOQ	B811-2-0.5	DL	LOD	LOQ	QC Batch
Inorganics												
Moisture	%	9.4	25	23	0.50	N/A	1.0	28	0.50	N/A	1.0	5156978
Miscellaneous Parameters												
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.66 U	3.0	0.25	0.66	1.1	0.78 U	0.30	0.78	1.3	5162261
8:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.66 U	0.66 U	0.35	0.66	1.1	0.78 U	0.42	0.78	1.3	5162261
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.66 U	0.66 U	0.19	0.66	1.1	0.78 U	0.22	0.78	1.3	5162261
Perfluorobutanoic acid	ug/kg	0.66 U	0.66 U	0.66 U	0.25	0.66	1.1	0.48 J	0.30	0.78	1.3	5162261
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.66 U	0.66 U	0.25	0.66	1.1	0.78 U	0.30	0.78	1.3	5162261
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.44 U	0.44 U	0.14	0.44	1.1	0.52 U	0.17	0.52	1.3	5162261
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.66 U	0.66 U	0.24	0.66	1.1	0.78 U	0.29	0.78	1.3	5162261
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.51 J	0.66 U	0.66 U	0.19	0.66	1.1	0.78 U	0.22	0.78	1.3	5162261
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.88 J	0.66 U	1.3	0.25	0.66	1.1	5.2	0.30	0.78	1.3	5162261
Perfluorohexanoic Acid (PFHxA)	ug/kg	1.0 J	0.66 U	0.96 J	0.21	0.66	1.1	1.7	0.25	0.78	1.3	5162261
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.85 J	0.66 U	0.66 U	0.29	0.66	1.1	0.78 U	0.34	0.78	1.3	5162261
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.66 U	0.66 U	0.19	0.66	1.1	0.78 U	0.22	0.78	1.3	5162261
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.66 U	0.66 U	0.29	0.66	1.1	0.78 U	0.34	0.78	1.3	5162261
Perfluorooctane Sulfonate (PFOS)	ug/kg	19	0.66 U	2.8	0.23	0.66	1.1	0.78 U	0.27	0.78	1.3	5162261
Perfluoropentanoic Acid (PFPeA)	ug/kg	1.6	0.66 U	0.38 J	0.20	0.66	1.1	0.78 J	0.23	0.78	1.3	5162261
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.44 U	0.44 U	0.12	0.44	1.1	0.52 U	0.14	0.52	1.3	5162261
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.44 U	0.44 U	0.13	0.44	1.1	0.52 U	0.16	0.52	1.3	5162261
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.66 U	0.66 U	0.20	0.66	1.1	0.78 U	0.23	0.78	1.3	5162261
Surrogate Recovery (%)												
13C2-6:2 Fluorotelomer sulfonate	%	81	89	86				82				5162261
13C2-8:2 Fluorotelomer sulfonate	%	76	81	82				72				5162261
13C2-Perfluorodecanoic acid	%	83	81	84				70				5162261
13C2-Perfluorododecanoic acid	%	79	74	78				71				5162261
13C2-Perfluorohexanoic acid	%	82	84	79				75				5162261
13C2-perfluorotetradecanoic acid	%	75	67	65				65				5162261
13C2-Perfluoroundecanoic acid	%	75	79	82				72				5162261
13C4-Perfluorobutanoic acid	%	84	81	80				69				5162261
13C4-Perfluoroheptanoic acid	%	82	79	83				75				5162261
13C4-Perfluorooctanesulfonate	%	83	73	82				73				5162261

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV268	FBV269	FBV270				FBV271				
Sampling Date		2017/08/30 12:45	2017/08/30 13:40	2017/08/30 13:45				2017/08/30 11:30				
COC Number		na	na	na				na				
	UNITS	**B811-1-0.5**	**B811-1-08**	**B811-1-22**	**DL**	**LOD**	**LOQ**	**B811-2-0.5**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	78	82	80				68				5162261
13C5-Perfluorononanoic acid	%	81	85	82				73				5162261
13C5-Perfluoropentanoic acid	%	82	83	82				76				5162261
13C8-Perfluorooctane Sulfonamide	%	62	69	67				63				5162261
18O2-Perfluorohexanesulfonate	%	81	78	83				68				5162261

DL = Detection Limit
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LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV272				FBV273				FBV276				
Sampling Date		2017/08/30 12:00				2017/08/30 12:15				2017/08/30 11:30				
COC Number		na				na				na				
	UNITS	B811-2-07	DL	LOD	LOQ	B811-2-23	DL	LOD	LOQ	B811-2-FD	DL	LOD	LOQ	QC Batch
Inorganics														
Moisture	%	20	0.50	N/A	1.0	27	0.50	N/A	1.0	18	0.50	N/A	1.0	5156978
Miscellaneous Parameters														
6:2 Fluorotelomer sulfonate	ug/kg	0.57 U	0.22	0.57	0.95	0.84 U	0.32	0.84	1.4	0.72 U	0.28	0.72	1.2	5162261
8:2 Fluorotelomer sulfonate	ug/kg	0.57 U	0.30	0.57	0.95	0.84 U	0.45	0.84	1.4	0.72 U	0.38	0.72	1.2	5162261
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.57 U	0.16	0.57	0.95	0.84 U	0.24	0.84	1.4	0.72 U	0.20	0.72	1.2	5162261
Perfluorobutanoic acid	ug/kg	0.57 U	0.22	0.57	0.95	0.84 U	0.32	0.84	1.4	0.72 U	0.28	0.72	1.2	5162261
Perfluorodecane Sulfonate	ug/kg	0.57 U	0.22	0.57	0.95	0.84 U	0.32	0.84	1.4	0.72 U	0.28	0.72	1.2	5162261
Perfluorodecanoic Acid (PFDA)	ug/kg	0.38 U	0.12	0.38	0.95	0.56 U	0.18	0.56	1.4	0.48 U	0.16	0.48	1.2	5162261
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.57 U	0.21	0.57	0.95	0.84 U	0.31	0.84	1.4	0.72 U	0.26	0.72	1.2	5162261
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.57 U	0.16	0.57	0.95	0.84 U	0.24	0.84	1.4	0.72 U	0.20	0.72	1.2	5162261
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.55 J	0.22	0.57	0.95	0.84 U	0.32	0.84	1.4	0.63 J	0.28	0.72	1.2	5162261
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.23 J	0.18	0.57	0.95	0.84 U	0.27	0.84	1.4	0.72 U	0.23	0.72	1.2	5162261
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.57 U	0.25	0.57	0.95	0.84 U	0.36	0.84	1.4	0.72 U	0.31	0.72	1.2	5162261
Perfluorononanoic Acid (PFNA)	ug/kg	0.57 U	0.16	0.57	0.95	0.84 U	0.24	0.84	1.4	0.72 U	0.20	0.72	1.2	5162261
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.57 U	0.25	0.57	0.95	0.84 U	0.36	0.84	1.4	0.72 U	0.31	0.72	1.2	5162261
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.57 U	0.20	0.57	0.95	0.84 U	0.29	0.84	1.4	9.9	0.25	0.72	1.2	5162261
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.57 U	0.17	0.57	0.95	0.84 U	0.25	0.84	1.4	0.72 U	0.22	0.72	1.2	5162261
Perfluorotetradecanoic Acid	ug/kg	0.38 U	0.10	0.38	0.95	0.56 U	0.15	0.56	1.4	0.48 U	0.13	0.48	1.2	5162261
Perfluorotridecanoic Acid	ug/kg	0.38 U	0.11	0.38	0.95	0.56 U	0.17	0.56	1.4	0.48 U	0.14	0.48	1.2	5162261
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.57 U	0.17	0.57	0.95	0.84 U	0.25	0.84	1.4	0.72 U	0.22	0.72	1.2	5162261
Surrogate Recovery (%)														
13C2-6:2 Fluorotelomer sulfonate	%	82				97				78				5162261
13C2-8:2 Fluorotelomer sulfonate	%	82				83				80				5162261
13C2-Perfluorodecanoic acid	%	81				91				73				5162261
13C2-Perfluorododecanoic acid	%	78				86				71				5162261
13C2-Perfluorohexanoic acid	%	86				91				82				5162261
13C2-perfluorotetradecanoic acid	%	76				75				67				5162261
13C2-Perfluoroundecanoic acid	%	82				84				70				5162261
13C4-Perfluorobutanoic acid	%	82				88				77				5162261
13C4-Perfluoroheptanoic acid	%	81				92				74				5162261
13C4-Perfluorooctanesulfonate	%	80				85				81				5162261

DL = Detection Limit
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QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV272				FBV273				FBV276				
Sampling Date		2017/08/30 12:00				2017/08/30 12:15				2017/08/30 11:30				
COC Number		na				na				na				
	UNITS	**B811-2-07**	**DL**	**LOD**	**LOQ**	**B811-2-23**	**DL**	**LOD**	**LOQ**	**B811-2-FD**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	80				85				76				5162261
13C5-Perfluorononanoic acid	%	82				86				79				5162261
13C5-Perfluoropentanoic acid	%	80				88				78				5162261
13C8-Perfluorooctane Sulfonamide	%	72				76				58				5162261
18O2-Perfluorohexanesulfonate	%	86				84				81				5162261

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV277				
Sampling Date		2017/08/30 12:15				
COC Number		na				
	UNITS	B811-2-FD2	DL	LOD	LOQ	QC Batch
Inorganics						
Moisture	%	15	0.50	N/A	1.0	5156978
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.23	0.60	1.0	5162261
8:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.32	0.60	1.0	5162261
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.60 U	0.17	0.60	1.0	5162261
Perfluorobutanoic acid	ug/kg	0.60 U	0.23	0.60	1.0	5162261
Perfluorodecane Sulfonate	ug/kg	0.60 U	0.23	0.60	1.0	5162261
Perfluorodecanoic Acid (PFDA)	ug/kg	0.40 U	0.13	0.40	1.0	5162261
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.60 U	0.22	0.60	1.0	5162261
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.60 U	0.17	0.60	1.0	5162261
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.60 U	0.23	0.60	1.0	5162261
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.60 U	0.19	0.60	1.0	5162261
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.60 U	0.26	0.60	1.0	5162261
Perfluorononanoic Acid (PFNA)	ug/kg	0.60 U	0.17	0.60	1.0	5162261
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.60 U	0.26	0.60	1.0	5162261
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.60 U	0.21	0.60	1.0	5162261
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.60 U	0.18	0.60	1.0	5162261
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.11	0.40	1.0	5162261
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.12	0.40	1.0	5162261
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.60 U	0.18	0.60	1.0	5162261
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	88				5162261
13C2-8:2 Fluorotelomer sulfonate	%	86				5162261
13C2-Perfluorodecanoic acid	%	85				5162261
13C2-Perfluorododecanoic acid	%	78				5162261
13C2-Perfluorohexanoic acid	%	83				5162261
13C2-perfluorotetradecanoic acid	%	73				5162261
13C2-Perfluoroundecanoic acid	%	77				5162261
13C4-Perfluorobutanoic acid	%	83				5162261
13C4-Perfluoroheptanoic acid	%	85				5162261
13C4-Perfluorooctanesulfonate	%	77				5162261

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N/A = Not Applicable

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FBV277				
Sampling Date		2017/08/30 12:15				
COC Number		na				
	UNITS	**B811-2-FD2**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	87				5162261
13C5-Perfluorononanoic acid	%	80				5162261
13C5-Perfluoropentanoic acid	%	82				5162261
13C8-Perfluorooctane Sulfonamide	%	70				5162261
18O2-Perfluorohexanesulfonate	%	80				5162261

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N/A = Not Applicable

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SEDIMENT

Maxxam ID		FBV274				FBV275				
Sampling Date		2017/08/30 14:20				2017/08/30 14:20				
COC Number		na				na				
	UNITS	B811-SED-1	DL	LOD	LOQ	B811-SED-FD	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	17	0.50	N/A	1.0	2.4	0.50	N/A	1.0	5156978
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	1.1	0.22	0.58	0.97	5162261
8:2 Fluorotelomer sulfonate	ug/kg	0.51 J	0.35	0.66	1.1	1.6	0.31	0.58	0.97	5162261
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.19	0.66	1.1	0.58 U	0.16	0.58	0.97	5162261
Perfluorobutanoic acid	ug/kg	0.66 U	0.25	0.66	1.1	0.58 U	0.22	0.58	0.97	5162261
Perfluorodecane Sulfonate	ug/kg	1.3	0.25	0.66	1.1	1.4	0.22	0.58	0.97	5162261
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.14	0.44	1.1	0.39 U	0.13	0.39	0.97	5162261
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.25 J	0.24	0.66	1.1	0.34 J	0.21	0.58	0.97	5162261
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.66 U	0.19	0.66	1.1	0.18 J	0.16	0.58	0.97	5162261
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.66 U	0.25	0.66	1.1	2.2	0.22	0.58	0.97	5162261
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.66 U	0.21	0.66	1.1	0.63 J	0.18	0.58	0.97	5162261
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.66 U	0.29	0.66	1.1	0.58 U	0.25	0.58	0.97	5162261
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.19	0.66	1.1	0.58 U	0.16	0.58	0.97	5162261
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.29	0.66	1.1	0.58 U	0.25	0.58	0.97	5162261
Perfluorooctane Sulfonate (PFOS)	ug/kg	4.3	0.23	0.66	1.1	8.7	0.20	0.58	0.97	5162261
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.66 U	0.20	0.66	1.1	1.3	0.17	0.58	0.97	5162261
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.12	0.44	1.1	0.39 U	0.11	0.39	0.97	5162261
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.13	0.44	1.1	0.39 U	0.12	0.39	0.97	5162261
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.20	0.66	1.1	0.58 U	0.17	0.58	0.97	5162261
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	77				93				5162261
13C2-8:2 Fluorotelomer sulfonate	%	73				86				5162261
13C2-Perfluorodecanoic acid	%	71				83				5162261
13C2-Perfluorododecanoic acid	%	69				74				5162261
13C2-Perfluorohexanoic acid	%	77				86				5162261
13C2-perfluorotetradecanoic acid	%	66				78				5162261
13C2-Perfluoroundecanoic acid	%	72				79				5162261
13C4-Perfluorobutanoic acid	%	80				85				5162261
13C4-Perfluoroheptanoic acid	%	77				78				5162261
13C4-Perfluorooctanesulfonate	%	69				82				5162261

DL = Detection Limit
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N/A = Not Applicable

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SEDIMENT

Maxxam ID		FBV274				FBV275				
Sampling Date		2017/08/30 14:20				2017/08/30 14:20				
COC Number		na				na				
	UNITS	B811-SED-1	DL	LOD	LOQ	B811-SED-FD	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	77				80				5162261
13C5-Perfluorononanoic acid	%	75				74				5162261
13C5-Perfluoropentanoic acid	%	75				85				5162261
13C8-Perfluorooctane Sulfonamide	%	64				69				5162261
18O2-Perfluorohexanesulfonate	%	71				80				5162261

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N/A = Not Applicable

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV268 **Collected:** 2017/08/30
Sample ID: B811-1-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156978	N/A	2017/09/09	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV269 **Collected:** 2017/08/30
Sample ID: B811-1-08 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156978	N/A	2017/09/09	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV270 **Collected:** 2017/08/30
Sample ID: B811-1-22 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156978	N/A	2017/09/09	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV271 **Collected:** 2017/08/30
Sample ID: B811-2-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156978	N/A	2017/09/09	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV272 **Collected:** 2017/08/30
Sample ID: B811-2-07 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156978	N/A	2017/09/09	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV273 **Collected:** 2017/08/30
Sample ID: B811-2-23 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156978	N/A	2017/09/09	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FBV274 **Collected:** 2017/08/30
Sample ID: B811-SED-1 **Shipped:**
Matrix: SEDIMENT **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156978	N/A	2017/09/09	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV275 **Collected:** 2017/08/30
Sample ID: B811-SED-FD **Shipped:**
Matrix: SEDIMENT **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156978	N/A	2017/09/09	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV276 **Collected:** 2017/08/30
Sample ID: B811-2-FD **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156978	N/A	2017/09/09	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV277 **Collected:** 2017/08/30
Sample ID: B811-2-FD2 **Shipped:**
Matrix: Soil **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5156978	N/A	2017/09/09	Min Yang
PFOS and PFOA in soil by SPE/LCMS	LCMS	5162261	2017/09/13	2017/09/30	Sin Chii Chia

Maxxam ID: FBV278 **Collected:** 2017/08/31
Sample ID: B811-1-W10 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

Maxxam ID: FBV279 **Collected:** 2017/08/31
Sample ID: B811-2-W10 **Shipped:**
Matrix: Ground Water **Received:** 2017/09/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5158366	2017/09/11	2017/09/24	Marian Godax

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.8°C
Package 2	2.9°C
Package 3	2.5°C
Package 4	1.7°C

Results relate only to the items tested.

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5156978	NS3	RPD - Sample/Sample Dup	Moisture	2017/09/09	0		%	20
5158366	M_G	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		82	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		92	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		98	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		80	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		87	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		93	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		88	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		93	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		104	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		114	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		108	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		87	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		103	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		103	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		104	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		108	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		93	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		98	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		100	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		105	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		99	%	70 - 130
5158366	M_G	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		83	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		96	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		99	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		89	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		89	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		92	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		97	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		103	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		101	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		118	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		106	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/09/24		99	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		108	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		111	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		105	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		109	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		105	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		107	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		103	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		101	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		108	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		108	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		105	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		114	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		105	%	70 - 130
5158366	M_G	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/24	8.1		%	30
			8:2 Fluorotelomer sulfonate	2017/09/24	2.6		%	30
			Perfluorobutanoic acid	2017/09/24	3.5		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/24	1.4		%	30
			Perfluorodecane Sulfonate	2017/09/24	13		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24	5.1		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/24	7.7		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24	0.93		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/24	0.085		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24	5.5		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/24	1.1		%	30
			Perfluorotetradecanoic Acid	2017/09/24	10		%	30
			Perfluorotridecanoic Acid	2017/09/24	2.5		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24	1.3		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/24	5.8		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/24	5.4		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24	7.6		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/24	5.9		%	30
5158366	M_G	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		98	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		100	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		93	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		102	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		94	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		97	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		101	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		101	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		103	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		103	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		102	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		95	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		105	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24		101	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/24		110	%	70 - 130
			Perfluorobutanoic acid	2017/09/24		109	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/24		104	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/24		103	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24		110	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexanoic Acid (PFHxA)	2017/09/24		108	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24		106	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/24		113	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24		104	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/24		110	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/24		104	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/24		104	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/24		115	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/24		106	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24		108	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/24		111	%	70 - 130
5158366	M_G	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/24		105	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/24		101	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/24		94	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/24		84	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/24		99	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/24		79	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/24		78	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/24		102	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/24		103	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/24		94	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/24		102	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/24		100	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/24		96	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/24		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/24		114	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/09/24	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic Acid (PFUnA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/24	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/09/24	0.010 U, LOD=0.010		ug/L	
5162261	SCH	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/09/30		78	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/30		77	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/30		79	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/30		77	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/30		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/30		78	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/30		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/30		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/30		83	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/30		74	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/30		77	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/30		83	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/30		85	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		73	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/30		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/30		89	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/30		100	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/30		95	%	70 - 130
			Perfluorobutanoic acid	2017/09/30		91	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/30		101	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/30		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/30		94	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/30		94	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30		86	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/30		98	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/30		94	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/30		99	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/30		94	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/30		92	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/30		86	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/30		104	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/30		101	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/30		98	%	70 - 130
5162261	SCH	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/09/30		77	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/30		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/30		91	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/30		78	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/30		87	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/30		77	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/30		82	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/30		79	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/30		81	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/30		79	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluorooctanoic acid	2017/09/30		82	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/30		84	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/30		84	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		74	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/30		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/30		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/30		92	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/30		96	%	70 - 130
			Perfluorobutanoic acid	2017/09/30		99	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/30		87	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/30		90	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/30		89	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/30		97	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30		89	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/30		98	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/30		96	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/30		96	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/30		97	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/30		96	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/30		91	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/30		101	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/30		108	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/30		97	%	70 - 130
5162261	SCH	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/30	7.0		%	30
			8:2 Fluorotelomer sulfonate	2017/09/30	8.6		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/30	1.6		%	30
			Perfluorobutanoic acid	2017/09/30	8.2		%	30
			Perfluorodecane Sulfonate	2017/09/30	15		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/30	12		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/30	4.8		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/30	3.2		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30	2.6		%	25
			Perfluorotetradecanoic Acid	2017/09/30	0.33		%	30
			Perfluorotridecanoic Acid	2017/09/30	2.0		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/30	3.1		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/30	2.9		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/30	4.2		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/30	6.2		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/30	3.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/30	6.3		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/30	1.4		%	30
5162261	SCH	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/30		83	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/30		86	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/30		88	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/30		86	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/30		88	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/30		82	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/30		84	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/30		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/30		84	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/30		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/30		83	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/30		85	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C5-Perfluoropentanoic acid	2017/09/30		88	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		74	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/30		97	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/30		97	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/30		92	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/30		83	%	70 - 130
			Perfluorobutanoic acid	2017/09/30		93	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/30		89	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/30		94	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/30		87	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/30		95	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30		91	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/30		95	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/30		95	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/30		100	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/30		96	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/30		81	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/30		94	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/30		99	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/30		95	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/30		95	%	70 - 130
5162261	SCH	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/30		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/30		90	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/30		84	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/30		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/30		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/30		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/30		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/30		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/30		89	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/30		78	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/30		87	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/30		82	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/30		88	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/30		70	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/30		89	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/30	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	

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Maxxam Job #: B7J4949
Report Date: 2017/10/02

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/30	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/30	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/30	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/30	0.60 U, LOD=0.60		ug/kg	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

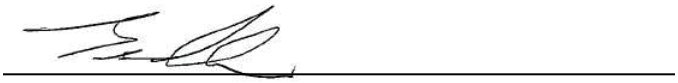
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Maxxam Job #: B7J4949
Report Date: 2017/10/02

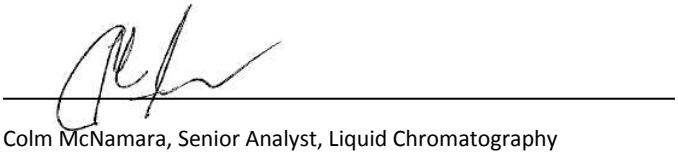
Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Brad Newman, Scientific Service Specialist



Colm McNamara, Senior Analyst, Liquid Chromatography

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: NA

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/05
Report #: R4762437
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7J6133
Received: 2017/09/08, 14:00

Sample Matrix: SEDIMENT
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	4	N/A	2017/09/14	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	4	2017/09/18	2017/09/20	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
05 Oct 2017 15:46:36

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B7J6133
Report Date: 2017/10/05

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995

RESULTS OF ANALYSES OF SEDIMENT

Maxxam ID		FCA711					FCA712				
Sampling Date		2017/09/05 09:45					2017/09/05 10:30				
COC Number		NA					NA				
	UNITS	WWTP -SED-1	DL	LOD	LOQ	QC Batch	SBBGWTP-SED-1	DL	LOD	LOQ	QC Batch
Inorganics											
Moisture	%	77	0.50	N/A	1.0	5164006	53	0.50	N/A	1.0	5164006
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/kg	2.0 U	0.78	2.0	3.4	5168639	1.0 U	0.39	1.0	1.7	5168639
8:2 Fluorotelomer sulfonate	ug/kg	2.0 U	1.1	2.0	3.4	5168639	1.0 U	0.54	1.0	1.7	5168639
Perfluorobutane Sulfonate (PFBS)	ug/kg	2.0 U	0.58	2.0	3.4	5168639	1.0 U	0.29	1.0	1.7	5168639
Perfluorobutanoic acid	ug/kg	2.0 U	0.78	2.0	3.4	5168639	1.0 U	0.39	1.0	1.7	5168639
Perfluorodecane Sulfonate	ug/kg	2.0 U	0.78	2.0	3.4	5168639	1.0 U	0.39	1.0	1.7	5168639
Perfluorodecanoic Acid (PFDA)	ug/kg	1.4 U	0.44	1.4	3.4	5168639	0.68 U	0.22	0.68	1.7	5168639
Perfluorododecanoic Acid (PFDoA)	ug/kg	2.0 U	0.75	2.0	3.4	5168639	0.44 J	0.37	1.0	1.7	5168639
Perfluoroheptanoic Acid (PFHpA)	ug/kg	2.0 U	0.58	2.0	3.4	5168639	1.0 U	0.29	1.0	1.7	5168639
Perfluorohexane Sulfonate (PFHxS)	ug/kg	6.0	0.78	2.0	3.4	5168639	3.3	0.39	1.0	1.7	5168639
Perfluorohexanoic Acid (PFHxA)	ug/kg	1.7 J	0.65	2.0	3.4	5168639	1.0 J	0.32	1.0	1.7	5168639
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	1.6 J	0.88	2.0	3.4	5168639	1.8	0.44	1.0	1.7	5168639
Perfluorononanoic Acid (PFNA)	ug/kg	2.0 U	0.58	2.0	3.4	5168639	1.0 U	0.29	1.0	1.7	5168639
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	1.1 J	0.88	2.0	3.4	5168639	1.0 U	0.44	1.0	1.7	5168639
Perfluorooctane Sulfonate (PFOS)	ug/kg	62	0.71	2.0	3.4	5168639	25	0.36	1.0	1.7	5168639
Perfluoropentanoic Acid (PFPeA)	ug/kg	2.0 U	0.61	2.0	3.4	5168639	0.60 J	0.31	1.0	1.7	5168639
Perfluorotetradecanoic Acid	ug/kg	1.5 U	0.42	1.5	3.8	5178149	0.68 U	0.19	0.68	1.7	5168639
Perfluorotridecanoic Acid	ug/kg	1.5 U	0.46	1.5	3.8	5178149	0.68 U	0.20	0.68	1.7	5168639
Perfluoroundecanoic Acid (PFUnA)	ug/kg	2.0 U	0.61	2.0	3.4	5168639	1.0 U	0.31	1.0	1.7	5168639
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	61				5168639	52				5168639
13C2-8:2 Fluorotelomer sulfonate	%	65				5168639	79				5168639
13C2-Perfluorodecanoic acid	%	62				5168639	66				5168639
13C2-Perfluorododecanoic acid	%	56				5168639	64				5168639
13C2-Perfluorohexanoic acid	%	67				5168639	72				5168639
13C2-perfluorotetradecanoic acid	%	52				5178149	53				5168639
13C2-Perfluoroundecanoic acid	%	60				5168639	72				5168639
13C4-Perfluorobutanoic acid	%	59				5168639	69				5168639
13C4-Perfluoroheptanoic acid	%	66				5168639	71				5168639
13C4-Perfluorooctanesulfonate	%	67				5168639	61				5168639
13C4-Perfluorooctanoic acid	%	73				5168639	70				5168639

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J6133
Report Date: 2017/10/05

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995

RESULTS OF ANALYSES OF SEDIMENT

Maxxam ID		FCA711					FCA712				
Sampling Date		2017/09/05 09:45					2017/09/05 10:30				
COC Number		NA					NA				
	UNITS	WWTP -SED-1	DL	LOD	LOQ	QC Batch	SBBGWTP-SED-1	DL	LOD	LOQ	QC Batch
13C5-Perfluorononanoic acid	%	70				5168639	70				5168639
13C5-Perfluoropentanoic acid	%	61				5168639	70				5168639
13C8-Perfluorooctane Sulfonamide	%	56				5168639	66				5168639
18O2-Perfluorohexanesulfonate	%	76				5168639	74				5168639

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J6133
Report Date: 2017/10/05

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995

RESULTS OF ANALYSES OF SEDIMENT

Maxxam ID		FCA713					FCA714				
Sampling Date		2017/09/05 10:50					2017/09/05 11:30				
COC Number		NA					NA				
	UNITS	OUTFALL2-SED-1	DL	LOD	LOQ	QC Batch	OUTFALL1-SED-1	DL	LOD	LOQ	QC Batch
Inorganics											
Moisture	%	51	0.50	N/A	1.0	5164006	67	0.50	N/A	1.0	5164006
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/kg	1.2 J	0.37	0.96	1.6	5168639	1.6 U	0.62	1.6	2.7	5168639
8:2 Fluorotelomer sulfonate	ug/kg	1.2 J	0.51	0.96	1.6	5168639	1.6 U	0.86	1.6	2.7	5168639
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.96 U	0.27	0.96	1.6	5168639	1.6 U	0.46	1.6	2.7	5168639
Perfluorobutanoic acid	ug/kg	0.96 U	0.37	0.96	1.6	5168639	1.6 U	0.62	1.6	2.7	5168639
Perfluorodecane Sulfonate	ug/kg	0.96 U	0.37	0.96	1.6	5168639	1.6 U	0.62	1.6	2.7	5168639
Perfluorodecanoic Acid (PFDA)	ug/kg	0.64 U	0.21	0.64	1.6	5168639	1.1 U	0.35	1.1	2.7	5168639
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.96 U	0.35	0.96	1.6	5168639	0.84 J	0.59	1.6	2.7	5168639
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.96 U	0.27	0.96	1.6	5168639	1.6 U	0.46	1.6	2.7	5168639
Perfluorohexane Sulfonate (PFHxS)	ug/kg	5.7	0.37	0.96	1.6	5168639	7.3	0.62	1.6	2.7	5168639
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.80 J	0.30	0.96	1.6	5168639	1.9 J	0.51	1.6	2.7	5168639
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	1.1 J	0.42	0.96	1.6	5168639	3.2	0.70	1.6	2.7	5168639
Perfluorononanoic Acid (PFNA)	ug/kg	0.96 U	0.27	0.96	1.6	5168639	1.6 U	0.46	1.6	2.7	5168639
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	4.0	0.42	0.96	1.6	5168639	1.6 U	0.70	1.6	2.7	5168639
Perfluorooctane Sulfonate (PFOS)	ug/kg	68	0.34	0.96	1.6	5168639	55	0.57	1.6	2.7	5168639
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.61 J	0.29	0.96	1.6	5168639	1.6 U	0.49	1.6	2.7	5168639
Perfluorotetradecanoic Acid	ug/kg	0.80 U	0.22	0.80	2.0	5178149	1.1 U	0.30	1.1	2.7	5168639
Perfluorotridecanoic Acid	ug/kg	0.80 U	0.24	0.80	2.0	5178149	1.1 U	0.32	1.1	2.7	5168639
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.96 U	0.29	0.96	1.6	5168639	1.6 U	0.49	1.6	2.7	5168639
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	109				5168639	74				5168639
13C2-8:2 Fluorotelomer sulfonate	%	103				5168639	77				5168639
13C2-Perfluorodecanoic acid	%	60				5168639	70				5168639
13C2-Perfluorododecanoic acid	%	57				5168639	61				5168639
13C2-Perfluorohexanoic acid	%	65				5168639	70				5168639
13C2-perfluorotetradecanoic acid	%	63				5178149	50				5168639
13C2-Perfluoroundecanoic acid	%	60				5168639	69				5168639
13C4-Perfluorobutanoic acid	%	73				5168639	69				5168639
13C4-Perfluoroheptanoic acid	%	67				5168639	76				5168639
13C4-Perfluorooctanesulfonate	%	72				5168639	70				5168639
13C4-Perfluorooctanoic acid	%	67				5168639	70				5168639

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7J6133
Report Date: 2017/10/05

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995

RESULTS OF ANALYSES OF SEDIMENT

Maxxam ID		FCA713					FCA714				
Sampling Date		2017/09/05 10:50					2017/09/05 11:30				
COC Number		NA					NA				
	UNITS	**OUTFALL2-SED-1**	**DL**	**LOD**	**LOQ**	**QC Batch**	**OUTFALL1-SED-1**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C5-Perfluorononanoic acid	%	61				5168639	66				5168639
13C5-Perfluoropentanoic acid	%	68				5168639	66				5168639
13C8-Perfluorooctane Sulfonamide	%	55				5168639	63				5168639
18O2-Perfluorohexanesulfonate	%	66				5168639	68				5168639

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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TEST SUMMARY

Maxxam ID: FCA711 **Collected:** 2017/09/05
Sample ID: WWTP -SED-1 **Shipped:**
Matrix: SEDIMENT **Received:** 2017/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5164006	N/A	2017/09/14	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5168639	2017/09/18	2017/09/20	Anjan Desai

Maxxam ID: FCA712 **Collected:** 2017/09/05
Sample ID: SBBGWTP-SED-1 **Shipped:**
Matrix: SEDIMENT **Received:** 2017/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5164006	N/A	2017/09/14	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5168639	2017/09/18	2017/09/20	Anjan Desai

Maxxam ID: FCA713 **Collected:** 2017/09/05
Sample ID: OUTFALL2-SED-1 **Shipped:**
Matrix: SEDIMENT **Received:** 2017/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5164006	N/A	2017/09/14	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5168639	2017/09/18	2017/09/20	Anjan Desai

Maxxam ID: FCA714 **Collected:** 2017/09/05
Sample ID: OUTFALL1-SED-1 **Shipped:**
Matrix: SEDIMENT **Received:** 2017/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5164006	N/A	2017/09/14	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5168639	2017/09/18	2017/09/20	Anjan Desai

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.1°C

Sample FCA711, PFOS and PFOA in soil by SPE/LCMS: Test repeated.
Sample FCA713, PFOS and PFOA in soil by SPE/LCMS: Test repeated.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5164006	CYN	RPD - Sample/Sample Dup	Moisture	2017/09/14	1.0		%	20
5168639	AD9	Matrix Spike(FCA712)	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		65	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		76	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		69	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		61	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		66	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		61	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		71	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		68	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		67	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		69	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/20		71	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		64	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/20		72	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		60	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		70	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20		111	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/20		113	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/20		113	%	70 - 130
			Perfluorobutanoic acid	2017/09/20		109	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/20		121	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/20		117	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/20		117	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/20		124	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20		120	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/20		111	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/20		120	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20		107	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20		116	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20		103	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/20		116	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20		111	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/20		NC	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/20		108	%	70 - 130
5168639	AD9	Matrix Spike DUP(FCA712)	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		52	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		64	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		69	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		61	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		62	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		51	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		61	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		65	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		67	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		71	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/20		67	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		71	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/20		64	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		51	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		68	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20		119	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/20		118	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/20		110	%	70 - 130
			Perfluorobutanoic acid	2017/09/20		110	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/20		103	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecanoic Acid (PFDA)	2017/09/20		109	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/20		110	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/20		110	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20		129	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/20		120	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/20		135 (1)	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20		118	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20		114	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20		106	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/20		120	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20		115	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/20		NC	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/20		116	%	70 - 130
5168639	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/09/20	6.4		%	30
			8:2 Fluorotelomer sulfonate	2017/09/20	4.4		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/09/20	2.9		%	30
			Perfluorobutanoic acid	2017/09/20	1.4		%	30
			Perfluorodecane Sulfonate	2017/09/20	16		%	30
			Perfluorodecanoic Acid (PFDA)	2017/09/20	7.5		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/09/20	6.7		%	30
			Perfluorononanoic Acid (PFNA)	2017/09/20	12		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20	7.8		%	25
			Perfluorotetradecanoic Acid	2017/09/20	8.1		%	30
			Perfluorotridecanoic Acid	2017/09/20	12		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20	10		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20	1.1		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20	2.9		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/09/20	3.0		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20	3.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/09/20	NC		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/09/20	7.2		%	30
5168639	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		73	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		83	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		81	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		74	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		79	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		79	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		73	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/20		89	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		81	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/20		79	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		75	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		81	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20		114	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/09/20		113	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/09/20		113	%	70 - 130
			Perfluorobutanoic acid	2017/09/20		112	%	70 - 130
			Perfluorodecane Sulfonate	2017/09/20		113	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/09/20		117	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/09/20		108	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/09/20		114	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20		116	%	70 - 130
			Perfluorotetradecanoic Acid	2017/09/20		116	%	70 - 130
			Perfluorotridecanoic Acid	2017/09/20		117	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20		121	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20		114	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20		107	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/09/20		113	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20		107	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/09/20		119	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/09/20		115	%	70 - 130
5168639	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/09/20		93	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/09/20		83	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/09/20		86	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/09/20		70	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/09/20		82	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/09/20		68	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/09/20		80	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/09/20		82	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/09/20		83	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/09/20		87	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/09/20		82	%	50 - 150
			13C5-Perfluorononanoic acid	2017/09/20		85	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/09/20		81	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/09/20		69	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/09/20		82	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/09/20	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/09/20	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/09/20	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/09/20	0.60 U, LOD=0.60		ug/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexanoic Acid (PFHxA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/09/20	0.60 U, LOD=0.60		ug/kg	
5178149	M_G	Matrix Spike	13C2-perfluorotetradecanoic acid	2017/10/02		72	%	50 - 150
			Perfluorotetradecanoic Acid	2017/10/02		112	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/02		116	%	70 - 130
5178149	M_G	Matrix Spike DUP	13C2-perfluorotetradecanoic acid	2017/10/02		82	%	50 - 150
			Perfluorotetradecanoic Acid	2017/10/02		119	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/02		118	%	70 - 130
5178149	M_G	MS/MSD RPD	Perfluorotetradecanoic Acid	2017/10/02	6.3		%	30
			Perfluorotridecanoic Acid	2017/10/02	1.8		%	30
5178149	M_G	Spiked Blank	13C2-perfluorotetradecanoic acid	2017/10/02		87	%	50 - 150
			Perfluorotetradecanoic Acid	2017/10/02		110	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/02		111	%	70 - 130
5178149	M_G	Method Blank	13C2-perfluorotetradecanoic acid	2017/10/02		81	%	50 - 150
			Perfluorotetradecanoic Acid	2017/10/02	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/10/02	0.40 U, LOD=0.40		ug/kg	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

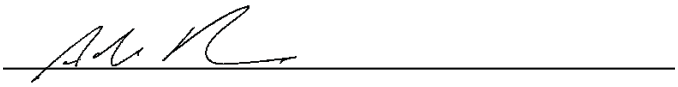
Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7J6133
Report Date: 2017/10/05

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995

VALIDATION SIGNATURE PAGE

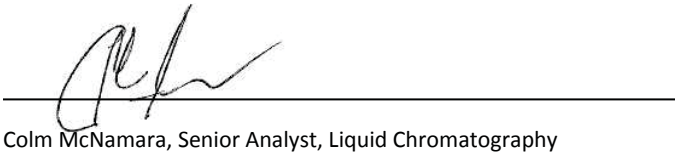
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Adam Robinson, Supervisor, LC/MS/MS



Brad Newman, Scientific Service Specialist



Colm McNamara, Senior Analyst, Liquid Chromatography

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/10
Report #: R4771077
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7K8496
Received: 2017/09/22, 15:49

Sample Matrix: Soil
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	6	N/A	2017/09/26	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	6	2017/10/02	2017/10/07	CAM SOP-00894	EPA537 m

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	2	2017/09/26	2017/10/07	CAM SOP-00894	EPA 537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/10/10
Report #: R4771077
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7K8496
Received: 2017/09/22, 15:49

Encryption Key

Stephanie Pollen
Project Manager
10 Oct 2017 20:47:03

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FEJ402				FEJ403				
Sampling Date		2017/09/12 16:30				2017/09/12 16:35				
COC Number		na				na				
	UNITS	1DW-DRUM1-10	DL	LOD	LOQ	1DW-DRUM11-20	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	21	0.50	N/A	1.0	21	0.50	N/A	1.0	5182681
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	5.3	0.22	0.58	0.97	0.72 U	0.28	0.72	1.2	5192558
8:2 Fluorotelomer sulfonate	ug/kg	1.2	0.31	0.58	0.97	0.72 U	0.38	0.72	1.2	5192558
Perfluorobutane Sulfonate (PFBS)	ug/kg	4.4	0.16	0.58	0.97	0.72 U	0.20	0.72	1.2	5192558
Perfluorobutanoic acid	ug/kg	0.59 J	0.22	0.58	0.97	0.72 U	0.28	0.72	1.2	5192558
Perfluorodecane Sulfonate	ug/kg	0.58 U	0.22	0.58	0.97	0.72 U	0.28	0.72	1.2	5192558
Perfluorodecanoic Acid (PFDA)	ug/kg	0.39 U	0.13	0.39	0.97	0.48 U	0.16	0.48	1.2	5192558
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.58 U	0.21	0.58	0.97	0.72 U	0.26	0.72	1.2	5192558
Perfluoroheptanoic Acid (PFHpA)	ug/kg	1.1	0.16	0.58	0.97	0.72 U	0.20	0.72	1.2	5192558
Perfluorohexane Sulfonate (PFHxS)	ug/kg	73 (1)	2.2	5.8	9.7	0.37 J	0.28	0.72	1.2	5192558
Perfluorohexanoic Acid (PFHxA)	ug/kg	4.8	0.18	0.58	0.97	0.72 U	0.23	0.72	1.2	5192558
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	3.9	0.25	0.58	0.97	0.72 U	0.31	0.72	1.2	5192558
Perfluorononanoic Acid (PFNA)	ug/kg	0.93 J	0.16	0.58	0.97	0.72 U	0.20	0.72	1.2	5192558
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.57 J	0.25	0.58	0.97	0.72 U	0.31	0.72	1.2	5192558
Perfluorooctane Sulfonate (PFOS)	ug/kg	200 (1)	2.0	5.8	9.7	5.4	0.25	0.72	1.2	5192558
Perfluoropentanoic Acid (PFPeA)	ug/kg	1.4	0.17	0.58	0.97	0.72 U	0.22	0.72	1.2	5192558
Perfluorotetradecanoic Acid	ug/kg	0.39 U	0.11	0.39	0.97	0.48 U	0.13	0.48	1.2	5192558
Perfluorotridecanoic Acid	ug/kg	0.39 U	0.12	0.39	0.97	0.48 U	0.14	0.48	1.2	5192558
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.58 U	0.17	0.58	0.97	0.72 U	0.22	0.72	1.2	5192558
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	79				84				5192558
13C2-8:2 Fluorotelomer sulfonate	%	77				79				5192558
13C2-Perfluorodecanoic acid	%	83				83				5192558
13C2-Perfluorododecanoic acid	%	76				69				5192558
13C2-Perfluorohexanoic acid	%	81				81				5192558
13C2-perfluorotetradecanoic acid	%	65				65				5192558
13C2-Perfluoroundecanoic acid	%	86				73				5192558
13C4-Perfluorobutanoic acid	%	84				78				5192558

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, sample required 10x dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FEJ402				FEJ403				
Sampling Date		2017/09/12 16:30				2017/09/12 16:35				
COC Number		na				na				
	UNITS	1DW-DRUM1-10	DL	LOD	LOQ	1DW-DRUM11-20	DL	LOD	LOQ	QC Batch
13C4-Perfluoroheptanoic acid	%	80				81				5192558
13C4-Perfluorooctanesulfonate	%	82				82				5192558
13C4-Perfluorooctanoic acid	%	81				78				5192558
13C5-Perfluorononanoic acid	%	76				79				5192558
13C5-Perfluoropentanoic acid	%	80				80				5192558
13C8-Perfluorooctane Sulfonamide	%	63				67				5192558
18O2-Perfluorohexanesulfonate	%	85				77				5192558

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FEJ404				FEJ405				
Sampling Date		2017/09/12 16:40				2017/09/12 16:45				
COC Number		na				na				
	UNITS	1DW-DRUM21-30	DL	LOD	LOQ	1DW-DRUM31-40	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	28	0.50	N/A	1.0	26	0.50	N/A	1.0	5182681
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	1.7	0.25	0.66	1.1	6.6	0.28	0.72	1.2	5192558
8:2 Fluorotelomer sulfonate	ug/kg	0.89 J	0.35	0.66	1.1	6.0	0.38	0.72	1.2	5192558
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.29 J	0.19	0.66	1.1	1.0 J	0.20	0.72	1.2	5192558
Perfluorobutanoic acid	ug/kg	0.66 U	0.25	0.66	1.1	0.72 U	0.28	0.72	1.2	5192558
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.25	0.66	1.1	0.72 U	0.28	0.72	1.2	5192558
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.14	0.44	1.1	0.48 U	0.16	0.48	1.2	5192558
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.24	0.66	1.1	0.72 U	0.26	0.72	1.2	5192558
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.20 J	0.19	0.66	1.1	0.56 J	0.20	0.72	1.2	5192558
Perfluorohexane Sulfonate (PFHxS)	ug/kg	3.4	0.25	0.66	1.1	9.2	0.28	0.72	1.2	5192558
Perfluorohexanoic Acid (PFHxA)	ug/kg	1.2	0.21	0.66	1.1	2.6	0.23	0.72	1.2	5192558
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.64 J	0.29	0.66	1.1	2.4	0.31	0.72	1.2	5192558
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.19	0.66	1.1	0.72 U	0.20	0.72	1.2	5192558
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.39 J	0.29	0.66	1.1	2.9	0.31	0.72	1.2	5192558
Perfluorooctane Sulfonate (PFOS)	ug/kg	15	0.23	0.66	1.1	55	0.25	0.72	1.2	5192558
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.48 J	0.20	0.66	1.1	1.2 J	0.22	0.72	1.2	5192558
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.12	0.44	1.1	0.48 U	0.13	0.48	1.2	5192558
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.13	0.44	1.1	0.48 U	0.14	0.48	1.2	5192558
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.20	0.66	1.1	0.72 U	0.22	0.72	1.2	5192558
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	85				79				5192558
13C2-8:2 Fluorotelomer sulfonate	%	78				87				5192558
13C2-Perfluorodecanoic acid	%	78				87				5192558
13C2-Perfluorododecanoic acid	%	71				81				5192558
13C2-Perfluorohexanoic acid	%	86				89				5192558
13C2-perfluorotetradecanoic acid	%	66				75				5192558
13C2-Perfluoroundecanoic acid	%	81				82				5192558
13C4-Perfluorobutanoic acid	%	88				87				5192558
13C4-Perfluoroheptanoic acid	%	91				89				5192558
13C4-Perfluorooctanesulfonate	%	81				75				5192558

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FEJ404				FEJ405				
Sampling Date		2017/09/12 16:40				2017/09/12 16:45				
COC Number		na				na				
	UNITS	1DW-DRUM21-30	DL	LOD	LOQ	1DW-DRUM31-40	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	83				85				5192558
13C5-Perfluorononanoic acid	%	85				82				5192558
13C5-Perfluoropentanoic acid	%	96				83				5192558
13C8-Perfluorooctane Sulfonamide	%	67				74				5192558
18O2-Perfluorohexanesulfonate	%	84				75				5192558

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FEJ406	FEJ407				
Sampling Date		2017/09/12 16:50	2017/09/12 16:55				
COC Number		na	na				
	UNITS	1DW-DRUM41-50	1DW-DRUM51-57	DL	LOD	LOQ	QC Batch
Inorganics							
Moisture	%	20	28	0.50	N/A	1.0	5182681
Miscellaneous Parameters							
6:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5192558
8:2 Fluorotelomer sulfonate	ug/kg	0.66 U	0.66 U	0.35	0.66	1.1	5192558
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.66 U	0.66 U	0.19	0.66	1.1	5192558
Perfluorobutanoic acid	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5192558
Perfluorodecane Sulfonate	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5192558
Perfluorodecanoic Acid (PFDA)	ug/kg	0.44 U	0.44 U	0.14	0.44	1.1	5192558
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.66 U	0.66 U	0.24	0.66	1.1	5192558
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.66 U	0.66 U	0.19	0.66	1.1	5192558
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.66 U	0.66 U	0.25	0.66	1.1	5192558
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.66 U	0.66 U	0.21	0.66	1.1	5192558
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.66 U	0.66 U	0.29	0.66	1.1	5192558
Perfluorononanoic Acid (PFNA)	ug/kg	0.66 U	0.66 U	0.19	0.66	1.1	5192558
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.66 U	0.66 U	0.29	0.66	1.1	5192558
Perfluorooctane Sulfonate (PFOS)	ug/kg	1.2	0.37 J	0.23	0.66	1.1	5192558
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.66 U	0.66 U	0.20	0.66	1.1	5192558
Perfluorotetradecanoic Acid	ug/kg	0.44 U	0.44 U	0.12	0.44	1.1	5192558
Perfluorotridecanoic Acid	ug/kg	0.44 U	0.44 U	0.13	0.44	1.1	5192558
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.66 U	0.66 U	0.20	0.66	1.1	5192558
Surrogate Recovery (%)							
13C2-6:2 Fluorotelomer sulfonate	%	85	83				5192558
13C2-8:2 Fluorotelomer sulfonate	%	77	82				5192558
13C2-Perfluorodecanoic acid	%	81	85				5192558
13C2-Perfluorododecanoic acid	%	71	75				5192558
13C2-Perfluorohexanoic acid	%	75	81				5192558
13C2-perfluorotetradecanoic acid	%	72	72				5192558
13C2-Perfluoroundecanoic acid	%	82	81				5192558
13C4-Perfluorobutanoic acid	%	76	86				5192558
13C4-Perfluoroheptanoic acid	%	83	87				5192558
13C4-Perfluorooctanesulfonate	%	69	80				5192558

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FEJ406	FEJ407				
Sampling Date		2017/09/12 16:50	2017/09/12 16:55				
COC Number		na	na				
	UNITS	**1DW-DRUM41-50**	**1DW-DRUM51-57**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	77	85				5192558
13C5-Perfluorononanoic acid	%	77	77				5192558
13C5-Perfluoropentanoic acid	%	84	82				5192558
13C8-Perfluorooctane Sulfonamide	%	68	69				5192558
18O2-Perfluorohexanesulfonate	%	85	81				5192558

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

RESULTS OF ANALYSES OF WATER

Maxxam ID		FEJ408				FEJ409				
Sampling Date		2017/09/12 17:00				2017/09/12 17:05				
COC Number		na				na				
	UNITS	1DW-DECON1-10	DL	LOD	LOQ	1DW-DECON11-19	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/L	0.075	0.0032	0.010	0.020	0.14	0.0032	0.010	0.020	5182320
8:2 Fluorotelomer sulfonate	ug/L	0.030	0.0036	0.010	0.020	0.032	0.0036	0.010	0.020	5182320
Perfluorobutanoic acid	ug/L	0.035	0.0043	0.010	0.020	0.047	0.0043	0.010	0.020	5182320
Perfluorobutane Sulfonate (PFBS)	ug/L	0.027	0.0048	0.010	0.020	0.070	0.0048	0.010	0.020	5182320
Perfluorodecane Sulfonate	ug/L	0.010 U	0.0046	0.010	0.020	0.010 U	0.0046	0.010	0.020	5182320
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.011 J	0.0033	0.010	0.020	0.070	0.0033	0.010	0.020	5182320
Perfluorohexanoic Acid (PFHxA)	ug/L	0.069	0.0029	0.010	0.020	0.30	0.0029	0.010	0.020	5182320
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.19	0.0034	0.010	0.020	0.67	0.0034	0.010	0.020	5182320
Perfluorononanoic Acid (PFNA)	ug/L	0.10 U (1)	0.038	0.10	0.20	0.10 U (1)	0.038	0.10	0.20	5182320
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.028	0.0036	0.010	0.020	0.046	0.0036	0.010	0.020	5182320
Perfluoropentanoic Acid (PFPeA)	ug/L	0.031	0.0027	0.010	0.020	0.14	0.0027	0.010	0.020	5182320
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	0.010 U	0.0038	0.010	0.020	5182320
Perfluorotridecanoic Acid	ug/L	0.10 U (2)	0.033	0.10	0.20	0.10 U (2)	0.033	0.10	0.20	5182320
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0043	0.010	0.020	0.010 U	0.0043	0.010	0.020	5182320
Perfluorodecanoic Acid (PFDA)	ug/L	0.010 U	0.0040	0.010	0.020	0.010 U	0.0040	0.010	0.020	5182320
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.0028	0.010	0.020	0.010 U	0.0028	0.010	0.020	5182320
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.10 U (1)	0.046	0.10	0.20	0.32 (1)	0.046	0.10	0.20	5182320
Perfluorooctane Sulfonate (PFOS)	ug/L	0.73	0.0026	0.010	0.020	1.5 (3)	0.026	0.10	0.20	5182320
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	55				63				5182320
13C2-8:2 Fluorotelomer sulfonate	%	69				76				5182320
13C2-Perfluorodecanoic acid	%	87				84				5182320
13C2-Perfluorododecanoic acid	%	87				90				5182320
13C2-Perfluorohexanoic acid	%	91				91				5182320
13C2-perfluorotetradecanoic acid	%	65				81				5182320

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to potential matrix interference, the extracted internal standard analyte exhibited low recovery and as such, may not have allowed for accurate recovery correction of the associated native compound. A reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

(2) Due to matrix interference, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

(3) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

RESULTS OF ANALYSES OF WATER

Maxxam ID		FEJ408				FEJ409				
Sampling Date		2017/09/12 17:00				2017/09/12 17:05				
COC Number		na				na				
	UNITS	1DW-DECON1-10	DL	LOD	LOQ	1DW-DECON11-19	DL	LOD	LOQ	QC Batch
13C2-Perfluoroundecanoic acid	%	100				97				5182320
13C4-Perfluorobutanoic acid	%	88				87				5182320
13C4-Perfluoroheptanoic acid	%	88				94				5182320
13C4-Perfluorooctanesulfonate	%	55				80				5182320
13C4-Perfluorooctanoic acid	%	71				85				5182320
13C5-Perfluorononanoic acid	%	62				71				5182320
13C5-Perfluoropentanoic acid	%	88				91				5182320
13C8-Perfluorooctane Sulfonamide	%	84				87				5182320
18O2-Perfluorohexanesulfonate	%	93				89				5182320

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

TEST SUMMARY

Maxxam ID: FEJ402 **Collected:** 2017/09/12
Sample ID: 1DW-DRUM1-10 **Shipped:**
Matrix: Soil **Received:** 2017/09/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5182681	N/A	2017/09/26	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5192558	2017/10/02	2017/10/07	Anjan Desai

Maxxam ID: FEJ403 **Collected:** 2017/09/12
Sample ID: 1DW-DRUM11-20 **Shipped:**
Matrix: Soil **Received:** 2017/09/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5182681	N/A	2017/09/26	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5192558	2017/10/02	2017/10/07	Anjan Desai

Maxxam ID: FEJ404 **Collected:** 2017/09/12
Sample ID: 1DW-DRUM21-30 **Shipped:**
Matrix: Soil **Received:** 2017/09/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5182681	N/A	2017/09/26	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5192558	2017/10/02	2017/10/07	Anjan Desai

Maxxam ID: FEJ405 **Collected:** 2017/09/12
Sample ID: 1DW-DRUM31-40 **Shipped:**
Matrix: Soil **Received:** 2017/09/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5182681	N/A	2017/09/26	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5192558	2017/10/02	2017/10/07	Anjan Desai

Maxxam ID: FEJ406 **Collected:** 2017/09/12
Sample ID: 1DW-DRUM41-50 **Shipped:**
Matrix: Soil **Received:** 2017/09/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5182681	N/A	2017/09/26	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5192558	2017/10/02	2017/10/07	Anjan Desai

Maxxam ID: FEJ407 **Collected:** 2017/09/12
Sample ID: 1DW-DRUM51-57 **Shipped:**
Matrix: Soil **Received:** 2017/09/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5182681	N/A	2017/09/26	Chun Yan
PFOS and PFOA in soil by SPE/LCMS	LCMS	5192558	2017/10/02	2017/10/07	Anjan Desai

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Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

TEST SUMMARY

Maxxam ID: FEJ408
Sample ID: 1DW-DECON1-10
Matrix: Water

Collected: 2017/09/12
Shipped:
Received: 2017/09/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5182320	2017/09/26	2017/10/07	Anjan Desai

Maxxam ID: FEJ409
Sample ID: 1DW-DECON11-19
Matrix: Water

Collected: 2017/09/12
Shipped:
Received: 2017/09/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5182320	2017/09/26	2017/10/07	Anjan Desai

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Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.3°C

Results relate only to the items tested.

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Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5182320	AD9	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/10/06		83	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/06		75	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/06		75	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/06		67	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/06		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/06		48 (1)	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/06		74	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/06		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/06		87	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/06		82	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/06		85	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/06		84	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/06		75	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/06		72	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/06		85	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/06		89	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/10/06		97	%	70 - 130
			Perfluorobutanoic acid	2017/10/06		85	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/10/06		104	%	70 - 130
			Perfluorodecane Sulfonate	2017/10/06		89	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/10/06		99	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/10/06		98	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/10/06		99	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/10/06		102	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/06		96	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/10/06		99	%	70 - 130
			Perfluorotetradecanoic Acid	2017/10/06		106	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/06		124	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/10/06		97	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/10/06		103	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/10/06		92	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/06		100	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/10/06		97	%	70 - 130
5182320	AD9	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/10/06		80	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/06		77	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/06		77	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/06		65	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/06		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/06		52	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/06		72	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/06		87	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/06		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/06		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/06		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/06		86	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/06		77	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/06		71	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/06		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/06		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/10/06		102	%	70 - 130
			Perfluorobutanoic acid	2017/10/06		90	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/10/06		115	%	70 - 130
			Perfluorodecane Sulfonate	2017/10/06		82	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroheptanoic Acid (PFHpA)	2017/10/06		96	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/10/06		100	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/10/06		107	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/10/06		108	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/06		98	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/10/06		104	%	70 - 130
			Perfluorotetradecanoic Acid	2017/10/06		96	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/06		117	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/10/06		104	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/10/06		104	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/10/06		95	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/06		103	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/10/06		91	%	70 - 130
5182320	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/10/06	6.5		%	30
			8:2 Fluorotelomer sulfonate	2017/10/06	4.6		%	30
			Perfluorobutanoic acid	2017/10/06	6.6		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/10/06	9.7		%	30
			Perfluorodecane Sulfonate	2017/10/06	8.4		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/10/06	2.7		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/10/06	2.6		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/10/06	7.6		%	30
			Perfluorononanoic Acid (PFNA)	2017/10/06	5.6		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/06	2.4		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/10/06	5.5		%	30
			Perfluorotetradecanoic Acid	2017/10/06	10		%	30
			Perfluorotridecanoic Acid	2017/10/06	6.0		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/10/06	7.4		%	30
			Perfluorodecanoic Acid (PFDA)	2017/10/06	1.8		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/10/06	2.7		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/06	3.4		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/10/06	6.4		%	30
5182320	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/10/06		95	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/06		88	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/06		83	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/06		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/06		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/06		76	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/06		84	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/06		98	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/06		94	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/06		99	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/06		93	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/06		88	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/06		92	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/06		77	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/06		88	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/06		90	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/10/06		101	%	70 - 130
			Perfluorobutanoic acid	2017/10/06		96	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/10/06		108	%	70 - 130
			Perfluorodecane Sulfonate	2017/10/06		97	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/10/06		97	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/10/06		102	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexane Sulfonate (PFHxS)	2017/10/06		104	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/10/06		107	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/06		98	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/10/06		101	%	70 - 130
			Perfluorotetradecanoic Acid	2017/10/06		104	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/06		100	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/10/06		101	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/10/06		105	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/10/06		96	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/06		100	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/10/06		87	%	70 - 130
5182320	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/10/06		95	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/06		87	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/06		89	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/06		79	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/06		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/06		74	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/06		73	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/06		91	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/06		87	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/06		91	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/06		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/06		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/06		86	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/06		80	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/06		86	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/06	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/10/06	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroundecanoic Acid (PFUnA)	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/06	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/10/06	0.010 U, LOD=0.010		ug/L	
5182681	GG2	RPD - Sample/Sample Dup	Moisture	2017/09/26	0		%	20
5192558	AD9	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/10/07		67	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/07		70	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/07		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/07		76	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/07		78	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/07		67	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/07		71	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/07		78	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/07		76	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/07		69	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/07		75	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/07		78	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/07		74	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/07		69	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/07		83	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/07		126	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/10/07		105	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/10/07		98	%	70 - 130
			Perfluorobutanoic acid	2017/10/07		103	%	70 - 130
			Perfluorodecane Sulfonate	2017/10/07		92	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/10/07		94	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/10/07		98	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/10/07		99	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/07		94	%	70 - 130
			Perfluorotetradecanoic Acid	2017/10/07		103	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/07		108	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/10/07		101	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/10/07		101	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/10/07		96	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/10/07		101	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/07		104	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/10/07		105	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/10/07		107	%	70 - 130
5192558	AD9	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/10/07		74	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/07		78	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/07		85	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/07		83	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/07		84	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/07		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/07		86	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/07		90	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/07		84	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluorooctanesulfonate	2017/10/07		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/07		78	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/07		80	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/07		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/07		72	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/07		94	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/07		110	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/10/07		103	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/10/07		98	%	70 - 130
			Perfluorobutanoic acid	2017/10/07		96	%	70 - 130
			Perfluorodecane Sulfonate	2017/10/07		96	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/10/07		100	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/10/07		101	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/10/07		106	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/07		103	%	70 - 130
			Perfluorotetradecanoic Acid	2017/10/07		104	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/07		105	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/10/07		100	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/10/07		102	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/10/07		89	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/10/07		102	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/07		113	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/10/07		88	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/10/07		96	%	70 - 130
5192558	AD9	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/10/07	13		%	30
			8:2 Fluorotelomer sulfonate	2017/10/07	1.6		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/10/07	0.81		%	30
			Perfluorobutanoic acid	2017/10/07	7.5		%	30
			Perfluorodecane Sulfonate	2017/10/07	4.7		%	30
			Perfluorodecanoic Acid (PFDA)	2017/10/07	6.7		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/10/07	3.1		%	30
			Perfluorononanoic Acid (PFNA)	2017/10/07	7.2		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/07	9.4		%	25
			Perfluorotetradecanoic Acid	2017/10/07	0.49		%	30
			Perfluorotridecanoic Acid	2017/10/07	2.9		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/10/07	1.1		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/10/07	1.1		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/10/07	7.1		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/10/07	1.3		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/07	8.3		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/10/07	18		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/10/07	11		%	30
5192558	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/10/07		78	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/07		77	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/07		82	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/07		71	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/07		82	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/07		73	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/07		81	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/07		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/07		83	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/07		80	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/07		82	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C5-Perfluorononanoic acid	2017/10/07		81	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/07		91	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/07		64	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/07		85	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/07		116	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/10/07		107	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/10/07		108	%	70 - 130
			Perfluorobutanoic acid	2017/10/07		97	%	70 - 130
			Perfluorodecane Sulfonate	2017/10/07		88	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/10/07		97	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/10/07		112	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/10/07		100	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/07		106	%	70 - 130
			Perfluorotetradecanoic Acid	2017/10/07		108	%	70 - 130
			Perfluorotridecanoic Acid	2017/10/07		106	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/10/07		97	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/10/07		104	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/10/07		101	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/10/07		106	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/07		107	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/10/07		99	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/10/07		99	%	70 - 130
5192558	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/10/07		81	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/10/07		82	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/10/07		85	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/10/07		75	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/10/07		85	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/10/07		64	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/10/07		75	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/10/07		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/10/07		75	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/10/07		74	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/10/07		77	%	50 - 150
			13C5-Perfluorononanoic acid	2017/10/07		81	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/10/07		80	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/10/07		67	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/10/07		80	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/10/07	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/10/07	0.60 U, LOD=0.60		ug/kg	

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Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonamide (PFOSA)	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/10/07	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/10/07	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/10/07	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/10/07	0.60 U, LOD=0.60		ug/kg	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low. Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the low extracted internal standard analyte recovery.

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Maxxam Job #: B7K8496
Report Date: 2017/10/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: SM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Adam Robinson, Supervisor, LC/MS/MS

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/11/10
Report #: R4844046
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7N7570
Received: 2017/10/25, 14:15

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	2	N/A	2017/10/27	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	2	2017/11/03	2017/11/09	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Stephanie Pollen
Project Manager
10 Nov 2017 14:47:34

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7N7570
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH827			FKH828				
Sampling Date		2017/10/24 11:37			2017/10/24 11:50				
COC Number		na			na				
	UNITS	CFTA-1-10.5	LOD	LOQ	CFTA-1-16.5	DL	LOD	LOQ	QC Batch
Inorganics									
Moisture	%	12	N/A	1.0	22	0.50	N/A	1.0	5235183
Miscellaneous Parameters									
6:2 Fluorotelomer sulfonate	ug/kg	0.59 U	0.59	0.99	0.60 U	0.23	0.60	1.0	5246627
8:2 Fluorotelomer sulfonate	ug/kg	0.59 U	0.59	0.99	0.60 U	0.32	0.60	1.0	5246627
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.17	0.60	1.0	5246627
Perfluorobutanoic acid	ug/kg	0.59 U	0.59	0.99	0.60 U	0.23	0.60	1.0	5246627
Perfluorodecane Sulfonate	ug/kg	0.59 U	0.59	0.99	0.60 U	0.23	0.60	1.0	5246627
Perfluorodecanoic Acid (PFDA)	ug/kg	0.40 U	0.40	0.99	0.40 U	0.13	0.40	1.0	5246627
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.22	0.60	1.0	5246627
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.17	0.60	1.0	5246627
Perfluorohexane Sulfonate (PFHxS)	ug/kg	2.4	0.59	0.99	0.60 U	0.23	0.60	1.0	5246627
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.63 J	0.59	0.99	0.60 U	0.19	0.60	1.0	5246627
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.26	0.60	1.0	5246627
Perfluorononanoic Acid (PFNA)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.17	0.60	1.0	5246627
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.26	0.60	1.0	5246627
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.21	0.60	1.0	5246627
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.73 J	0.59	0.99	0.60 U	0.18	0.60	1.0	5246627
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.40	0.99	0.40 U	0.11	0.40	1.0	5246627
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.40	0.99	0.40 U	0.12	0.40	1.0	5246627
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.59 U	0.59	0.99	0.60 U	0.18	0.60	1.0	5246627
Surrogate Recovery (%)									
13C2-6:2 Fluorotelomer sulfonate	%	110			91				5246627
13C2-8:2 Fluorotelomer sulfonate	%	96			85				5246627
13C2-Perfluorodecanoic acid	%	89			81				5246627
13C2-Perfluorododecanoic acid	%	78			79				5246627
13C2-Perfluorohexanoic acid	%	95			86				5246627
13C2-perfluorotetradecanoic acid	%	62			69				5246627
13C2-Perfluoroundecanoic acid	%	80			77				5246627
13C4-Perfluorobutanoic acid	%	98			87				5246627
13C4-Perfluoroheptanoic acid	%	100			89				5246627
13C4-Perfluorooctanesulfonate	%	94			77				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7570
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH827			FKH828				
Sampling Date		2017/10/24 11:37			2017/10/24 11:50				
COC Number		na			na				
	UNITS	CFTA-1-10.5	LOD	LOQ	CFTA-1-16.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	96			88				5246627
13C5-Perfluorononanoic acid	%	89			85				5246627
13C5-Perfluoropentanoic acid	%	99			84				5246627
13C8-Perfluorooctane Sulfonamide	%	84			73				5246627
18O2-Perfluorohexanesulfonate	%	103			78				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FKH827
Sample ID: CFTA-1-10.5
Matrix: Soil

Collected: 2017/10/24
Shipped:
Received: 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKH828
Sample ID: CFTA-1-16.5
Matrix: Soil

Collected: 2017/10/24
Shipped:
Received: 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.7°C

Results relate only to the items tested.

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Maxxam Job #: B7N7570
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5235183	AUP	RPD - Sample/Sample Dup	Moisture	2017/10/27	2.7		%	20
5246627	KC1	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		98	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		94	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		87	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		101	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		76	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		100	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		96	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		99	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		104	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		103	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		90	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		88	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		102	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/09		92	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		99	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		94	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		91	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		95	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		88	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		102	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		99	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		93	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		98	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		92	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		96	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		89	%	70 - 130
5246627	KC1	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		85	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		81	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		77	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		67	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		80	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		84	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		91	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		88	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		87	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		95	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		101	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		86	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		98	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/11/09		93	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		93	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		93	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		92	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		84	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		99	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		101	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		99	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		91	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		90	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		95	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		92	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		91	%	70 - 130
5246627	KC1	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/11/09	2.5		%	30
			8:2 Fluorotelomer sulfonate	2017/11/09	9.0		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/11/09	2.6		%	30
			Perfluorobutanoic acid	2017/11/09	3.9		%	30
			Perfluorodecane Sulfonate	2017/11/09	1.6		%	30
			Perfluorodecanoic Acid (PFDA)	2017/11/09	2.8		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/11/09	1.3		%	30
			Perfluorononanoic Acid (PFNA)	2017/11/09	2.4		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09	2.8		%	25
			Perfluorotetradecanoic Acid	2017/11/09	4.6		%	30
			Perfluorotridecanoic Acid	2017/11/09	2.9		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09	1.2		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09	7.0		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09	7.5		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/11/09	2.8		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09	1.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/11/09	9.0		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/11/09	2.3		%	30
5246627	KC1	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		93	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		83	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		96	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		96	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		89	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		95	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		87	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		95	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		106	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		99	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/09		92	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		98	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		99	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		98	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		93	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		85	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		93	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		97	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		108	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		100	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		102	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		98	%	70 - 130
5246627	KC1	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		95	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		85	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		73	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		72	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		70	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		87	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		88	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		82	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		70	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	

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Maxxam Job #: B7N7570
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Maxxam Job #: B7N7570
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Colm McNamara, Senior Analyst, Liquid Chromatography

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/11/10
Report #: R4844061
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7N7579
Received: 2017/10/25, 14:15

Sample Matrix: Ground Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	1	2017/10/31	2017/11/02	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	4	N/A	2017/10/27	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	4	2017/11/03	2017/11/09	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/11/10
Report #: R4844061
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7N7579
Received: 2017/10/25, 14:15

Encryption Key

Stephanie Pollen
Project Manager
10 Nov 2017 14:41:46

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7N7579
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FKH860				
Sampling Date		2017/10/23 15:20				
COC Number		na				
	UNITS	2014 E75-3-13	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/L	0.0090 U	0.0029	0.0090	0.018	5240542
8:2 Fluorotelomer sulfonate	ug/L	0.0090 U	0.0032	0.0090	0.018	5240542
Perfluorobutanoic acid	ug/L	0.088	0.0039	0.0090	0.018	5240542
Perfluorobutane Sulfonate (PFBS)	ug/L	0.065	0.0043	0.0090	0.018	5240542
Perfluorodecane Sulfonate	ug/L	0.0090 U	0.0041	0.0090	0.018	5240542
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.026	0.0030	0.0090	0.018	5240542
Perfluorohexanoic Acid (PFHxA)	ug/L	0.062	0.0026	0.0090	0.018	5240542
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.81	0.0031	0.0090	0.018	5240542
Perfluorononanoic Acid (PFNA)	ug/L	0.0090 U	0.0034	0.0090	0.018	5240542
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.0090 U	0.0032	0.0090	0.018	5240542
Perfluoropentanoic Acid (PFPeA)	ug/L	0.045	0.0024	0.0090	0.018	5240542
Perfluorotetradecanoic Acid	ug/L	0.0090 U	0.0034	0.0090	0.018	5240542
Perfluorotridecanoic Acid	ug/L	0.0090 U	0.0030	0.0090	0.018	5240542
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.0090 U	0.0039	0.0090	0.018	5240542
Perfluorodecanoic Acid (PFDA)	ug/L	0.0090 U	0.0036	0.0090	0.018	5240542
Perfluorododecanoic Acid (PFDoA)	ug/L	0.0090 U	0.0025	0.0090	0.018	5240542
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.12	0.0041	0.0090	0.018	5240542
Perfluorooctane Sulfonate (PFOS)	ug/L	1.0 (1)	0.026	0.10	0.20	5240542
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	60				5240542
13C2-8:2 Fluorotelomer sulfonate	%	65				5240542
13C2-Perfluorodecanoic acid	%	77				5240542
13C2-Perfluorododecanoic acid	%	65				5240542
13C2-Perfluorohexanoic acid	%	78				5240542
13C2-perfluorotetradecanoic acid	%	50				5240542
13C2-Perfluoroundecanoic acid	%	77				5240542
13C4-Perfluorobutanoic acid	%	55				5240542
13C4-Perfluoroheptanoic acid	%	75				5240542
13C4-Perfluorooctanesulfonate	%	82				5240542

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

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Maxxam Job #: B7N7579
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FKH860				
Sampling Date		2017/10/23 15:20				
COC Number		na				
	UNITS	**2014 E75-3-13**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	71				5240542
13C5-Perfluorononanoic acid	%	77				5240542
13C5-Perfluoropentanoic acid	%	75				5240542
13C8-Perfluorooctane Sulfonamide	%	70				5240542
18O2-Perfluorohexanesulfonate	%	76				5240542

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7579
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH856				FKH857				
Sampling Date		2017/10/23 13:35				2017/10/23 14:43				
COC Number		na				na				
	UNITS	2014 E75-3-0.5	DL	LOD	LOQ	2014 E75-3-5.5	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	5.9	0.50	N/A	1.0	18	0.50	N/A	1.0	5235183
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.57 U	0.22	0.57	0.95	0.66 U	0.25	0.66	1.1	5246627
8:2 Fluorotelomer sulfonate	ug/kg	0.57 U	0.30	0.57	0.95	0.66 U	0.35	0.66	1.1	5246627
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.57 U	0.16	0.57	0.95	0.66 U	0.19	0.66	1.1	5246627
Perfluorobutanoic acid	ug/kg	0.57 U	0.22	0.57	0.95	0.66 U	0.25	0.66	1.1	5246627
Perfluorodecane Sulfonate	ug/kg	0.57 U	0.22	0.57	0.95	0.66 U	0.25	0.66	1.1	5246627
Perfluorodecanoic Acid (PFDA)	ug/kg	0.38 U	0.12	0.38	0.95	0.44 U	0.14	0.44	1.1	5246627
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.57 U	0.21	0.57	0.95	0.66 U	0.24	0.66	1.1	5246627
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.57 U	0.16	0.57	0.95	0.66 U	0.19	0.66	1.1	5246627
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.57 U	0.22	0.57	0.95	0.66 U	0.25	0.66	1.1	5246627
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.57 U	0.18	0.57	0.95	0.66 U	0.21	0.66	1.1	5246627
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.57 U	0.25	0.57	0.95	0.66 U	0.29	0.66	1.1	5246627
Perfluorononanoic Acid (PFNA)	ug/kg	0.57 U	0.16	0.57	0.95	0.66 U	0.19	0.66	1.1	5246627
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.57 U	0.25	0.57	0.95	0.66 U	0.29	0.66	1.1	5246627
Perfluorooctane Sulfonate (PFOS)	ug/kg	1.6	0.20	0.57	0.95	0.66 U	0.23	0.66	1.1	5246627
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.57 U	0.17	0.57	0.95	0.66 U	0.20	0.66	1.1	5246627
Perfluorotetradecanoic Acid	ug/kg	0.38 U	0.10	0.38	0.95	0.44 U	0.12	0.44	1.1	5246627
Perfluorotridecanoic Acid	ug/kg	0.38 U	0.11	0.38	0.95	0.44 U	0.13	0.44	1.1	5246627
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.57 U	0.17	0.57	0.95	0.66 U	0.20	0.66	1.1	5246627
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	98				98				5246627
13C2-8:2 Fluorotelomer sulfonate	%	87				82				5246627
13C2-Perfluorodecanoic acid	%	91				84				5246627
13C2-Perfluorododecanoic acid	%	89				80				5246627
13C2-Perfluorohexanoic acid	%	87				92				5246627
13C2-perfluorotetradecanoic acid	%	80				66				5246627
13C2-Perfluoroundecanoic acid	%	91				83				5246627
13C4-Perfluorobutanoic acid	%	89				92				5246627
13C4-Perfluoroheptanoic acid	%	91				86				5246627
13C4-Perfluorooctanesulfonate	%	96				87				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7579
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH856				FKH857				
Sampling Date		2017/10/23 13:35				2017/10/23 14:43				
COC Number		na				na				
	UNITS	2014 E75-3-0.5	DL	LOD	LOQ	2014 E75-3-5.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	91				93				5246627
13C5-Perfluorononanoic acid	%	87				92				5246627
13C5-Perfluoropentanoic acid	%	90				93				5246627
13C8-Perfluorooctane Sulfonamide	%	80				80				5246627
18O2-Perfluorohexanesulfonate	%	90				86				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7579
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH858				FKH859				
Sampling Date		2017/10/23 13:35				2017/10/23 14:55				
COC Number		na				na				
	UNITS	2014 E75-DUP-0.5	DL	LOD	LOQ	2014 E75-3-13.5	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	5.7	0.50	N/A	1.0	21	0.50	N/A	1.0	5235183
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.50 U	0.19	0.50	0.83	0.66 U	0.25	0.66	1.1	5246627
8:2 Fluorotelomer sulfonate	ug/kg	0.50 U	0.27	0.50	0.83	0.66 U	0.35	0.66	1.1	5246627
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.50 U	0.14	0.50	0.83	0.66 U	0.19	0.66	1.1	5246627
Perfluorobutanoic acid	ug/kg	0.50 U	0.19	0.50	0.83	0.66 U	0.25	0.66	1.1	5246627
Perfluorodecane Sulfonate	ug/kg	0.50 U	0.19	0.50	0.83	0.66 U	0.25	0.66	1.1	5246627
Perfluorodecanoic Acid (PFDA)	ug/kg	0.33 U	0.11	0.33	0.83	0.44 U	0.14	0.44	1.1	5246627
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.50 U	0.18	0.50	0.83	0.66 U	0.24	0.66	1.1	5246627
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.50 U	0.14	0.50	0.83	0.66 U	0.19	0.66	1.1	5246627
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.36 J	0.19	0.50	0.83	0.66 U	0.25	0.66	1.1	5246627
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.50 U	0.16	0.50	0.83	0.66 U	0.21	0.66	1.1	5246627
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.50 U	0.22	0.50	0.83	0.66 U	0.29	0.66	1.1	5246627
Perfluorononanoic Acid (PFNA)	ug/kg	0.50 U	0.14	0.50	0.83	0.66 U	0.19	0.66	1.1	5246627
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.50 U	0.22	0.50	0.83	0.66 U	0.29	0.66	1.1	5246627
Perfluorooctane Sulfonate (PFOS)	ug/kg	1.7	0.17	0.50	0.83	0.66 U	0.23	0.66	1.1	5246627
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.50 U	0.15	0.50	0.83	0.66 U	0.20	0.66	1.1	5246627
Perfluorotetradecanoic Acid	ug/kg	0.33 U	0.091	0.33	0.83	0.44 U	0.12	0.44	1.1	5246627
Perfluorotridecanoic Acid	ug/kg	0.33 U	0.10	0.33	0.83	0.44 U	0.13	0.44	1.1	5246627
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.50 U	0.15	0.50	0.83	0.66 U	0.20	0.66	1.1	5246627
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	98				101				5246627
13C2-8:2 Fluorotelomer sulfonate	%	92				96				5246627
13C2-Perfluorodecanoic acid	%	90				86				5246627
13C2-Perfluorododecanoic acid	%	86				77				5246627
13C2-Perfluorohexanoic acid	%	100				98				5246627
13C2-perfluorotetradecanoic acid	%	79				78				5246627
13C2-Perfluoroundecanoic acid	%	84				84				5246627
13C4-Perfluorobutanoic acid	%	97				93				5246627
13C4-Perfluoroheptanoic acid	%	101				100				5246627
13C4-Perfluorooctanesulfonate	%	94				89				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7579
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH858				FKH859				
Sampling Date		2017/10/23 13:35				2017/10/23 14:55				
COC Number		na				na				
	UNITS	2014 E75-DUP-0.5	DL	LOD	LOQ	2014 E75-3-13.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	97				90				5246627
13C5-Perfluorononanoic acid	%	99				90				5246627
13C5-Perfluoropentanoic acid	%	94				94				5246627
13C8-Perfluorooctane Sulfonamide	%	84				78				5246627
18O2-Perfluorohexanesulfonate	%	90				94				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7579
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Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FKH856
Sample ID: 2014 E75-3-0.5
Matrix: Soil

Collected: 2017/10/23
Shipped:
Received: 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKH857
Sample ID: 2014 E75-3-5.5
Matrix: Soil

Collected: 2017/10/23
Shipped:
Received: 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKH858
Sample ID: 2014 E75-DUP-0.5
Matrix: Soil

Collected: 2017/10/23
Shipped:
Received: 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKH859
Sample ID: 2014 E75-3-13.5
Matrix: Soil

Collected: 2017/10/23
Shipped:
Received: 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKH860
Sample ID: 2014 E75-3-13
Matrix: Ground Water

Collected: 2017/10/23
Shipped:
Received: 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5240542	2017/10/31	2017/11/02	Anjan Desai

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.7°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5235183	AUP	RPD - Sample/Sample Dup	Moisture	2017/10/27	2.7		%	20
5240542	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/02		78	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/02		78	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/02		84	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/02		78	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/02		84	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/02		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/02		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/02		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/02		84	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/02		87	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/02		85	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/02		83	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/02		84	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/02		76	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/02		85	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/02		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/02		95	%	70 - 130
			Perfluorobutanoic acid	2017/11/02		99	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/02		94	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/02		88	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02		94	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/02		95	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02		97	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/02		89	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02		98	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/02		97	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/02		88	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/02		95	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02		100	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/02		94	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/02		92	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02		91	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/02		97	%	70 - 130
5240542	AD9	Spiked Blank DUP	13C2-6:2 Fluorotelomer sulfonate	2017/11/02		85	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/02		84	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/02		84	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/02		77	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/02		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/02		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/02		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/02		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/02		90	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/02		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/02		92	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/02		84	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/02		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/02		82	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/02		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/02		100	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/02		93	%	70 - 130
			Perfluorobutanoic acid	2017/11/02		103	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/02		95	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2017/11/02		87	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02		95	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/02		99	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02		98	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/02		92	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02		97	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/02		97	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/02		90	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/02		101	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/02		104	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/02		95	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02		90	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/02		114	%	70 - 130
5240542	AD9	RPD	6:2 Fluorotelomer sulfonate	2017/11/02	5.3		%	30
			8:2 Fluorotelomer sulfonate	2017/11/02	2.4		%	30
			Perfluorobutanoic acid	2017/11/02	3.7		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/11/02	0.57		%	30
			Perfluorodecane Sulfonate	2017/11/02	0.33		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02	0.66		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/11/02	3.4		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02	1.4		%	30
			Perfluorononanoic Acid (PFNA)	2017/11/02	3.8		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02	2.0		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/11/02	0.67		%	30
			Perfluorotetradecanoic Acid	2017/11/02	2.8		%	30
			Perfluorotridecanoic Acid	2017/11/02	6.5		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02	6.9		%	30
			Perfluorodecanoic Acid (PFDA)	2017/11/02	10		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/11/02	3.2		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02	1.1		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/11/02	16		%	30
5240542	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/02		88	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/02		82	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/02		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/02		72	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/02		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/02		69	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/02		78	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/02		90	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/02		95	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/02		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/02		85	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/02		87	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/02		86	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/02		82	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/02		82	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/02	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorobutanoic acid	2017/11/02	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutane Sulfonate (PFBS)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/11/02	0.010 U, LOD=0.010		ug/L	
5246627	KC1	Matrix Spike(FKH857)	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		98	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		94	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		87	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		101	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		76	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		100	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		96	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		99	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		104	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		103	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		90	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		88	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		102	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/09		92	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		99	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		94	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		91	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		95	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		88	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		102	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		99	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		93	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		98	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		92	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		96	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		89	%	70 - 130
5246627	KC1	Matrix Spike DUP(FKH857)	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		85	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		81	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		77	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		67	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		80	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		84	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		91	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		88	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		87	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		95	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		101	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		86	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		98	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/09		93	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		93	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		93	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		92	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		84	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		99	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		101	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		99	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		91	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		90	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		95	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		92	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		91	%	70 - 130
5246627	KC1	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/11/09	2.5		%	30
			8:2 Fluorotelomer sulfonate	2017/11/09	9.0		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/11/09	2.6		%	30
			Perfluorobutanoic acid	2017/11/09	3.9		%	30
			Perfluorodecane Sulfonate	2017/11/09	1.6		%	30
			Perfluorodecanoic Acid (PFDA)	2017/11/09	2.8		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/11/09	1.3		%	30
			Perfluorononanoic Acid (PFNA)	2017/11/09	2.4		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09	2.8		%	25
			Perfluorotetradecanoic Acid	2017/11/09	4.6		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorotridecanoic Acid	2017/11/09	2.9		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09	1.2		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09	7.0		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09	7.5		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/11/09	2.8		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09	1.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/11/09	9.0		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/11/09	2.3		%	30
5246627	KC1	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		93	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		83	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		96	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		96	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		89	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		95	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		87	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		95	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		106	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		99	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/09		92	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		98	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		99	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		98	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		93	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		85	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		93	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		97	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		108	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		100	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		102	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		98	%	70 - 130
5246627	KC1	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		95	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		85	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		73	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		72	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		70	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		87	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		88	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		82	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		90	%	50 - 150

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Maxxam Job #: B7N7579
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C5-Perfluoropentanoic acid	2017/11/09		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		70	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Maxxam Job #: B7N7579
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Colm McNamara, Senior Analyst, Liquid Chromatography

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/11/15
Report #: R4859540
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B7N7589
Received: 2017/10/25, 14:15

Sample Matrix: Ground Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	2	2017/10/31	2017/11/02	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	5	N/A	2017/10/27	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	5	2017/11/03	2017/11/09	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/11/15
Report #: R4859540
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B7N7589
Received: 2017/10/25, 14:15

Encryption Key

Stephanie Pollen
Project Manager
15 Nov 2017 16:01:09

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7N7589
Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FKH906				FKH907				
Sampling Date		2017/10/23 11:46				2017/10/23 12:10				
COC Number		na				na				
	UNITS	LATE80S-2-W09	DL	LOD	LOQ	LATE80S-4-W13	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/L	0.10 U (1)	0.032	0.10	0.20	0.010 U	0.0032	0.010	0.020	5240542
8:2 Fluorotelomer sulfonate	ug/L	0.10 U (1)	0.036	0.10	0.20	0.010 U	0.0036	0.010	0.020	5240542
Perfluorobutanoic acid	ug/L	0.13 J (1)	0.043	0.10	0.20	0.16 J (1)	0.043	0.10	0.20	5240542
Perfluorobutane Sulfonate (PFBS)	ug/L	0.25	0.0055	0.012	0.023	0.24	0.0048	0.010	0.020	5240542
Perfluorodecane Sulfonate	ug/L	0.012 U	0.0053	0.012	0.023	0.010 U	0.0046	0.010	0.020	5240542
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.12	0.0038	0.012	0.023	0.083	0.0033	0.010	0.020	5240542
Perfluorohexanoic Acid (PFHxA)	ug/L	0.33	0.0033	0.012	0.023	0.33	0.0029	0.010	0.020	5240542
Perfluorohexane Sulfonate (PFHxS)	ug/L	1.7 (2)	0.034	0.10	0.20	1.4 (2)	0.034	0.10	0.20	5240542
Perfluorononanoic Acid (PFNA)	ug/L	0.012 U	0.0044	0.012	0.023	0.010 U	0.0038	0.010	0.020	5240542
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.012 U	0.0041	0.012	0.023	0.010 U	0.0036	0.010	0.020	5240542
Perfluoropentanoic Acid (PFPeA)	ug/L	0.27	0.0031	0.012	0.023	0.18	0.0027	0.010	0.020	5240542
Perfluorotetradecanoic Acid	ug/L	0.10 U (1)	0.038	0.10	0.20	0.010 U	0.0038	0.010	0.020	5240542
Perfluorotridecanoic Acid	ug/L	0.10 U (1)	0.033	0.10	0.20	0.010 U	0.0033	0.010	0.020	5240542
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.012 U	0.0049	0.012	0.023	0.010 U	0.0043	0.010	0.020	5240542
Perfluorodecanoic Acid (PFDA)	ug/L	0.012 U	0.0046	0.012	0.023	0.010 U	0.0040	0.010	0.020	5240542
Perfluorododecanoic Acid (PFDoA)	ug/L	0.012 U	0.0032	0.012	0.023	0.010 U	0.0028	0.010	0.020	5240542
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.17	0.0053	0.012	0.023	0.11	0.0046	0.010	0.020	5240542
Perfluorooctane Sulfonate (PFOS)	ug/L	2.4 (2)	0.026	0.10	0.20	1.4 (2)	0.026	0.10	0.20	5240542
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	85				84				5240542
13C2-8:2 Fluorotelomer sulfonate	%	75				80				5240542
13C2-Perfluorodecanoic acid	%	51				74				5240542
13C2-Perfluorododecanoic acid	%	51				74				5240542
13C2-Perfluorohexanoic acid	%	60				81				5240542
13C2-perfluorotetradecanoic acid	%	77				65				5240542
13C2-Perfluoroundecanoic acid	%	52				70				5240542
13C4-Perfluorobutanoic acid	%	78				73				5240542

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to matrix interference, the extracted internal standard analyte exhibited low recovery and as such, may not have allowed for accurate recovery correction of the associated native compound. A reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
(2) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

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Maxxam Job #: B7N7589
Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FKH906				FKH907				
Sampling Date		2017/10/23 11:46				2017/10/23 12:10				
COC Number		na				na				
	UNITS	LATE80S-2-W09	DL	LOD	LOQ	LATE80S-4-W13	DL	LOD	LOQ	QC Batch
13C4-Perfluoroheptanoic acid	%	54				86				5240542
13C4-Perfluorooctanesulfonate	%	83				82				5240542
13C4-Perfluorooctanoic acid	%	58				89				5240542
13C5-Perfluorononanoic acid	%	59				83				5240542
13C5-Perfluoropentanoic acid	%	59				85				5240542
13C8-Perfluorooctane Sulfonamide	%	53				72				5240542
18O2-Perfluorohexanesulfonate	%	81				94				5240542

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7589
Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH901					FKH902				
Sampling Date		2017/10/23 09:10					2017/10/23 09:50				
COC Number		na					na				
	UNITS	LATE80S-2-0.5	DL	LOD	LOQ	QC Batch	LATE80S-2-7.0	DL	LOD	LOQ	QC Batch
Inorganics											
Moisture	%	4.8	0.50	N/A	1.0	5235322	16	0.50	N/A	1.0	5235183
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/kg	0.49 U	0.19	0.49	0.82	5246627	0.66 U	0.25	0.66	1.1	5246627
8:2 Fluorotelomer sulfonate	ug/kg	0.49 U	0.26	0.49	0.82	5246627	0.66 U	0.35	0.66	1.1	5246627
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.49 U	0.14	0.49	0.82	5246627	0.66 U	0.19	0.66	1.1	5246627
Perfluorobutanoic acid	ug/kg	0.49 U	0.19	0.49	0.82	5246627	0.66 U	0.25	0.66	1.1	5246627
Perfluorodecane Sulfonate	ug/kg	0.49 U	0.19	0.49	0.82	5246627	0.66 U	0.25	0.66	1.1	5246627
Perfluorodecanoic Acid (PFDA)	ug/kg	0.33 U	0.11	0.33	0.82	5246627	0.44 U	0.14	0.44	1.1	5246627
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.49 U	0.18	0.49	0.82	5246627	0.66 U	0.24	0.66	1.1	5246627
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.49 U	0.14	0.49	0.82	5246627	0.66 U	0.19	0.66	1.1	5246627
Perfluorohexane Sulfonate (PFHxS)	ug/kg	1.1	0.19	0.49	0.82	5246627	0.58 J	0.25	0.66	1.1	5246627
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.49 U	0.16	0.49	0.82	5246627	0.66 U	0.21	0.66	1.1	5246627
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.49 U	0.21	0.49	0.82	5246627	0.66 U	0.29	0.66	1.1	5246627
Perfluorononanoic Acid (PFNA)	ug/kg	0.49 U	0.14	0.49	0.82	5246627	0.66 U	0.19	0.66	1.1	5246627
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.49 U	0.21	0.49	0.82	5246627	0.66 U	0.29	0.66	1.1	5246627
Perfluorooctane Sulfonate (PFOS)	ug/kg	11	0.17	0.49	0.82	5246627	3.2	0.23	0.66	1.1	5246627
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.49 U	0.15	0.49	0.82	5246627	0.66 U	0.20	0.66	1.1	5246627
Perfluorotetradecanoic Acid	ug/kg	0.33 U	0.090	0.33	0.82	5246627	0.44 U	0.12	0.44	1.1	5246627
Perfluorotridecanoic Acid	ug/kg	0.33 U	0.098	0.33	0.82	5246627	0.44 U	0.13	0.44	1.1	5246627
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.49 U	0.15	0.49	0.82	5246627	0.66 U	0.20	0.66	1.1	5246627
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	104				5246627	109				5246627
13C2-8:2 Fluorotelomer sulfonate	%	105				5246627	106				5246627
13C2-Perfluorodecanoic acid	%	98				5246627	94				5246627
13C2-Perfluorododecanoic acid	%	91				5246627	76				5246627
13C2-Perfluorohexanoic acid	%	106				5246627	103				5246627
13C2-perfluorotetradecanoic acid	%	88				5246627	85				5246627
13C2-Perfluoroundecanoic acid	%	93				5246627	89				5246627
13C4-Perfluorobutanoic acid	%	99				5246627	105				5246627
13C4-Perfluoroheptanoic acid	%	105				5246627	102				5246627
13C4-Perfluorooctanesulfonate	%	104				5246627	106				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7589
Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH901					FKH902				
Sampling Date		2017/10/23 09:10					2017/10/23 09:50				
COC Number		na					na				
	UNITS	**LATE80S-2-0.5**	**DL**	**LOD**	**LOQ**	**QC Batch**	**LATE80S-2-7.0**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	102				5246627	92				5246627
13C5-Perfluorononanoic acid	%	106				5246627	101				5246627
13C5-Perfluoropentanoic acid	%	101				5246627	96				5246627
13C8-Perfluorooctane Sulfonamide	%	91				5246627	82				5246627
18O2-Perfluorohexanesulfonate	%	107				5246627	101				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7589
Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH903				FKH904				
Sampling Date		2017/10/23 10:43				2017/10/23 11:36				
COC Number		na				na				
	UNITS	LATE80S-4-0.5	DL	LOD	LOQ	LATE80S-4-5.5	DL	LOD	LOQ	QC Batch
Inorganics										
Moisture	%	4.3	0.50	N/A	1.0	12	0.50	N/A	1.0	5235183
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/kg	0.58 U	0.22	0.58	0.97	0.66 U	0.25	0.66	1.1	5246627
8:2 Fluorotelomer sulfonate	ug/kg	0.58 U	0.31	0.58	0.97	0.66 U	0.35	0.66	1.1	5246627
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.58 U	0.16	0.58	0.97	0.66 U	0.19	0.66	1.1	5246627
Perfluorobutanoic acid	ug/kg	0.58 U	0.22	0.58	0.97	0.66 U	0.25	0.66	1.1	5246627
Perfluorodecane Sulfonate	ug/kg	0.58 U	0.22	0.58	0.97	0.66 U	0.25	0.66	1.1	5246627
Perfluorodecanoic Acid (PFDA)	ug/kg	0.39 U	0.13	0.39	0.97	0.44 U	0.14	0.44	1.1	5246627
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.58 U	0.21	0.58	0.97	0.66 U	0.24	0.66	1.1	5246627
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.58 U	0.16	0.58	0.97	0.66 U	0.19	0.66	1.1	5246627
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.58 U	0.22	0.58	0.97	0.66 U	0.25	0.66	1.1	5246627
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.58 U	0.18	0.58	0.97	0.66 U	0.21	0.66	1.1	5246627
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.58 U	0.25	0.58	0.97	0.66 U	0.29	0.66	1.1	5246627
Perfluorononanoic Acid (PFNA)	ug/kg	0.58 U	0.16	0.58	0.97	0.66 U	0.19	0.66	1.1	5246627
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.58 U	0.25	0.58	0.97	0.66 U	0.29	0.66	1.1	5246627
Perfluorooctane Sulfonate (PFOS)	ug/kg	4.1	0.20	0.58	0.97	0.66 U	0.23	0.66	1.1	5246627
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.58 U	0.17	0.58	0.97	0.66 U	0.20	0.66	1.1	5246627
Perfluorotetradecanoic Acid	ug/kg	0.39 U	0.11	0.39	0.97	0.44 U	0.12	0.44	1.1	5246627
Perfluorotridecanoic Acid	ug/kg	0.39 U	0.12	0.39	0.97	0.44 U	0.13	0.44	1.1	5246627
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.58 U	0.17	0.58	0.97	0.66 U	0.20	0.66	1.1	5246627
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	105				93				5246627
13C2-8:2 Fluorotelomer sulfonate	%	98				77				5246627
13C2-Perfluorodecanoic acid	%	98				77				5246627
13C2-Perfluorododecanoic acid	%	89				68				5246627
13C2-Perfluorohexanoic acid	%	103				81				5246627
13C2-perfluorotetradecanoic acid	%	83				71				5246627
13C2-Perfluoroundecanoic acid	%	98				72				5246627
13C4-Perfluorobutanoic acid	%	99				84				5246627
13C4-Perfluoroheptanoic acid	%	105				88				5246627
13C4-Perfluorooctanesulfonate	%	99				81				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7589
Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH903				FKH904				
Sampling Date		2017/10/23 10:43				2017/10/23 11:36				
COC Number		na				na				
	UNITS	**LATE80S-4-0.5**	**DL**	**LOD**	**LOQ**	**LATE80S-4-5.5**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	101				83				5246627
13C5-Perfluorononanoic acid	%	101				84				5246627
13C5-Perfluoropentanoic acid	%	102				82				5246627
13C8-Perfluorooctane Sulfonamide	%	88				72				5246627
18O2-Perfluorohexanesulfonate	%	93				80				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7N7589
Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH905				
Sampling Date		2017/10/23 11:40				
COC Number		na				
	UNITS	LATE80S-4-13	DL	LOD	LOQ	QC Batch
Inorganics						
Moisture	%	18	0.50	N/A	1.0	5235183
Miscellaneous Parameters						
6:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	5246627
8:2 Fluorotelomer sulfonate	ug/kg	0.72 U	0.38	0.72	1.2	5246627
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.72 U	0.20	0.72	1.2	5246627
Perfluorobutanoic acid	ug/kg	0.72 U	0.28	0.72	1.2	5246627
Perfluorodecane Sulfonate	ug/kg	0.72 U	0.28	0.72	1.2	5246627
Perfluorodecanoic Acid (PFDA)	ug/kg	0.48 U	0.16	0.48	1.2	5246627
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.72 U	0.26	0.72	1.2	5246627
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.72 U	0.20	0.72	1.2	5246627
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.40 J	0.28	0.72	1.2	5246627
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.72 U	0.23	0.72	1.2	5246627
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.72 U	0.31	0.72	1.2	5246627
Perfluorononanoic Acid (PFNA)	ug/kg	0.72 U	0.20	0.72	1.2	5246627
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.72 U	0.31	0.72	1.2	5246627
Perfluorooctane Sulfonate (PFOS)	ug/kg	0.78 J	0.25	0.72	1.2	5246627
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.72 U	0.22	0.72	1.2	5246627
Perfluorotetradecanoic Acid	ug/kg	0.48 U	0.13	0.48	1.2	5246627
Perfluorotridecanoic Acid	ug/kg	0.48 U	0.14	0.48	1.2	5246627
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.72 U	0.22	0.72	1.2	5246627
Surrogate Recovery (%)						
13C2-6:2 Fluorotelomer sulfonate	%	104				5246627
13C2-8:2 Fluorotelomer sulfonate	%	93				5246627
13C2-Perfluorodecanoic acid	%	87				5246627
13C2-Perfluorododecanoic acid	%	84				5246627
13C2-Perfluorohexanoic acid	%	97				5246627
13C2-perfluorotetradecanoic acid	%	78				5246627
13C2-Perfluoroundecanoic acid	%	79				5246627
13C4-Perfluorobutanoic acid	%	93				5246627
13C4-Perfluoroheptanoic acid	%	94				5246627
13C4-Perfluorooctanesulfonate	%	90				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7589
Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKH905				
Sampling Date		2017/10/23 11:40				
COC Number		na				
	UNITS	**LATE80S-4-13**	**DL**	**LOD**	**LOQ**	**QC Batch**
13C4-Perfluorooctanoic acid	%	97				5246627
13C5-Perfluorononanoic acid	%	100				5246627
13C5-Perfluoropentanoic acid	%	99				5246627
13C8-Perfluorooctane Sulfonamide	%	80				5246627
18O2-Perfluorohexanesulfonate	%	105				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FKH901 **Collected:** 2017/10/23
Sample ID: LATE80S-2-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235322	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKH902 **Collected:** 2017/10/23
Sample ID: LATE80S-2-7.0 **Shipped:**
Matrix: Soil **Received:** 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKH903 **Collected:** 2017/10/23
Sample ID: LATE80S-4-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKH904 **Collected:** 2017/10/23
Sample ID: LATE80S-4-5.5 **Shipped:**
Matrix: Soil **Received:** 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKH905 **Collected:** 2017/10/23
Sample ID: LATE80S-4-13 **Shipped:**
Matrix: Soil **Received:** 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKH906 **Collected:** 2017/10/23
Sample ID: LATE80S-2-W09 **Shipped:**
Matrix: Ground Water **Received:** 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5240542	2017/10/31	2017/11/02	Anjan Desai

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Maxxam Job #: B7N7589
Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

TEST SUMMARY

Maxxam ID: FKH907
Sample ID: LATE80S-4-W13
Matrix: Ground Water

Collected: 2017/10/23
Shipped:
Received: 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5240542	2017/10/31	2017/11/02	Anjan Desai

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Sampler Initials: AG

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.7°C

Revised Report (2017/11/15): DLs corrected for sample FKH906 (8:2FTS and PFBA) and FKH907 (PFHxS).

Results relate only to the items tested.

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Oneida Total Integrated Enterprises
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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5235183	AUP	RPD - Sample/Sample Dup	Moisture	2017/10/27	2.7		%	20
5235322	GG2	RPD - Sample/Sample Dup	Moisture	2017/10/27	1.6		%	20
5240542	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/02		78	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/02		78	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/02		84	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/02		78	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/02		84	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/02		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/02		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/02		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/02		84	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/02		87	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/02		85	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/02		83	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/02		84	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/02		76	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/02		85	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/02		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/02		95	%	70 - 130
			Perfluorobutanoic acid	2017/11/02		99	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/02		94	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/02		88	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02		94	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/02		95	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02		97	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/02		89	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02		98	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/02		97	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/02		88	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/02		95	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02		100	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/02		94	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/02		92	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02		91	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/02		97	%	70 - 130
5240542	AD9	Spiked Blank DUP	13C2-6:2 Fluorotelomer sulfonate	2017/11/02		85	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/02		84	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/02		84	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/02		77	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/02		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/02		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/02		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/02		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/02		90	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/02		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/02		92	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/02		84	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/02		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/02		82	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/02		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/02		100	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/02		93	%	70 - 130
			Perfluorobutanoic acid	2017/11/02		103	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutane Sulfonate (PFBS)	2017/11/02		95	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/02		87	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02		95	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/02		99	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02		98	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/02		92	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02		97	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/02		97	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/02		90	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/02		101	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/02		104	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/02		95	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02		90	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/02		114	%	70 - 130
5240542	AD9	RPD	6:2 Fluorotelomer sulfonate	2017/11/02	5.3		%	30
			8:2 Fluorotelomer sulfonate	2017/11/02	2.4		%	30
			Perfluorobutanoic acid	2017/11/02	3.7		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/11/02	0.57		%	30
			Perfluorodecane Sulfonate	2017/11/02	0.33		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02	0.66		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/11/02	3.4		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02	1.4		%	30
			Perfluorononanoic Acid (PFNA)	2017/11/02	3.8		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02	2.0		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/11/02	0.67		%	30
			Perfluorotetradecanoic Acid	2017/11/02	2.8		%	30
			Perfluorotridecanoic Acid	2017/11/02	6.5		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02	6.9		%	30
			Perfluorodecanoic Acid (PFDA)	2017/11/02	10		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/11/02	3.2		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02	1.1		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/11/02	16		%	30
5240542	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/02		88	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/02		82	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/02		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/02		72	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/02		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/02		69	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/02		78	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/02		90	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/02		95	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/02		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/02		85	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/02		87	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/02		86	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/02		82	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/02		82	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/02	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/11/02	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutanoic acid	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/11/02	0.010 U, LOD=0.010		ug/L	
5246627	KC1	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		98	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		94	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		87	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		101	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		76	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		100	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		96	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		99	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		104	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		103	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		90	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		88	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		102	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/09		92	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		99	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		94	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		91	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		95	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		88	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		102	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		99	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		93	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		98	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		92	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		96	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		89	%	70 - 130
5246627	KC1	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		85	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		81	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		77	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		67	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		80	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		84	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		91	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		88	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		87	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		95	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		101	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		86	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		98	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/09		93	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		93	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		93	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		92	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		84	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		99	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		101	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		99	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		91	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		90	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		95	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		92	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		91	%	70 - 130
5246627	KC1	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/11/09	2.5		%	30
			8:2 Fluorotelomer sulfonate	2017/11/09	9.0		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/11/09	2.6		%	30
			Perfluorobutanoic acid	2017/11/09	3.9		%	30
			Perfluorodecane Sulfonate	2017/11/09	1.6		%	30
			Perfluorodecanoic Acid (PFDA)	2017/11/09	2.8		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/11/09	1.3		%	30
			Perfluorononanoic Acid (PFNA)	2017/11/09	2.4		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09	2.8		%	25
			Perfluorotetradecanoic Acid	2017/11/09	4.6		%	30
			Perfluorotridecanoic Acid	2017/11/09	2.9		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09	1.2		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09	7.0		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09	7.5		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/11/09	2.8		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09	1.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/11/09	9.0		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/11/09	2.3		%	30
5246627	KC1	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		93	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		83	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		96	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		96	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		89	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		95	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		87	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		95	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		106	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		99	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/09		92	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		98	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		99	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		98	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		93	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		85	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		93	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		97	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		108	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		100	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		102	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		98	%	70 - 130
5246627	KC1	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		95	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		85	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		73	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		72	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		70	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		87	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		88	%	50 - 150

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Maxxam Job #: B7N7589
Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluorooctanoic acid	2017/11/09		82	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		70	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Maxxam Job #: B7N7589
Report Date: 2017/11/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Colm McNamara, Senior Analyst, Liquid Chromatography

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Sin Chii Chia, Scientific Services

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/11/10
Report #: R4844001
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7N7605
Received: 2017/10/25, 14:15

Sample Matrix: Ground Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	2	2017/10/31	2017/11/02	CAM SOP-00894	EPA 537 m

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Moisture	3	N/A	2017/10/27	CAM SOP-00445	Carter 2nd ed 51.2 m
PFOS and PFOA in soil by SPE/LCMS (1)	3	2017/11/03	2017/11/09	CAM SOP-00894	EPA537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

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Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention:Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2017/11/10
Report #: R4844001
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7N7605
Received: 2017/10/25, 14:15

Encryption Key

Stephanie Pollen
Project Manager
10 Nov 2017 14:50:23

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7N7605
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FKI089					FKI090				
Sampling Date		2017/10/23 16:50					2017/10/23 16:50				
COC Number		na					na				
	UNITS	88C5-2-W6.0	DL	LOD	LOQ	QC Batch	88C5-2-WFD	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
6:2 Fluorotelomer sulfonate	ug/L	0.061 (1)	0.0064	0.020	0.040	5240542	0.053 (1)	0.0064	0.020	0.040	5240542
8:2 Fluorotelomer sulfonate	ug/L	0.020 U (1)	0.0072	0.020	0.040	5240542	0.020 U (1)	0.0072	0.020	0.040	5240542
Perfluorobutanoic acid	ug/L	0.59 (2)	0.043	0.10	0.20	5247457	1.2 (3)	0.11	0.25	0.50	5240542
Perfluorobutane Sulfonate (PFBS)	ug/L	2.8 (3)	0.12	0.25	0.50	5240542	2.8 (3)	0.12	0.25	0.50	5240542
Perfluorodecane Sulfonate	ug/L	0.020 U (1)	0.0092	0.020	0.040	5240542	0.020 U (1)	0.0092	0.020	0.040	5240542
Perfluoroheptanoic Acid (PFHpA)	ug/L	1.6 (1)	0.0066	0.020	0.040	5240542	1.4 (1)	0.0066	0.020	0.040	5240542
Perfluorohexanoic Acid (PFHxA)	ug/L	8.2 (3)	0.073	0.25	0.50	5240542	8.5 (3)	0.073	0.25	0.50	5240542
Perfluorohexane Sulfonate (PFHxS)	ug/L	15 (3)	0.085	0.25	0.50	5240542	17 (3)	0.085	0.25	0.50	5240542
Perfluorononanoic Acid (PFNA)	ug/L	0.026 J (1)	0.0076	0.020	0.040	5240542	0.023 J (1)	0.0076	0.020	0.040	5240542
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.020 U (1)	0.0072	0.020	0.040	5240542	0.020 U (1)	0.0072	0.020	0.040	5240542
Perfluoropentanoic Acid (PFPeA)	ug/L	2.9 (3)	0.068	0.25	0.50	5240542	2.9 (3)	0.068	0.25	0.50	5240542
Perfluorotetradecanoic Acid	ug/L	0.020 U (1)	0.0076	0.020	0.040	5240542	0.020 U (1)	0.0076	0.020	0.040	5240542
Perfluorotridecanoic Acid	ug/L	0.020 U (1)	0.0066	0.020	0.040	5240542	0.020 U (1)	0.0066	0.020	0.040	5240542
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.020 U (1)	0.0086	0.020	0.040	5240542	0.020 U (1)	0.0086	0.020	0.040	5240542
Perfluorodecanoic Acid (PFDA)	ug/L	0.020 U (1)	0.0080	0.020	0.040	5240542	0.020 U (1)	0.0080	0.020	0.040	5240542
Perfluorododecanoic Acid (PFDoA)	ug/L	0.020 U (1)	0.0056	0.020	0.040	5240542	0.020 U (1)	0.0056	0.020	0.040	5240542
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	3.0 (3)	0.12	0.25	0.50	5240542	3.0 (3)	0.12	25	0.50	5240542
Perfluorooctane Sulfonate (PFOS)	ug/L	0.76 (1)	0.0052	0.020	0.040	5240542	0.80 (1)	0.0052	0.020	0.040	5240542
Surrogate Recovery (%)											
13C2-6:2 Fluorotelomer sulfonate	%	75				5240542	88				5240542
13C2-8:2 Fluorotelomer sulfonate	%	87				5240542	97				5240542
13C2-Perfluorodecanoic acid	%	80				5240542	77				5240542
13C2-Perfluorododecanoic acid	%	72				5240542	75				5240542
13C2-Perfluorohexanoic acid	%	86				5240542	78				5240542
13C2-perfluorotetradecanoic acid	%	65				5240542	66				5240542
13C2-Perfluoroundecanoic acid	%	77				5240542	81				5240542

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentration of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x).

(2) Due to matrix interference, the extracted internal standard analyte exhibited low recovery. A reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

(3) Due to high concentration of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (25x).

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Maxxam Job #: B7N7605
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		FKI089					FKI090				
Sampling Date		2017/10/23 16:50					2017/10/23 16:50				
COC Number		na					na				
	UNITS	88C5-2-W6.0	DL	LOD	LOQ	QC Batch	88C5-2-WFD	DL	LOD	LOQ	QC Batch
13C4-Perfluorobutanoic acid	%	54				5247457	59				5240542
13C4-Perfluoroheptanoic acid	%	86				5240542	100				5240542
13C4-Perfluorooctanesulfonate	%	108				5240542	110				5240542
13C4-Perfluorooctanoic acid	%	99				5240542	86				5240542
13C5-Perfluorononanoic acid	%	94				5240542	113				5240542
13C5-Perfluoropentanoic acid	%	98				5240542	88				5240542
13C8-Perfluorooctane Sulfonamide	%	82				5240542	74				5240542
18O2-Perfluorohexanesulfonate	%	101				5240542	82				5240542

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7605
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKI086	FKI087					FKI088				
Sampling Date		2017/10/23 14:06	2017/10/23 14:06					2017/10/23 16:15				
COC Number		na	na					na				
	UNITS	88C5-2-0.5	88C5-DUP-0.5	DL	LOD	LOQ	QC Batch	88C5-2-5.5	DL	LOD	LOQ	QC Batch
Inorganics												
Moisture	%	3.4	3.4	0.50	N/A	1.0	5235183	19	0.50	N/A	1.0	5235533
Miscellaneous Parameters												
6:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.60 U	0.23	0.60	1.0	5246627	0.66 U	0.25	0.66	1.1	5246627
8:2 Fluorotelomer sulfonate	ug/kg	0.60 U	0.60 U	0.32	0.60	1.0	5246627	0.66 U	0.35	0.66	1.1	5246627
Perfluorobutane Sulfonate (PFBS)	ug/kg	0.60 U	0.60 U	0.17	0.60	1.0	5246627	0.41 J	0.19	0.66	1.1	5246627
Perfluorobutanoic acid	ug/kg	0.60 U	0.60 U	0.23	0.60	1.0	5246627	0.66 U	0.25	0.66	1.1	5246627
Perfluorodecane Sulfonate	ug/kg	0.60 U	0.60 U	0.23	0.60	1.0	5246627	0.66 U	0.25	0.66	1.1	5246627
Perfluorodecanoic Acid (PFDA)	ug/kg	0.40 U	0.40 U	0.13	0.40	1.0	5246627	0.44 U	0.14	0.44	1.1	5246627
Perfluorododecanoic Acid (PFDoA)	ug/kg	0.60 U	0.60 U	0.22	0.60	1.0	5246627	0.66 U	0.24	0.66	1.1	5246627
Perfluoroheptanoic Acid (PFHpA)	ug/kg	0.60 U	0.60 U	0.17	0.60	1.0	5246627	0.50 J	0.19	0.66	1.1	5246627
Perfluorohexane Sulfonate (PFHxS)	ug/kg	0.45 J	0.40 J	0.23	0.60	1.0	5246627	4.4	0.25	0.66	1.1	5246627
Perfluorohexanoic Acid (PFHxA)	ug/kg	0.60 U	0.60 U	0.19	0.60	1.0	5246627	2.3	0.21	0.66	1.1	5246627
Perfluoro-n-Octanoic Acid (PFOA)	ug/kg	0.60 U	0.60 U	0.26	0.60	1.0	5246627	0.95 J	0.29	0.66	1.1	5246627
Perfluorononanoic Acid (PFNA)	ug/kg	0.60 U	0.60 U	0.17	0.60	1.0	5246627	0.66 U	0.19	0.66	1.1	5246627
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	0.60 U	0.60 U	0.26	0.60	1.0	5246627	0.66 U	0.29	0.66	1.1	5246627
Perfluorooctane Sulfonate (PFOS)	ug/kg	7.1	8.0	0.21	0.60	1.0	5246627	0.66 U	0.23	0.66	1.1	5246627
Perfluoropentanoic Acid (PFPeA)	ug/kg	0.60 J	0.70 J	0.18	0.60	1.0	5246627	0.92 J	0.20	0.66	1.1	5246627
Perfluorotetradecanoic Acid	ug/kg	0.40 U	0.40 U	0.11	0.40	1.0	5246627	0.44 U	0.12	0.44	1.1	5246627
Perfluorotridecanoic Acid	ug/kg	0.40 U	0.40 U	0.12	0.40	1.0	5246627	0.44 U	0.13	0.44	1.1	5246627
Perfluoroundecanoic Acid (PFUnA)	ug/kg	0.60 U	0.60 U	0.18	0.60	1.0	5246627	0.66 U	0.20	0.66	1.1	5246627
Surrogate Recovery (%)												
13C2-6:2 Fluorotelomer sulfonate	%	100	99				5246627	104				5246627
13C2-8:2 Fluorotelomer sulfonate	%	92	98				5246627	93				5246627
13C2-Perfluorodecanoic acid	%	86	95				5246627	89				5246627
13C2-Perfluorododecanoic acid	%	95	98				5246627	81				5246627
13C2-Perfluorohexanoic acid	%	93	101				5246627	93				5246627
13C2-perfluorotetradecanoic acid	%	85	92				5246627	76				5246627
13C2-Perfluoroundecanoic acid	%	92	100				5246627	85				5246627
13C4-Perfluorobutanoic acid	%	100	102				5246627	97				5246627
13C4-Perfluoroheptanoic acid	%	100	109				5246627	91				5246627
13C4-Perfluorooctanesulfonate	%	101	97				5246627	100				5246627

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7N7605
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

RESULTS OF ANALYSES OF SOIL

Maxxam ID		FKI086	FKI087					FKI088				
Sampling Date		2017/10/23 14:06	2017/10/23 14:06					2017/10/23 16:15				
COC Number		na	na					na				
	UNITS	88C5-2-0.5	88C5-DUP-0.5	DL	LOD	LOQ	QC Batch	88C5-2-5.5	DL	LOD	LOQ	QC Batch
13C4-Perfluorooctanoic acid	%	95	101				5246627	87				5246627
13C5-Perfluorononanoic acid	%	92	103				5246627	97				5246627
13C5-Perfluoropentanoic acid	%	100	99				5246627	98				5246627
13C8-Perfluorooctane Sulfonamide	%	91	95				5246627	79				5246627
18O2-Perfluorohexanesulfonate	%	97	113				5246627	96				5246627

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Your P.O. #: 10995
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TEST SUMMARY

Maxxam ID: FKI086 **Collected:** 2017/10/23
Sample ID: 88C5-2-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKI087 **Collected:** 2017/10/23
Sample ID: 88C5-DUP-0.5 **Shipped:**
Matrix: Soil **Received:** 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235183	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKI088 **Collected:** 2017/10/23
Sample ID: 88C5-2-5.5 **Shipped:**
Matrix: Soil **Received:** 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5235533	N/A	2017/10/27	Gargi Gireesh
PFOS and PFOA in soil by SPE/LCMS	LCMS	5246627	2017/11/03	2017/11/09	Kenneth Chu

Maxxam ID: FKI089 **Collected:** 2017/10/23
Sample ID: 88C5-2-W6.0 **Shipped:**
Matrix: Ground Water **Received:** 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5240542	2017/10/31	2017/11/02	Anjan Desai

Maxxam ID: FKI090 **Collected:** 2017/10/23
Sample ID: 88C5-2-WFD **Shipped:**
Matrix: Ground Water **Received:** 2017/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5240542	2017/10/31	2017/11/02	Anjan Desai

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Maxxam Job #: B7N7605
Report Date: 2017/11/10

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Your P.O. #: 10995
Sampler Initials: AG

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.7°C

Sample FKI089, PFOS and PFOA in water by SPE/LCMS: Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B7N7605
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5235183	AUP	RPD - Sample/Sample Dup	Moisture	2017/10/27	2.7		%	20
5235533	GG2	RPD - Sample/Sample Dup	Moisture	2017/10/27	1.6		%	20
5240542	AD9	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/02		78	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/02		78	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/02		84	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/02		78	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/02		84	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/02		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/02		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/02		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/02		84	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/02		87	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/02		85	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/02		83	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/02		84	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/02		76	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/02		85	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/02		95	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/02		95	%	70 - 130
			Perfluorobutanoic acid	2017/11/02		99	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/02		94	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/02		88	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02		94	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/02		95	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02		97	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/02		89	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02		98	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/02		97	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/02		88	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/02		95	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02		100	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/02		94	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/02		92	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02		91	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/02		97	%	70 - 130
5240542	AD9	Spiked Blank DUP	13C2-6:2 Fluorotelomer sulfonate	2017/11/02		85	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/02		84	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/02		84	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/02		77	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/02		90	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/02		75	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/02		77	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/02		84	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/02		90	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/02		81	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/02		92	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/02		84	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/02		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/02		82	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/02		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/02		100	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/02		93	%	70 - 130
			Perfluorobutanoic acid	2017/11/02		103	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutane Sulfonate (PFBS)	2017/11/02		95	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/02		87	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02		95	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/02		99	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02		98	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/02		92	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02		97	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/02		97	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/02		90	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/02		101	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02		107	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/02		104	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/02		95	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02		90	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/02		114	%	70 - 130
5240542	AD9	RPD	6:2 Fluorotelomer sulfonate	2017/11/02	5.3		%	30
			8:2 Fluorotelomer sulfonate	2017/11/02	2.4		%	30
			Perfluorobutanoic acid	2017/11/02	3.7		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/11/02	0.57		%	30
			Perfluorodecane Sulfonate	2017/11/02	0.33		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02	0.66		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/11/02	3.4		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02	1.4		%	30
			Perfluorononanoic Acid (PFNA)	2017/11/02	3.8		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02	2.0		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/11/02	0.67		%	30
			Perfluorotetradecanoic Acid	2017/11/02	2.8		%	30
			Perfluorotridecanoic Acid	2017/11/02	6.5		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02	6.9		%	30
			Perfluorodecanoic Acid (PFDA)	2017/11/02	10		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/11/02	3.2		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02	1.1		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/11/02	16		%	30
5240542	AD9	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/02		88	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/02		82	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/02		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/02		72	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/02		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/02		69	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/02		78	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/02		90	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/02		95	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/02		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/02		85	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/02		87	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/02		86	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/02		82	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/02		82	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/02	0.010 U, LOD=0.010		ug/L	
			8:2 Fluorotelomer sulfonate	2017/11/02	0.010 U, LOD=0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutanoic acid	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorodecane Sulfonate	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorononanoic Acid (PFNA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorotetradecanoic Acid	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/02	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2017/11/02	0.010 U, LOD=0.010		ug/L	
5246627	KC1	Matrix Spike	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		98	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		94	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		87	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		101	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		76	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		100	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		92	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		96	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		99	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		104	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		103	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		90	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		88	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		102	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/09		92	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		99	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		94	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		91	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		95	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		88	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		102	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		99	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		93	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		98	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		92	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		96	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		89	%	70 - 130
5246627	KC1	Matrix Spike DUP	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		85	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		81	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		81	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		77	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		91	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		67	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		80	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		84	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		91	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		88	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		87	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		90	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		79	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		95	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		101	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		86	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		98	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/09		93	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		102	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		93	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		93	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		92	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		84	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		99	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		101	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		99	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		91	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		90	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		95	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		92	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		91	%	70 - 130
5246627	KC1	MS/MSD RPD	6:2 Fluorotelomer sulfonate	2017/11/09	2.5		%	30
			8:2 Fluorotelomer sulfonate	2017/11/09	9.0		%	30
			Perfluorobutane Sulfonate (PFBS)	2017/11/09	2.6		%	30
			Perfluorobutanoic acid	2017/11/09	3.9		%	30
			Perfluorodecane Sulfonate	2017/11/09	1.6		%	30
			Perfluorodecanoic Acid (PFDA)	2017/11/09	2.8		%	30
			Perfluorododecanoic Acid (PFDoA)	2017/11/09	1.3		%	30
			Perfluorononanoic Acid (PFNA)	2017/11/09	2.4		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09	2.8		%	25
			Perfluorotetradecanoic Acid	2017/11/09	4.6		%	30
			Perfluorotridecanoic Acid	2017/11/09	2.9		%	30
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09	1.2		%	30
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09	7.0		%	30
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09	7.5		%	30
			Perfluorohexanoic Acid (PFHxA)	2017/11/09	2.8		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09	1.0		%	30
			Perfluorooctane Sulfonate (PFOS)	2017/11/09	9.0		%	30
			Perfluoropentanoic Acid (PFPeA)	2017/11/09	2.3		%	30
5246627	KC1	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		97	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		93	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		85	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		83	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		91	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		96	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		96	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		89	%	50 - 150
			13C4-Perfluorooctanoic acid	2017/11/09		91	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		95	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		87	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		91	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09		99	%	70 - 130
			8:2 Fluorotelomer sulfonate	2017/11/09		95	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2017/11/09		106	%	70 - 130
			Perfluorobutanoic acid	2017/11/09		99	%	70 - 130
			Perfluorodecane Sulfonate	2017/11/09		92	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2017/11/09		98	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2017/11/09		99	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2017/11/09		98	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09		93	%	70 - 130
			Perfluorotetradecanoic Acid	2017/11/09		85	%	70 - 130
			Perfluorotridecanoic Acid	2017/11/09		93	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09		104	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09		97	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09		108	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2017/11/09		100	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09		102	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2017/11/09		100	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2017/11/09		98	%	70 - 130
5246627	KC1	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2017/11/09		95	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2017/11/09		85	%	50 - 150
			13C2-Perfluorodecanoic acid	2017/11/09		73	%	50 - 150
			13C2-Perfluorododecanoic acid	2017/11/09		72	%	50 - 150
			13C2-Perfluorohexanoic acid	2017/11/09		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2017/11/09		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2017/11/09		70	%	50 - 150
			13C4-Perfluorobutanoic acid	2017/11/09		88	%	50 - 150
			13C4-Perfluoroheptanoic acid	2017/11/09		87	%	50 - 150
			13C4-Perfluorooctanesulfonate	2017/11/09		88	%	50 - 150

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			13C4-Perfluorooctanoic acid	2017/11/09		82	%	50 - 150
			13C5-Perfluorononanoic acid	2017/11/09		90	%	50 - 150
			13C5-Perfluoropentanoic acid	2017/11/09		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2017/11/09		70	%	50 - 150
			18O2-Perfluorohexanesulfonate	2017/11/09		87	%	50 - 150
			6:2 Fluorotelomer sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			8:2 Fluorotelomer sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutane Sulfonate (PFBS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorobutanoic acid	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecane Sulfonate	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorodecanoic Acid (PFDA)	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluorododecanoic Acid (PFDoA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorononanoic Acid (PFNA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorotetradecanoic Acid	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluorotridecanoic Acid	2017/11/09	0.40 U, LOD=0.40		ug/kg	
			Perfluoroundecanoic Acid (PFUnA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoroheptanoic Acid (PFHpA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexane Sulfonate (PFHxS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorohexanoic Acid (PFHxA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoro-n-Octanoic Acid (PFOA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluorooctane Sulfonate (PFOS)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
			Perfluoropentanoic Acid (PFPeA)	2017/11/09	0.60 U, LOD=0.60		ug/kg	
5247457	M_G	Matrix Spike	13C4-Perfluorobutanoic acid	2017/11/07		25 (1)	%	50 - 150
			Perfluorobutanoic acid	2017/11/07		80	%	70 - 130
5247457	M_G	Matrix Spike DUP	13C4-Perfluorobutanoic acid	2017/11/07		22 (1)	%	50 - 150
			Perfluorobutanoic acid	2017/11/07		92	%	70 - 130
5247457	M_G	MS/MSD RPD	Perfluorobutanoic acid	2017/11/07	14		%	30
5247457	M_G	Spiked Blank	13C4-Perfluorobutanoic acid	2017/11/07		86	%	50 - 150
			Perfluorobutanoic acid	2017/11/07		100	%	70 - 130
5247457	M_G	Method Blank	13C4-Perfluorobutanoic acid	2017/11/07		97	%	50 - 150

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Maxxam Job #: B7N7605
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutanoic acid	2017/11/07	0.010 U, LOD=0.010		ug/L	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the extracted internal standard analyte. When considered together, these QC data suggest that matrix interferences may be biasing the data low. Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the low extracted internal standard analyte recovery.

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Maxxam Job #: B7N7605
Report Date: 2017/11/10

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995
Sampler Initials: AG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Colm McNamara, Senior Analyst, Liquid Chromatography

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Sin Chii Chia, Scientific Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your P.O. #: 10995
Your Project #: TRAVIS AFB 2015341-10-1004
Your C.O.C. #: na

Attention: Travis AFB Reporting Group

Oneida Total Integrated Enterprises
317 East Main Street
Ventura, CA
USA 93001

Report Date: 2018/01/15
Report #: R4938211
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7S4873
Received: 2017/12/15, 14:34

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	1	2017/12/27	2018/01/04	CAM SOP-00894	EPA 537 m
PFOS and PFOA in water by SPE/LCMS (1)	1	2017/12/27	2018/01/12	CAM SOP-00894	EPA 537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

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Maxxam Job #: B7S4873
Report Date: 2018/01/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995

RESULTS OF ANALYSES OF WATER

Maxxam ID		FTS473				FTS474				
Sampling Date		2017/12/13 13:50				2017/12/13 13:25				
COC Number		na				na				
	UNITS	SGTP-INFLUENT	DL	LOD	LOQ	SGTP-EFFLUENT	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
6:2 Fluorotelomer sulfonate	ug/L	0.27	0.0066	0.015	0.020	0.15	0.0066	0.015	0.020	5332243
8:2 Fluorotelomer sulfonate	ug/L	0.015 U	0.0066	0.015	0.020	0.015 U	0.0066	0.015	0.020	5332243
Perfluorobutanoic acid	ug/L	0.22	0.0055	0.015	0.020	0.25	0.0055	0.015	0.020	5332243
Perfluorobutane Sulfonate (PFBS)	ug/L	0.42	0.0054	0.015	0.020	0.36	0.0054	0.015	0.020	5332243
Perfluorodecane Sulfonate	ug/L	0.015 U	0.0060	0.015	0.020	0.015 U	0.0060	0.015	0.020	5332243
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.28	0.0074	0.015	0.020	0.23	0.0074	0.015	0.020	5332243
Perfluorohexanoic Acid (PFHxA)	ug/L	1.5 (1)	0.035	0.10	0.20	1.3 (1)	0.035	0.10	0.20	5332243
Perfluorohexane Sulfonate (PFHxS)	ug/L	3.8 (1)	0.056	0.15	0.20	2.3 (1)	0.056	0.15	0.20	5332243
Perfluorononanoic Acid (PFNA)	ug/L	0.020	0.0087	0.018	0.020	0.011 J	0.0087	0.018	0.020	5332243
Perfluorooctane Sulfonamide (PFOSA)	ug/L	0.010 U	0.0034	0.010	0.020	0.010 U	0.0034	0.010	0.020	5332243
Perfluoropentanoic Acid (PFPeA)	ug/L	0.59	0.0075	0.018	0.020	0.54	0.0075	0.018	0.020	5332243
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0027	0.010	0.020	0.010 U	0.0027	0.010	0.020	5332243
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	0.010 U	0.0038	0.010	0.020	5332243
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0025	0.010	0.020	0.010 U	0.0025	0.010	0.020	5332243
Perfluorodecanoic Acid (PFDA)	ug/L	0.015 U	0.0061	0.015	0.020	0.015 U	0.0061	0.015	0.020	5332243
Perfluorododecanoic Acid (PFDoA)	ug/L	0.010 U	0.0050	0.010	0.020	0.010 U	0.0050	0.010	0.020	5332243
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	1.6 (1)	0.033	0.10	0.20	0.86	0.0033	0.010	0.020	5332243
Perfluorooctane Sulfonate (PFOS)	ug/L	1.2 (1)	0.060	0.15	0.20	0.52	0.0060	0.015	0.020	5332243
Surrogate Recovery (%)										
13C2-6:2 Fluorotelomer sulfonate	%	79				80				5332243
13C2-8:2 Fluorotelomer sulfonate	%	94				86				5332243
13C2-Perfluorodecanoic acid	%	93				82				5332243
13C2-Perfluorododecanoic acid	%	78				77				5332243
13C2-Perfluorohexanoic acid	%	92				105				5332243
13C2-perfluorotetradecanoic acid	%	80				75				5332243
13C2-Perfluoroundecanoic acid	%	88				83				5332243
13C4-Perfluorobutanoic acid	%	66				60				5332243
13C4-Perfluoroheptanoic acid	%	99				81				5332243
13C4-Perfluorooctanesulfonate	%	83				95				5332243
13C4-Perfluorooctanoic acid	%	87				91				5332243

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

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Maxxam Job #: B7S4873
Report Date: 2018/01/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995

RESULTS OF ANALYSES OF WATER

Maxxam ID		FTS473				FTS474				
Sampling Date		2017/12/13 13:50				2017/12/13 13:25				
COC Number		na				na				
	UNITS	SGTP-INFLUENT	DL	LOD	LOQ	SGTP-EFFLUENT	DL	LOD	LOQ	QC Batch
13C5-Perfluorononanoic acid	%	96				99				5332243
13C5-Perfluoropentanoic acid	%	87				88				5332243
13C8-Perfluorooctane Sulfonamide	%	86				79				5332243
18O2-Perfluorohexanesulfonate	%	88				98				5332243

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B7S4873
Report Date: 2018/01/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995

TEST SUMMARY

Maxxam ID: FTS473 **Collected:** 2017/12/13
Sample ID: SGTP-INFLUENT **Shipped:**
Matrix: Water **Received:** 2017/12/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5332243	2017/12/27	2018/01/12	Kenneth Chu

Maxxam ID: FTS474 **Collected:** 2017/12/13
Sample ID: SGTP-EFFLUENT **Shipped:**
Matrix: Water **Received:** 2017/12/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5332243	2017/12/27	2018/01/04	Kenneth Chu

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Maxxam Job #: B7S4873
Report Date: 2018/01/15

Oneida Total Integrated Enterprises
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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.6°C

Results relate only to the items tested.

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Maxxam Job #: B7S4873
Report Date: 2018/01/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5332243	KC1	Spiked Blank	13C2-6:2 Fluorotelomer sulfonate	2018/01/12		78	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2018/01/12		80	%	50 - 150
			13C2-Perfluorodecanoic acid	2018/01/12		89	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/01/12		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/01/12		85	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/01/12		81	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/01/12		82	%	50 - 150
			13C4-Perfluorobutanoic acid	2018/01/12		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/01/12		86	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/01/12		84	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/01/12		83	%	50 - 150
			13C5-Perfluorononanoic acid	2018/01/12		84	%	50 - 150
			13C5-Perfluoropentanoic acid	2018/01/12		84	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2018/01/12		80	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/01/12		80	%	50 - 150
			6:2 Fluorotelomer sulfonate	2018/01/12		116	%	70 - 130
			8:2 Fluorotelomer sulfonate	2018/01/12		121	%	70 - 130
			Perfluorobutanoic acid	2018/01/12		111	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2018/01/12		113	%	70 - 130
			Perfluorodecane Sulfonate	2018/01/12		101	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2018/01/12		116	%	70 - 130
			Perfluorohexanoic Acid (PFHxA)	2018/01/12		108	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2018/01/12		118	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2018/01/12		112	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2018/01/12		114	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2018/01/12		111	%	70 - 130
			Perfluorotetradecanoic Acid	2018/01/12		107	%	70 - 130
			Perfluorotridecanoic Acid	2018/01/12		104	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2018/01/12		118	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2018/01/12		115	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2018/01/12		104	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2018/01/12		118	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/01/12		109	%	70 - 130
5332243	KC1	Spiked Blank DUP	13C2-6:2 Fluorotelomer sulfonate	2018/01/12		92	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2018/01/12		105	%	50 - 150
			13C2-Perfluorodecanoic acid	2018/01/12		108	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/01/12		91	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/01/12		102	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/01/12		84	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/01/12		95	%	50 - 150
			13C4-Perfluorobutanoic acid	2018/01/12		103	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/01/12		100	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/01/12		108	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/01/12		102	%	50 - 150
			13C5-Perfluorononanoic acid	2018/01/12		106	%	50 - 150
			13C5-Perfluoropentanoic acid	2018/01/12		97	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2018/01/12		96	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/01/12		95	%	50 - 150
			6:2 Fluorotelomer sulfonate	2018/01/12		120	%	70 - 130
			8:2 Fluorotelomer sulfonate	2018/01/12		103	%	70 - 130
			Perfluorobutanoic acid	2018/01/12		116	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2018/01/12		119	%	70 - 130
			Perfluorodecane Sulfonate	2018/01/12		101	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2018/01/12		120	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorohexanoic Acid (PFHxA)	2018/01/12		113	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2018/01/12		118	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2018/01/12		107	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2018/01/12		114	%	70 - 130
			Perfluoropentanoic Acid (PFPeA)	2018/01/12		117	%	70 - 130
			Perfluorotetradecanoic Acid	2018/01/12		119	%	70 - 130
			Perfluorotridecanoic Acid	2018/01/12		116	%	70 - 130
			Perfluoroundecanoic Acid (PFUnA)	2018/01/12		120	%	70 - 130
			Perfluorodecanoic Acid (PFDA)	2018/01/12		111	%	70 - 130
			Perfluorododecanoic Acid (PFDoA)	2018/01/12		114	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2018/01/12		114	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/01/12		102	%	70 - 130
5332243	KC1	RPD	6:2 Fluorotelomer sulfonate	2018/01/12	3.4		%	30
			8:2 Fluorotelomer sulfonate	2018/01/12	17		%	30
			Perfluorobutanoic acid	2018/01/12	4.8		%	30
			Perfluorobutane Sulfonate (PFBS)	2018/01/12	4.6		%	30
			Perfluorodecane Sulfonate	2018/01/12	0.39		%	30
			Perfluoroheptanoic Acid (PFHpA)	2018/01/12	3.4		%	30
			Perfluorohexanoic Acid (PFHxA)	2018/01/12	3.8		%	30
			Perfluorohexane Sulfonate (PFHxS)	2018/01/12	0.69		%	30
			Perfluorononanoic Acid (PFNA)	2018/01/12	4.2		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2018/01/12	0.30		%	30
			Perfluoropentanoic Acid (PFPeA)	2018/01/12	5.2		%	30
			Perfluorotetradecanoic Acid	2018/01/12	10		%	30
			Perfluorotridecanoic Acid	2018/01/12	11		%	30
			Perfluoroundecanoic Acid (PFUnA)	2018/01/12	1.4		%	30
			Perfluorodecanoic Acid (PFDA)	2018/01/12	3.6		%	30
			Perfluorododecanoic Acid (PFDoA)	2018/01/12	8.7		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2018/01/12	3.5		%	30
			Perfluorooctane Sulfonate (PFOS)	2018/01/12	6.8		%	30
5332243	KC1	Method Blank	13C2-6:2 Fluorotelomer sulfonate	2018/01/12		100	%	50 - 150
			13C2-8:2 Fluorotelomer sulfonate	2018/01/12		90	%	50 - 150
			13C2-Perfluorodecanoic acid	2018/01/12		83	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/01/12		78	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/01/12		93	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/01/12		73	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/01/12		78	%	50 - 150
			13C4-Perfluorobutanoic acid	2018/01/12		93	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/01/12		89	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/01/12		91	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/01/12		90	%	50 - 150
			13C5-Perfluorononanoic acid	2018/01/12		93	%	50 - 150
			13C5-Perfluoropentanoic acid	2018/01/12		97	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2018/01/12		84	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/01/12		84	%	50 - 150
			6:2 Fluorotelomer sulfonate	2018/01/12	0.015 U, LOD=0.015		ug/L	
			8:2 Fluorotelomer sulfonate	2018/01/12	0.015 U, LOD=0.015		ug/L	
			Perfluorobutanoic acid	2018/01/12	0.015 U, LOD=0.015		ug/L	
			Perfluorobutane Sulfonate (PFBS)	2018/01/12	0.015 U, LOD=0.015		ug/L	

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Maxxam Job #: B7S4873
Report Date: 2018/01/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorodecane Sulfonate	2018/01/12	0.015 U, LOD=0.015		ug/L	
			Perfluoroheptanoic Acid (PFHpA)	2018/01/12	0.015 U, LOD=0.015		ug/L	
			Perfluorohexanoic Acid (PFHxA)	2018/01/12	0.010 U, LOD=0.010		ug/L	
			Perfluorohexane Sulfonate (PFHxS)	2018/01/12	0.015 U, LOD=0.015		ug/L	
			Perfluorononanoic Acid (PFNA)	2018/01/12	0.018 U, LOD=0.018		ug/L	
			Perfluorooctane Sulfonamide (PFOSA)	2018/01/12	0.010 U, LOD=0.010		ug/L	
			Perfluoropentanoic Acid (PFPeA)	2018/01/12	0.018 U, LOD=0.018		ug/L	
			Perfluorotetradecanoic Acid	2018/01/12	0.010 U, LOD=0.010		ug/L	
			Perfluorotridecanoic Acid	2018/01/12	0.010 U, LOD=0.010		ug/L	
			Perfluoroundecanoic Acid (PFUnA)	2018/01/12	0.010 U, LOD=0.010		ug/L	
			Perfluorodecanoic Acid (PFDA)	2018/01/12	0.015 U, LOD=0.015		ug/L	
			Perfluorododecanoic Acid (PFDoA)	2018/01/12	0.010 U, LOD=0.010		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2018/01/12	0.010 U, LOD=0.010		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2018/01/12	0.015 U, LOD=0.015		ug/L	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

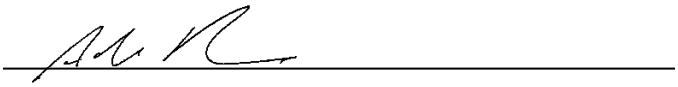
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Maxxam Job #: B7S4873
Report Date: 2018/01/15

Oneida Total Integrated Enterprises
Client Project #: TRAVIS AFB 2015341-10-1004
Your P.O. #: 10995

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Adam Robinson, Supervisor, LC/MS/MS

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 20, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1844341
SDG: OTJ24
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
FT005-CP01-11.5 Soil	08/25/2017 11:35	9182848
FT005-CP01-19.5 Soil	08/25/2017 12:52	9182849
WWTP-CP01-1.0 Soil	08/28/2017 12:30	9182850
WWTP-CP01-10 Soil	08/28/2017 14:45	9182851
WWTP-CP01-16 Soil	08/28/2017 15:20	9182852
FT005-CP01-1.0 Soil	08/24/2017 12:50	9182853

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1844341

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9182848, 9182849, 9182851, 9182852

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

Batch #: 17261667631A (Sample number(s): 9182848 UNSPK: P185327 BKG: P185327)

The duplicate RPD for the following analyte(s) exceeded the acceptance window:
TOC Solids/Sludges Combustion

SW-846 9045C modified, Wet Chemistry

Sample #s: 9182851

The pH was measured in water at 20 C.

Sample #s: 9182850

The pH was measured in water at 20.1 C.

Sample #s: 9182848, 9182849, 9182852

The pH was measured in water at 20.4 C.

Sample #s: 9182853

The pH was measured in water at 20.5 C.

Sample Description: FT005-CP01-11.5 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182848
ELLE Group # 1844341
Account # 37016

Project Name: Travis AFB

Collected: 08/25/2017 11:35

Submitted: 08/30/2017 09:35
Reported: 09/20/2017 08:21

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FT051 SDG#: OTJ24-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	284	852	852	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.31	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.4 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	27.5	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17261667631A	09/19/2017 08:56	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17252039401B	09/09/2017 11:00	Luz M Groff	1
00111	Moisture	SM 2540 G-1997	1	17244820001A	09/01/2017 10:42	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FT005-CP01-19.5 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182849
ELLE Group # 1844341
Account # 37016

Project Name: Travis AFB

Collected: 08/25/2017 12:52

Submitted: 08/30/2017 09:35
Reported: 09/20/2017 08:21

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FT052 SDG#: OTJ24-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	216	649	649	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.43	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.4 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	24.7	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17258667631B	09/17/2017 14:18	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17252039401B	09/09/2017 11:00	Luz M Groff	1
00111	Moisture	SM 2540 G-1997	1	17244820001A	09/01/2017 10:42	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WWTP-CP01-1.0 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182850
ELLE Group # 1844341
Account # 37016

Project Name: Travis AFB

Collected: 08/28/2017 12:30

Submitted: 08/30/2017 09:35
Reported: 09/20/2017 08:21

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

WWTP1 SDG#: OTJ24-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	6,180	577	1,730	1,730	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.1 C.	n.a.	7.03	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	27.2	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17258667631B	09/17/2017 14:28	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17256039401A	09/13/2017 18:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17244820001A	09/01/2017 10:42	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WWTP-CP01-10 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182851
ELLE Group # 1844341
Account # 37016

Project Name: Travis AFB

Collected: 08/28/2017 14:45

Submitted: 08/30/2017 09:35
Reported: 09/20/2017 08:21

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

WWTP2 SDG#: OTJ24-04

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**		**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	381	J	225	674	674	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.							
	SW-846 9045C modified		**Std. Units**		**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.99		0.0100	0.0100	0.0100	1
	The pH was measured in water at 20 C.							
Wet Chemistry	**SM 2540 G-1997**		**%**		**%**	**%**	**%**	
00111	Moisture	n.a.	23.0		0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.							

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17258667631B	09/17/2017 14:37	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17256039401A	09/13/2017 18:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17244820001A	09/01/2017 10:42	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WWTP-CP01-16 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182852
ELLE Group # 1844341
Account # 37016

Project Name: Travis AFB

Collected: 08/28/2017 15:20

Submitted: 08/30/2017 09:35
Reported: 09/20/2017 08:21

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

WWTP3 SDG#: OTJ24-05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**		**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	393	J	229	687	687	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.							
	SW-846 9045C modified		**Std. Units**		**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.50		0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.4 C.							
Wet Chemistry	**SM 2540 G-1997**		**%**		**%**	**%**	**%**	
00111	Moisture	n.a.	21.8		0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.							

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17258667631B	09/17/2017 15:04	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17252039401B	09/09/2017 11:00	Luz M Groff	1
00111	Moisture	SM 2540 G-1997	1	17244820001A	09/01/2017 10:42	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FT005-CP01-1.0 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182853
ELLE Group # 1844341
Account # 37016

Project Name: Travis AFB

Collected: 08/24/2017 12:50

Submitted: 08/30/2017 09:35
Reported: 09/20/2017 08:21

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FT053 SDG#: OTJ24-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	8,890	524	1,570	1,570	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.5 C.	n.a.	7.65	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	22.1	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17258667631B	09/17/2017 15:13	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17252039401B	09/09/2017 11:00	Luz M Groff	1
00111	Moisture	SM 2540 G-1997	1	17244820001A	09/01/2017 10:42	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1844341
Reported: 09/20/2017 08:21

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17258667631B	Sample number(s): 9182849-9182853			
TOC Solids/Sludges Combustion	N.D.	100	300	300
Batch number: 17261667631A	Sample number(s): 9182848			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17258667631B	Sample number(s): 9182849-9182853								
TOC Solids/Sludges Combustion	7150	6227.69			87		47-143		
Batch number: 17261667631A	Sample number(s): 9182848								
TOC Solids/Sludges Combustion	7150	5103.23			71		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17252039401B	Sample number(s): 9182848-9182849,9182852-9182853								
pH	7.00	7.00			100		95-105		
Batch number: 17256039401A	Sample number(s): 9182850-9182851								
pH	7.00	6.98			100		95-105		
	%	%	%	%					
Batch number: 17244820001A	Sample number(s): 9182848-9182853								
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1844341
Reported: 09/20/2017 08:21

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 17258667631B	Sample number(s): 9182849-9182853 UNSPK: P182725									
TOC Solids/Sludges Combustion	8808.01	25260	28451.18			78		47-143		
Batch number: 17261667631A	Sample number(s): 9182848 UNSPK: P185327									
TOC Solids/Sludges Combustion	2191.24	52830	41830.99			75		47-143		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 17258667631B	Sample number(s): 9182849-9182853 BKG: P182725			
TOC Solids/Sludges Combustion	8808.01	9161.75	4	7
Batch number: 17261667631A	Sample number(s): 9182848 BKG: P185327			
TOC Solids/Sludges Combustion	2191.24	2582.08	16* (1)	7
	Std. Units	Std. Units		
Batch number: 17252039401B	Sample number(s): 9182848-9182849,9182852-9182853 BKG: P182802			
pH	6.53	6.50	0	3
Batch number: 17256039401A	Sample number(s): 9182850-9182851 BKG: P199809			
pH	6.92	6.89	0	3
	%	%		
Batch number: 17244820001A	Sample number(s): 9182848-9182853 BKG: P184736			
Moisture	99.84	100.02	0	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 1644341 9182848-53

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 8/29/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE)	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative Remarks
	FT005-CP01-11.5	8/28/17	11:35									
	FT005-CP01-19.5	8/28/17	12:52									
	WWTP-CP01-1.0	8/28/17	12:30									
	WWTP-CP01-10	8/28/17	14:45									
	WWTP-CP01-16	8/28/17	15:20									
	FT005-CP01-1.0	8/24/17	12:52									

Relinquished by: (Signature) Stephen Stanley	Received by: (Signature) FED EX	Date: 8/29/17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 8/30/17	Time: 935

Angela Miller 1844341

From: Oscar Martinez <OMartinez@otie.com>
Sent: Wednesday, August 30, 2017 3:56 PM
To: Angela Miller
Subject: RE: Travis AFB

Hi Angela,
Please run the samples.

Oscar A. Martinez
Oneida Total Integrated Enterprises (OTIE)
210.541-0646 x2230 office
www.otie.com

-----Original Message-----
From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Wednesday, August 30, 2017 1:56 PM
To: Oscar Martinez
Subject: Travis AFB

Hello Oscar,

We received the samples listed on the attached COC today. A temperature blank was not included in the cooler so the surface temperatures were taken upon receipt and ranged from 9.0-11.1°C. Please let me know if you would like for the lab to proceed with the testing.

Thank you,
Angela

Angela Miller
Project Manager

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Phone: 717-556-7260
Fax: 717-656-6766

Email: AngelaMiller@eurofinsus.com
www.EurofinsUS.com/LancLabsEnv

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 192976

Group Number(s): 1844341

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	08/30/2017 9:35
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Wyatt Shiffler (12792) at 12:35 on 08/30/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?	Samples Collected Same Day as Receipt?
1	32170023	9.0	IR	Wet	N	Bagged	Y	N

Elevated Temperature Details

All Temperatures in °C

Cooler #	Thermometer ID	Top Left Temp	Top Right Temp	Bottom Left Temp	Bottom Right Temp	Center Temp	Factors Contributing to Elevated Temp	Comments
1	32170023	9.9	11.1	9.4	10.2	9.6	1 bag of Ice	

Samples In Elevated-Temperature Coolers

Cooler #	Sample ID
1	All Samples

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 25, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1844343
SDG: OTJ25
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
FT005-CP01-11.5 Soil	08/25/2017 11:35	9182856
FT005-CP01-19.5 Soil	08/25/2017 12:52	9182857
WWTP-CP01-1.0 Soil	08/28/2017 12:30	9182858
WWTP-CP01-10 Soil	08/28/2017 14:45	9182859
WWTP-CP01-16 Soil	08/28/2017 15:20	9182860
FT005-CP01-1.0 Soil	08/24/2017 12:50	9182861

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1844343

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: FT005-CP01-11.5 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182856
ELLE Group # 1844343
Account # 37016

Project Name: Travis AFB

Collected: 08/25/2017 11:35

Submitted: 08/30/2017 09:35
Reported: 09/25/2017 10:49

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

F5GS1 SDG#: OTJ25-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	44.5	0.50	1.0	1.0	1
11604	% Sand	n.a.	8.5	0.50	1.0	1.0	1
11604	% Silt	n.a.	19.6	0.50	1.0	1.0	1
11604	% Clay	n.a.	27.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	98.5	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	55.6	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	49.4	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	48.1	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	48.1	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	48.0	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	47.8	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	47.6	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	47.1	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	47.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	47.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	41.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	27.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	20.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	16.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: FT005-CP01-19.5 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182857
ELLE Group # 1844343
Account # 37016

Project Name: Travis AFB

Collected: 08/25/2017 12:52

Submitted: 08/30/2017 09:35
Reported: 09/25/2017 10:49

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

F5GS2 SDG#: OTJ25-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	14.4	0.50	1.0	1.0	1
11604	% Sand	n.a.	38.5	0.50	1.0	1.0	1
11604	% Silt	n.a.	42.6	0.50	1.0	1.0	1
11604	% Clay	n.a.	4.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	92.5	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	85.6	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	82.8	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	80.1	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	80.0	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	79.6	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	73.3	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	53.3	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	47.1	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	42.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	26.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	8.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	4.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	2.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	0.50	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: WWTP-CP01-1.0 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182858
ELLE Group # 1844343
Account # 37016

Project Name: Travis AFB

Collected: 08/28/2017 12:30

Submitted: 08/30/2017 09:35
Reported: 09/25/2017 10:49

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

WWGS1 SDG#: OTJ25-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	41.5	0.50	1.0	1.0	1
11604	% Sand	n.a.	16.8	0.50	1.0	1.0	1
11604	% Silt	n.a.	19.7	0.50	1.0	1.0	1
11604	% Clay	n.a.	22.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	92.5	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	58.5	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	52.2	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	48.3	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	48.2	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	47.9	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	47.2	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	44.9	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	41.7	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	41.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	38.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	31.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	22.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	18.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	15.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: WWTP-CP01-10 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182859
ELLE Group # 1844343
Account # 37016

Project Name: Travis AFB

Collected: 08/28/2017 14:45

Submitted: 08/30/2017 09:35
Reported: 09/25/2017 10:49

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

WWGS2 SDG#: OTJ25-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	21.6	0.50	1.0	1.0	1
11604	% Silt	n.a.	46.4	0.50	1.0	1.0	1
11604	% Clay	n.a.	32.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	100	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	100	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	98.8	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	98.1	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	97.9	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	96.0	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	87.6	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	78.4	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	76.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	70.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	54.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	32.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	23.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	18.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: WWTP-CP01-16 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182860
ELLE Group # 1844343
Account # 37016

Project Name: Travis AFB

Collected: 08/28/2017 15:20

Submitted: 08/30/2017 09:35
Reported: 09/25/2017 10:49

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

WWGS3 SDG#: OTJ25-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	15.6	0.50	1.0	1.0	1
11604	% Silt	n.a.	53.9	0.50	1.0	1.0	1
11604	% Clay	n.a.	30.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	100	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	99.9	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	98.5	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	98.3	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	98.2	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	98.0	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	95.0	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	84.4	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	81.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	74.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	52.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	30.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	24.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	20.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: FT005-CP01-1.0 Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9182861
ELLE Group # 1844343
Account # 37016

Project Name: Travis AFB

Collected: 08/24/2017 12:50

Submitted: 08/30/2017 09:35
Reported: 09/25/2017 10:49

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

F5GS3 SDG#: OTJ25-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	21.8	0.50	1.0	1.0	1
11604	% Sand	n.a.	42.7	0.50	1.0	1.0	1
11604	% Silt	n.a.	23.0	0.50	1.0	1.0	1
11604	% Clay	n.a.	12.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	94.9	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	78.2	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	71.2	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	64.8	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	59.2	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	54.6	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	48.4	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	41.3	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	35.5	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	34.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	30.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	23.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	12.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	9.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	7.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792
The temperature of the sample bottle(s) upon receipt at the lab was 9.0 - 11.1 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1844343
Reported: 09/25/2017 10:49

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 1844343 9182856-C1

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 8/29/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE)	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
	FTOO5-CPO1-11.5	8/28/17	11:35									
	FTOO5-CPO1-19.5	8/28/17	12:52									
	WWTP-CPO1-1.0	8/28/17	12:30									
	WWTP-CPO1-10	8/28/17	14:45									
	WWTP-CPO1-16	8/28/17	15:20									
	FTOO5-CPO1-1.0	8/24/17	12:50									

Relinquished by: (Signature) Stephen Stanley	Received by: (Signature) EED EK	Date: 8-29-17	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 8/30/17	Time: 935

Angela Miller

1844343

From: Oscar Martinez <OMartinez@otie.com>
Sent: Wednesday, August 30, 2017 3:56 PM
To: Angela Miller
Subject: RE: Travis AFB

Hi Angela,
Please run the samples.

Oscar A. Martinez
Oneida Total Integrated Enterprises (OTIE)
210.541-0646 x2230 office
www.otie.com

-----Original Message-----
From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Wednesday, August 30, 2017 1:56 PM
To: Oscar Martinez
Subject: Travis AFB

Hello Oscar,

We received the samples listed on the attached COC today. A temperature blank was not included in the cooler so the surface temperatures were taken upon receipt and ranged from 9.0-11.1°C. Please let me know if you would like for the lab to proceed with the testing.

Thank you,
Angela

Angela Miller
Project Manager

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Phone: 717-556-7260
Fax: 717-656-6766

Email: AngelaMiller@eurofinsus.com
www.EurofinsUS.com/LancLabsEnv

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 192976

Group Number(s): 1844343

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	08/30/2017 9:35
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Wyatt Shiffler (12792) at 12:35 on 08/30/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?	Samples Collected Same Day as Receipt?
1	32170023	9.0	IR	Wet	N	Bagged	Y	N

Elevated Temperature Details

All Temperatures in °C

Cooler #	Thermometer ID	Top Left Temp	Top Right Temp	Bottom Left Temp	Bottom Right Temp	Center Temp	Factors Contributing to Elevated Temp	Comments
1	32170023	9.9	11.1	9.4	10.2	9.6	1 bag of Ice	

Samples In Elevated-Temperature Coolers

Cooler #	Sample ID
1	All Samples

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 22, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1845990
SDG: OTJ26
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
FS1-CP01-0.5 Composite Soil	08/30/2017 13:00	9191168
FS1-CP01-07 Composite Soil	08/30/2017 13:30	9191169
FS1-CP01-17 Composite Soil	08/30/2017 14:00	9191170

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1845990

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9191169, 9191170

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

SW-846 9045C modified, Wet Chemistry

Sample #s: 9191170

The pH was measured in water at 19.9 C.

Sample #s: 9191169

The pH was measured in water at 20.1 C.

Sample #s: 9191168

The pH was measured in water at 20.2 C.

SM 2540 G-1997, Wet Chemistry

Batch #: 17250820003B (Sample number(s): 9191168-9191170 BKG: P186427)

The duplicate RPD for the following analyte(s) exceeded the acceptance window:

Moisture

Sample Description: FS1-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9191168
ELLE Group # 1845990
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 13:00

Submitted: 09/05/2017 08:55
Reported: 09/22/2017 03:56

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

F1C11 SDG#: OTJ26-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	6,750	419	1,260	1,260	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.2 C.	n.a.	7.58	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	4.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17263667631B	09/20/2017 14:53	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039402A	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820003B	09/07/2017 11:11	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FS1-CP01-07 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9191169
ELLE Group # 1845990
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 13:30

Submitted: 09/05/2017 08:55
Reported: 09/22/2017 03:56

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

F1C12 SDG#: OTJ26-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	174	521	521	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.53	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.1 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	16.5	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17263667631B	09/20/2017 15:23	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039402A	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820003B	09/07/2017 11:11	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FS1-CP01-17 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9191170
ELLE Group # 1845990
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 14:00

Submitted: 09/05/2017 08:55
Reported: 09/22/2017 03:56

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

F1C13 SDG#: OTJ26-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	179	537	537	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	7.97	0.0100	0.0100	0.0100	1
	The pH was measured in water at 19.9 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	18.4	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17263667631A	09/20/2017 15:31	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039402A	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820003B	09/07/2017 11:11	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1845990
Reported: 09/22/2017 03:56

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17263667631A	Sample number(s): 9191170			
TOC Solids/Sludges Combustion	N.D.	100	300	300
Batch number: 17263667631B	Sample number(s): 9191168-9191169			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17263667631A	Sample number(s): 9191170								
TOC Solids/Sludges Combustion	7150	5600.82			78		47-143		
Batch number: 17263667631B	Sample number(s): 9191168-9191169								
TOC Solids/Sludges Combustion	7150	5600.82			78		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039402A	Sample number(s): 9191168-9191170								
pH	7.00	6.99			100		95-105		
	%	%	%	%					
Batch number: 17250820003B	Sample number(s): 9191168-9191170								
Moisture	89.5	89.34			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17263667631A	Sample number(s): 9191170 UNSPK: P186427									
TOC Solids/Sludges Combustion	7187.39	23100	21277.91	24000	21456	61	59	47-143	1	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1845990
Reported: 09/22/2017 03:56

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 17263667631B	Sample number(s): 9191168-9191169 UNSPK: P186606									
TOC Solids/Sludges Combustion	8867.42	23070	27815.38			82		47-143		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 17263667631A	Sample number(s): 9191170 BKG: P186427			
TOC Solids/Sludges Combustion	7187.39	6695.72	7	7
Batch number: 17263667631B	Sample number(s): 9191168-9191169 BKG: P186606			
TOC Solids/Sludges Combustion	8867.42	8269.85	7	7
	Std. Units	Std. Units		
Batch number: 17254039402A	Sample number(s): 9191168-9191170 BKG: P198742			
pH	7.90	7.79	1	3
	%	%		
Batch number: 17250820003B	Sample number(s): 9191168-9191170 BKG: P186427			
Moisture	18.97	20.05	6*	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

090117-02

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

37016/1845990/9191168-70

CHAIN OF CUSTODY RECORD

DATE: 9-1-17

PAGE: 1 6 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE)	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
	FS1-CP01-0.5	8.30.17	1300	S		X	2	X	X		X	
	FS1-CP01-07	↓	1330	S		X	2	X	X		X	
	FS1-CP01-17	↓	1400	S		X	2	X	X		X	

Relinquished by: (Signature) Sharon Mukerjee	Received by: (Signature)	Date: 9/1/17	Time: 700
Relinquished by: (Signature)	Received by: (Signature) EX	Date: 01 SEP 17	Time: 1638
Relinquished by: (Signature)	Received by: (Signature)	Date: 9.5.17	Time: 855

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Sample Administration Receipt Documentation Log

Doc Log ID: 193361

Group Number(s): 1845990

Client: CA Office

Delivery and Receipt Information

Delivery Method:	BASC	Arrival Timestamp:	09/05/2017 8:55
Number of Packages:	3	Number of Projects:	3
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 10:21 on 09/05/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	5.8	DT	Wet	Y	Bagged	N
2	DT131	5.7	DT	Wet	Y	Bagged	N
3	DT131	5.5	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 25, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1845991
SDG: OTJ27
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
FS1-CP01-0.5 Composite Soil	08/30/2017 13:00	9191171
FS1-CP01-07 Composite Soil	08/30/2017 13:30	9191172
FS1-CP01-17 Composite Soil	08/30/2017 14:00	9191173

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1845991

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: FS1-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9191171
ELLE Group # 1845991
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 13:00

Submitted: 09/05/2017 08:55
Reported: 09/25/2017 15:15

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

1C1G1 SDG#: OTJ27-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	23.0	0.50	1.0	1.0	1
11604	% Sand	n.a.	41.6	0.50	1.0	1.0	1
11604	% Silt	n.a.	21.4	0.50	1.0	1.0	1
11604	% Clay	n.a.	14.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	77.0	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	67.2	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	58.9	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	55.1	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	52.0	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	47.5	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	41.2	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	35.4	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	33.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	30.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	22.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	14.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	10.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	7.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: FS1-CP01-07 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9191172
ELLE Group # 1845991
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 13:30

Submitted: 09/05/2017 08:55
Reported: 09/25/2017 15:15

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

1C1G2 SDG#: OTJ27-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	6.2	0.50	1.0	1.0	1
11604	% Sand	n.a.	56.5	0.50	1.0	1.0	1
11604	% Silt	n.a.	21.4	0.50	1.0	1.0	1
11604	% Clay	n.a.	16.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	93.8	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	86.5	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	78.2	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	77.6	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	76.5	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	69.2	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	51.3	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	37.4	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	35.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	31.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	22.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	16.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	12.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	11.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: FS1-CP01-17 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9191173
ELLE Group # 1845991
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 14:00

Submitted: 09/05/2017 08:55
Reported: 09/25/2017 15:15

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

1C1G3 SDG#: OTJ27-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	3.9	0.50	1.0	1.0	1
11604	% Sand	n.a.	63.2	0.50	1.0	1.0	1
11604	% Silt	n.a.	17.5	0.50	1.0	1.0	1
11604	% Clay	n.a.	15.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	96.1	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	92.9	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	86.1	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	84.9	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	81.4	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	66.2	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	43.2	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	33.0	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	31.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	28.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	21.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	15.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	12.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	10.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17252710301A	09/09/2017 15:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1845991
Reported: 09/25/2017 15:15

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

090117-02

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

37016/1845991/9191171-73

CHAIN OF CUSTODY RECORD

DATE: 9-1-17

PAGE: 16 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE)	SDG #:
TEL: 925-906-9698 FAX: 925-906-9678	MQuillin@otie.com		

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier:

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative	Remarks
	FS1-CP01-0.5	8.30.17	1300	S		X	2	X	X		X		
	FS1-CP01-07	↓	1330	S		X	2	X	X		X		
	FS1-CP01-17	↓	1400	S		X	2	X	X		X		

Relinquished by: (Signature) Sharon Mankenji	Received by: (Signature)	Date: 9/1/17	Time: 700
Relinquished by: (Signature) A. Miller	Received by: (Signature) FEX	Date: 01 SEP 17	Time: 1636
Relinquished by: (Signature)	Received by: (Signature)	Date: 9.5.17	Time: 855

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Sample Administration Receipt Documentation Log

Doc Log ID: 193361

Group Number(s): 1845991

Client: CA Office

Delivery and Receipt Information

Delivery Method:	BASC	Arrival Timestamp:	09/05/2017 8:55
Number of Packages:	3	Number of Projects:	3
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 10:21 on 09/05/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	5.8	DT	Wet	Y	Bagged	N
2	DT131	5.7	DT	Wet	Y	Bagged	N
3	DT131	5.5	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 22, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846720
SDG: OTJ28
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
FS2-CP01-0.5 Composite Soil	08/31/2017 12:05	9193787
FS2-CP01-07 Composite Soil	08/31/2017 12:10	9193788
FS2-CP01-12 Composite Soil	08/31/2017 12:30	9193789

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846720

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9193788, 9193789

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

Batch #: 17264667631B (Sample number(s): 9193787-9193789 UNSPK: P192641 BKG: P192641)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: TOC Solids/Sludges Combustion

SW-846 9045C modified, Wet Chemistry

Sample #s: 9193787, 9193788, 9193789

The pH was measured in water at 20.1 C.

Sample Description: FS2-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193787
ELLE Group # 1846720
Account # 37016

Project Name: Travis AFB

Collected: 08/31/2017 12:05 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:41

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS211 SDG#: OTJ28-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	6,450	389	1,170	1,170	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.1 C.	n.a.	7.69	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	14.9	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667631B	09/21/2017 13:43	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039402A	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820015B	09/08/2017 10:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FS2-CP01-07 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193788
ELLE Group # 1846720
Account # 37016

Project Name: Travis AFB

Collected: 08/31/2017 12:10 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:41

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS212 SDG#: OTJ28-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	293	879	879	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	7.16	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.1 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	17.1	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667631B	09/21/2017 14:22	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039402A	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820015B	09/08/2017 10:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FS2-CP01-12 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193789
ELLE Group # 1846720
Account # 37016

Project Name: Travis AFB

Collected: 08/31/2017 12:30 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:41

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS213 SDG#: OTJ28-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	277	831	831	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	7.74	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.1 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	16.6	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667631B	09/21/2017 14:30	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039402B	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820015B	09/08/2017 10:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846720
Reported: 09/22/2017 04:41

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17264667631B	Sample number(s): 9193787-9193789			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667631B	Sample number(s): 9193787-9193789								
TOC Solids/Sludges Combustion	7150	6103.59			85		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039402A	Sample number(s): 9193787-9193788								
pH	7.00	6.99			100		95-105		
Batch number: 17254039402B	Sample number(s): 9193789								
pH	7.00	6.99			100		95-105		
	%	%	%	%					
Batch number: 17250820015B	Sample number(s): 9193787-9193789								
Moisture	89.5	89.43			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667631B	Sample number(s): 9193787-9193789 UNSPK: P192641									
TOC Solids/Sludges Combustion	10418.22	24480	27453.06			70		47-143		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846720
Reported: 09/22/2017 04:41

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Batch number: 17264667631B	Sample number(s): 9193787-9193789 BKG: P192641			
TOC Solids/Sludges Combustion	10418.22	12853.12	21*	7
	Std. Units	Std. Units		
Batch number: 17254039402A	Sample number(s): 9193787-9193788 BKG: P198742			
pH	7.90	7.79	1	3
Batch number: 17254039402B	Sample number(s): 9193789 BKG: 9193789			
pH	7.74	7.95	3	3
	%	%		
Batch number: 17250820015B	Sample number(s): 9193787-9193789 BKG: P193792			
Moisture	10.92	11.18	2	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846720 | 9193787-89

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alaina George	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative / Remarks
								NA	NA	NA	NA	
	FS2-CP01-0.5	8/31/17	1205	SO		X	2	X	X	X	X	
	FS2-CP01-07	"	1210	SO		X	2	X	X	X	X	
	FS2-CP01-12	"	1230	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Alaina George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846720

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 22, 2017

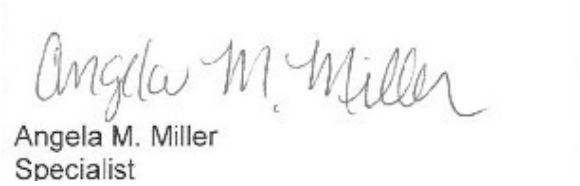
Project: Travis AFB

Account #: 37016
Group Number: 1846722
SDG: OTJ29
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
CFTA-CP01-01 Composite Soil	08/25/2017 11:15	9193791
CFTA-CP01-12 Composite Soil	08/25/2017 14:00	9193792
CFTA-CP01-20 Composite Soil	08/28/2017 10:35	9193793

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846722

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9193792, 9193793

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

Batch #: 17264667631B (Sample number(s): 9193791-9193793 UNSPK: P192641 BKG: P192641)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: TOC Solids/Sludges Combustion

SW-846 9045C modified, Wet Chemistry

Sample #s: 9193792

The pH was measured in water at 20 C.

Sample #s: 9193793

The pH was measured in water at 20.1 C.

Sample #s: 9193791

The pH was measured in water at 20.2 C.

Sample Description: CFTA-CP01-01 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193791
ELLE Group # 1846722
Account # 37016

Project Name: Travis AFB

Collected: 08/25/2017 11:15 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:45

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

CFT11 SDG#: OTJ29-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	2,290	377	1,130	1,130	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.2 C.	n.a.	8.09	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	22.2	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667631B	09/21/2017 14:39	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039402A	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820015B	09/08/2017 10:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: CFTA-CP01-12 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193792
ELLE Group # 1846722
Account # 37016

Project Name: Travis AFB

Collected: 08/25/2017 14:00 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:45

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

CFT12 SDG#: OTJ29-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	267	801	801	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.10	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	10.9	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667631B	09/21/2017 14:48	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039402B	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820015B	09/08/2017 10:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: CFTA-CP01-20 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193793
ELLE Group # 1846722
Account # 37016

Project Name: Travis AFB

Collected: 08/28/2017 10:35 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:45

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

CFT13 SDG#: OTJ29-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	216	649	649	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.12	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.1 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	17.7	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667631B	09/21/2017 14:56	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039402B	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820015B	09/08/2017 10:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846722
Reported: 09/22/2017 04:45

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17264667631B	Sample number(s): 9193791-9193793			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667631B	Sample number(s): 9193791-9193793								
TOC Solids/Sludges Combustion	7150	6103.59			85		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039402A	Sample number(s): 9193791								
pH	7.00	6.99			100		95-105		
Batch number: 17254039402B	Sample number(s): 9193792-9193793								
pH	7.00	6.99			100		95-105		
	%	%	%	%					
Batch number: 17250820015B	Sample number(s): 9193791-9193793								
Moisture	89.5	89.43			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667631B	Sample number(s): 9193791-9193793 UNSPK: P192641									
TOC Solids/Sludges Combustion	10418.22	24480	27453.06			70		47-143		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846722
Reported: 09/22/2017 04:45

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Batch number: 17264667631B	Sample number(s): 9193791-9193793 BKG: P192641			
TOC Solids/Sludges Combustion	10418.22	12853.12	21*	7
	Std. Units	Std. Units		
Batch number: 17254039402A	Sample number(s): 9193791 BKG: P198742			
pH	7.90	7.79	1	3
Batch number: 17254039402B	Sample number(s): 9193792-9193793 BKG: P193789			
pH	7.74	7.95	3	3
	%	%		
Batch number: 17250820015B	Sample number(s): 9193791-9193793 BKG: 9193792			
Moisture	10.92	11.18	2	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846722 | 9193791-93

OTIE
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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alicia George	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative
								NA	NA	NA	NA	Remarks
	CFTA-CP01 - ~~03~~ 01	8/29/17	1115	SO		X	2	X	X	X	X	
	CFTA-CP01-12	"	1400	SO		X	2	X	X	X	X	
	CFTA-CP01-20	8/28/17	1035	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Alicia George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846722

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 22, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846723
SDG: OTJ30
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
811-CP01-0.5 Composite Soil	08/30/2017 12:45	9193794
811-CP01-08 Composite Soil	08/30/2017 13:40	9193795
811-CP01-23 Composite Soil	08/30/2017 13:45	9193796

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846723

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9193795, 9193796

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

Batch #: 17264667631B (Sample number(s): 9193794 UNSPK: P192641 BKG: P192641)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: TOC Solids/Sludges Combustion

SW-846 9045C modified, Wet Chemistry

Sample #s: 9193794, 9193795

The pH was measured in water at 20.1 C.

Sample #s: 9193796

The pH was measured in water at 20.2 C.

Sample Description: 811-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193794
ELLE Group # 1846723
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 12:45 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:45

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

81111 SDG#: OTJ30-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	4,740	237	711	711	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.1 C.	n.a.	7.50	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	24.1	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667631B	09/21/2017 15:05	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039402B	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820015B	09/08/2017 10:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: 811-CP01-08 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193795
ELLE Group # 1846723
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 13:40 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:45

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

81112 SDG#: OTJ30-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	218	653	653	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.64	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.1 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	21.0	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632A	09/21/2017 17:16	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039402B	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820015B	09/08/2017 10:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: 811-CP01-23 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193796
ELLE Group # 1846723
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 13:45 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:45

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

81113 SDG#: OTJ30-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	227	682	682	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.25	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.2 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	20.4	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632A	09/21/2017 17:28	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039402B	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820015B	09/08/2017 10:08	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846723
Reported: 09/22/2017 04:45

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17264667631B	Sample number(s): 9193794			
TOC Solids/Sludges Combustion	N.D.	100	300	300
Batch number: 17264667632A	Sample number(s): 9193795-9193796			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667631B	Sample number(s): 9193794								
TOC Solids/Sludges Combustion	7150	6103.59			85		47-143		
Batch number: 17264667632A	Sample number(s): 9193795-9193796								
TOC Solids/Sludges Combustion	7150	5520			77		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039402B	Sample number(s): 9193794-9193796								
pH	7.00	6.99			100		95-105		
	%	%	%	%					
Batch number: 17250820015B	Sample number(s): 9193794-9193796								
Moisture	89.5	89.43			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667631B	Sample number(s): 9193794 UNSPK: P192641									
TOC Solids/Sludges Combustion	10418.22	24480	27453.06			70		47-143		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846723
Reported: 09/22/2017 04:45

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 17264667632A	Sample number(s): 9193795-9193796 UNSPK: 9193796									
TOC Solids/Sludges Combustion	N.D.	9390	6359.94			68		47-143		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Batch number: 17264667631B	Sample number(s): 9193794 BKG: P192641			
TOC Solids/Sludges Combustion	10418.22	12853.12	21*	7
Batch number: 17264667632A	Sample number(s): 9193795-9193796 BKG: 9193796			
TOC Solids/Sludges Combustion	N.D.	N.D.	0 (1)	7
	Std. Units	Std. Units		
Batch number: 17254039402B	Sample number(s): 9193794-9193796 BKG: P193789			
pH	7.74	7.95	3	3
	%	%		
Batch number: 17250820015B	Sample number(s): 9193794-9193796 BKG: P193792			
Moisture	10.92	11.18	2	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846723 | 9193794-96

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alicia George	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678 E-MAIL: MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
								NA	NA	NA	NA	
	B11-CP01-0.5	8/30/17	1245	So		X	2	X	X	X	X	
	B11-CP01-08	"	1340	So		X	2	X	X	X	X	
	B11-CP01-23	"	1345	So		X	2	X	X	X	X	

Relinquished by: (Signature) Alicia George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846723

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 25, 2017

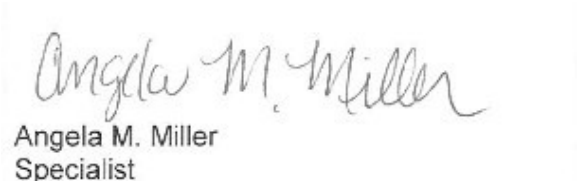
Project: Travis AFB

Account #: 37016
Group Number: 1846726
SDG: OTJ31
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
86B141C-CP01-0.5 Composite Soil	08/31/2017 14:35	9193810
86B141C-CP01-09 Composite Soil	08/31/2017 14:53	9193811

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846726

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9193811

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

SW-846 9045C modified, Wet Chemistry

Sample #s: 9193810, 9193811

The pH was measured in water at 20.3 C.

Sample Description: 86B141C-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193810
ELLE Group # 1846726
Account # 37016

Project Name: Travis AFB

Collected: 08/31/2017 14:35 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:09

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

86B11 SDG#: OTJ31-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	4,020	430	1,290	1,290	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.3 C.	n.a.	8.10	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	17.6	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632A	09/21/2017 17:55	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039402B	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016A	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: 86B141C-CP01-09 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193811
ELLE Group # 1846726
Account # 37016

Project Name: Travis AFB

Collected: 08/31/2017 14:53 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:09

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

86B12 SDG#: OTJ31-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	208	624	624	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.39	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.3 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	26.0	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632A	09/22/2017 10:02	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039402B	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016A	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846726
Reported: 09/25/2017 06:09

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17264667632A	Sample number(s): 9193810-9193811			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632A	Sample number(s): 9193810-9193811								
TOC Solids/Sludges Combustion	7150	5520			77		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039402B	Sample number(s): 9193810-9193811								
pH	7.00	6.99			100		95-105		
	%	%	%	%					
Batch number: 17250820016A	Sample number(s): 9193810-9193811								
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632A	Sample number(s): 9193810-9193811 UNSPK: P193796									
TOC Solids/Sludges Combustion	N.D.	9390	6359.94			68		47-143		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846726
Reported: 09/25/2017 06:09

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Batch number: 17264667632A	Sample number(s): 9193810-9193811 BKG: P193796			
TOC Solids/Sludges Combustion	N.D.	N.D.	0 (1)	7
	Std. Units	Std. Units		
Batch number: 17254039402B	Sample number(s): 9193810-9193811 BKG: P193789			
pH	7.74	7.95	3	3
	%	%		
Batch number: 17250820016A	Sample number(s): 9193810-9193811 BKG: P193817			
Moisture	21.25	21.71	2	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846726 | 9193810-12

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alecia Gregg	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
								NA	NA	NA	NA	
	86B141C-CP01-0.5	8/31/17	1435	SO		X	2	X	X	X	X	
	86B141C-CP01-09	"	1453	SO		X	2	X	X	X	X	
	86B141C-CP01-12	"	1455	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Alecia Gregg	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

Natalie Luciano

From: US19_USR_PxAdmin
Sent: Thursday, September 07, 2017 2:58 PM
To: omartinez@otie.com
Cc: Angela Miller
Subject: Acknowledgement(1846766, Travis AFB, 09/06/2017 09:50:00)
Attachments: EAcknow_1846766.xls; 1846766d.pdf; 1846766c.pdf

Good Afternoon,

Hello Oscar,

The laboratory received one jar for sample 86B141C-CP01-12. Per our phone conversation we are scheduled to analyze this sample for Grain Size to 1 um and Grain Size Classification (and not for pH or TOC).

Thank you,
Angela Miller

* Unless agreed in writing prior to sample receipt, the attached General Terms of Sale apply to this sample submittal.

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846726

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
86B141C-CP01-12	1	2	

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 22, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846727
SDG: OTJ32
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
FS4-CP01-0.5 Composite Soil	09/01/2017 11:19	9193813
FS4-CP01-06 Composite Soil	09/01/2017 12:00	9193814
FS4-CP01-11 Composite Soil	09/01/2017 12:05	9193815

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846727

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9193814, 9193815

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

SW-846 9045C modified, Wet Chemistry

Sample #s: 9193814

The pH was measured in water at 19.9 C.

Sample #s: 9193815

The pH was measured in water at 20.1 C.

Sample #s: 9193813

The pH was measured in water at 20.2 C.

Sample Description: FS4-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193813
ELLE Group # 1846727
Account # 37016

Project Name: Travis AFB

Collected: 09/01/2017 11:19 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:18

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS411 SDG#: OTJ32-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	7,440	449	1,350	1,350	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.2 C.	n.a.	7.21	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	28.3	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632A	09/21/2017 18:21	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039402B	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016A	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FS4-CP01-06 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193814
ELLE Group # 1846727
Account # 37016

Project Name: Travis AFB

Collected: 09/01/2017 12:00 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:18

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS412 SDG#: OTJ32-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	208	623	623	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	7.92	0.0100	0.0100	0.0100	1
	The pH was measured in water at 19.9 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	17.2	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632A	09/21/2017 18:35	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039403A	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016A	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FS4-CP01-11 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193815
ELLE Group # 1846727
Account # 37016

Project Name: Travis AFB

Collected: 09/01/2017 12:05 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:18

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS413 SDG#: OTJ32-03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**		**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	284	J	229	686	686	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.							
	SW-846 9045C modified		**Std. Units**		**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.33		0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.1 C.							
Wet Chemistry	**SM 2540 G-1997**		**%**		**%**	**%**	**%**	
00111	Moisture	n.a.	17.8		0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.							

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632A	09/21/2017 19:27	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039402B	09/11/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016A	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846727
Reported: 09/22/2017 04:18

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17264667632A	Sample number(s): 9193813-9193815			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632A	Sample number(s): 9193813-9193815								
TOC Solids/Sludges Combustion	7150	5520			77		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039402B	Sample number(s): 9193813,9193815								
pH	7.00	6.99			100		95-105		
Batch number: 17254039403A	Sample number(s): 9193814								
pH	7.00	7.02			100		95-105		
	%	%	%	%					
Batch number: 17250820016A	Sample number(s): 9193813-9193815								
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632A	Sample number(s): 9193813-9193815 UNSPK: P193796									
TOC Solids/Sludges Combustion	N.D.	9390	6359.94			68		47-143		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846727
Reported: 09/22/2017 04:18

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Batch number: 17264667632A	Sample number(s): 9193813-9193815 BKG: P193796			
TOC Solids/Sludges Combustion	N.D.	N.D.	0 (1)	7
	Std. Units	Std. Units		
Batch number: 17254039402B	Sample number(s): 9193813,9193815 BKG: P193789			
pH	7.74	7.95	3	3
Batch number: 17254039403A	Sample number(s): 9193814 BKG: 9193814			
pH	7.92	7.91	0	3
	%	%		
Batch number: 17250820016A	Sample number(s): 9193813-9193815 BKG: P193817			
Moisture	21.25	21.71	2	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846727 | 9193813-15

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Albain George	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
								NA	NA	NA	NA	
	FS4-CP01-0.5	9/1/17	1119	SO		X	2	X	X	X	X	
	FS4-CP01-06	"	1200	SO		X	2	X	X	X	X	
	FS4-CP01-11	"	1205	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Albain George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846727

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 22, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846728
SDG: OTJ33
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
N0Z-CP01-0.5 Composite Soil	09/05/2017 10:20	9193816
N0Z-CP01-7.5 Composite Soil	09/05/2017 10:55	9193817
N0Z-CP01-12 Composite Soil	09/05/2017 11:00	9193818

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846728

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9193818

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

SW-846 9045C modified, Wet Chemistry

Sample #s: 9193818

The pH was measured in water at 20 C.

Sample #s: 9193817

The pH was measured in water at 20.2 C.

Sample #s: 9193816

The pH was measured in water at 20.6 C.

Sample Description: N0Z-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193816
ELLE Group # 1846728
Account # 37016

Project Name: Travis AFB

Collected: 09/05/2017 10:20 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:22

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

N0Z11 SDG#: OTJ33-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	2,160	519	1,560	1,560	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.6 C.	n.a.	8.54	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	11.2	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632A	09/21/2017 19:37	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039403A	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016A	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: N0Z-CP01-7.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193817
ELLE Group # 1846728
Account # 37016

Project Name: Travis AFB

Collected: 09/05/2017 10:55 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:22

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

N0Z12 SDG#: OTJ33-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	1,990	293	879	879	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.2 C.	n.a.	7.98	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	21.2	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632A	09/21/2017 19:45	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039403A	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016A	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: N0Z-CP01-12 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193818
ELLE Group # 1846728
Account # 37016

Project Name: Travis AFB

Collected: 09/05/2017 11:00 by AG

Submitted: 09/06/2017 09:50
Reported: 09/22/2017 04:22

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

N0Z13 SDG#: OTJ33-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	194	582	582	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.47	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	22.7	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632A	09/21/2017 19:58	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039403A	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016A	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846728
Reported: 09/22/2017 04:22

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17264667632A	Sample number(s): 9193816-9193818			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632A	Sample number(s): 9193816-9193818								
TOC Solids/Sludges Combustion	7150	5520			77		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039403A	Sample number(s): 9193816-9193818								
pH	7.00	7.02			100		95-105		
	%	%	%	%					
Batch number: 17250820016A	Sample number(s): 9193816-9193818								
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632A	Sample number(s): 9193816-9193818 UNSPK: P193796									
TOC Solids/Sludges Combustion	N.D.	9390	6359.94			68		47-143		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846728
Reported: 09/22/2017 04:22

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Batch number: 17264667632A	Sample number(s): 9193816-9193818 BKG: P193796			
TOC Solids/Sludges Combustion	N.D.	N.D.	0 (1)	7
	Std. Units	Std. Units		
Batch number: 17254039403A	Sample number(s): 9193816-9193818 BKG: P193814			
pH	7.92	7.91	0	3
	%	%		
Batch number: 17250820016A	Sample number(s): 9193816-9193818 BKG: 9193817			
Moisture	21.25	21.71	2	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846728 | 9193816-18

OTIE
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Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alexia Gonzalez
TEL: 925-906-9698	FAX: 925-906-9678	MQuillin@otie.com	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: FedEx

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
								NA	NA	NA	NA	
	NOZ-CP01 - 0.5	9/5/17	1020	SO		X	2	X	X	X	X	
	NOZ-CP01 - 7.5	"	1055	SO		X	2	X	X	X	X	
	NOZ-CP01-12	"	1100	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Alexia Gonzalez	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846728

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 25, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846730
SDG: OTJ34
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
82/83C5-CP01-0.5 Composite Soil	09/03/2017 12:00	9193820
82/83C5-CP01-7.5 Composite Soil	09/03/2017 13:15	9193821
82/83C5-CP01-14 Composite Soil	09/03/2017 14:10	9193822

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846730

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9193822

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

SW-846 9045C modified, Wet Chemistry

Sample #s: 9193820

The pH was measured in water at 20 C.

Sample #s: 9193821

The pH was measured in water at 20.2 C.

Sample #s: 9193822

The pH was measured in water at 20.3 C.

Sample Description: 82/83C5-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193820
ELLE Group # 1846730
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 12:00 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:11

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

83C11 SDG#: OTJ34-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	12,100	382	1,150	1,150	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20 C.	n.a.	8.32	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	17.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632B	09/22/2017 11:49	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039403A	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016A	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: 82/83C5-CP01-7.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193821
ELLE Group # 1846730
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 13:15 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:11

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

83C12 SDG#: OTJ34-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	969	288	863	863	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.2 C.	n.a.	7.92	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	15.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632B	09/21/2017 20:23	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039403A	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016A	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: 82/83C5-CP01-14 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193822
ELLE Group # 1846730
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 14:10 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:11

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

83C13 SDG#: OTJ34-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	159	476	476	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.58	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.3 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	18.7	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632B	09/21/2017 20:42	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039403A	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016B	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846730
Reported: 09/25/2017 06:11

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17264667632B	Sample number(s): 9193820-9193822			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632B	Sample number(s): 9193820-9193822								
TOC Solids/Sludges Combustion	7150	5520			77		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039403A	Sample number(s): 9193820-9193822								
pH	7.00	7.02			100		95-105		
	%	%	%	%					
Batch number: 17250820016A	Sample number(s): 9193820-9193821								
Moisture	89.5	89.41			100		99-101		
Batch number: 17250820016B	Sample number(s): 9193822								
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632B	Sample number(s): 9193820-9193822 UNSPK: 9193822									
TOC Solids/Sludges Combustion	N.D.	9615	7426.28			77		47-143		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846730
Reported: 09/25/2017 06:11

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Batch number: 17264667632B	Sample number(s): 9193820-9193822 BKG: 9193822			
TOC Solids/Sludges Combustion	N.D.	N.D.	0 (1)	7
	Std. Units	Std. Units		
Batch number: 17254039403A	Sample number(s): 9193820-9193822 BKG: P193814			
pH	7.92	7.91	0	3
	%	%		
Batch number: 17250820016A	Sample number(s): 9193820-9193821 BKG: P193817			
Moisture	21.25	21.71	2	5
Batch number: 17250820016B	Sample number(s): 9193822 BKG: P193825			
Moisture	23.11	22.75	2	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846730 | 9193820-22

OTIE
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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Albie George	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: FedEx

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative / Remarks
								NA	NA	NA	NA	
	82/83CS-CP01-0.5	9/3/17	1200	SO		X	2	X	X	X	X	
	82/83CS-CP01-7.5	9/3/17	1315	SO		X	2	X	X	X	X	
	82/83CS-CP01-14	"	1410	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Albie George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846730

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 25, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846731
SDG: OTJ35
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
2014E75-CP01-0.5 Composite Soil	09/04/2017 12:05	9193823
2014E75-CP01-06 Composite Soil	09/04/2017 12:20	9193824
2014E75-CP01-11.5 Composite Soil	09/04/2017 12:49	9193825

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846731

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9193823, 9193825

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

SW-846 9045C modified, Wet Chemistry

Sample #s: 9193823, 9193824, 9193825

The pH was measured in water at 20.5 C.

Sample Description: 2014E75-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193823
ELLE Group # 1846731
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 12:05 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:04

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

E7511 SDG#: OTJ35-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	7,560	337	1,010	1,010	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	7.78	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.5 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	5.7	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632B	09/21/2017 21:06	James S Mathiot	1
00394	pH	SW-846 9045C modified	1	17254039403A	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016B	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: 2014E75-CP01-06 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193824
ELLE Group # 1846731
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 12:20 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:04

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

E7512 SDG#: OTJ35-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	1,560	236	709	709	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.5 C.	n.a.	8.72	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	11.1	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632B	09/22/2017 08:44	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039403A	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016B	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: 2014E75-CP01-11.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193825
ELLE Group # 1846731
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 12:49 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:04

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

E7513 SDG#: OTJ35-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	1,040	3,120	3,120	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.14	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.5 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	23.1	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632B	09/22/2017 10:25	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039403B	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016B	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846731
Reported: 09/25/2017 06:04

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17264667632B	Sample number(s): 9193823-9193825			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632B	Sample number(s): 9193823-9193825								
TOC Solids/Sludges Combustion	7150	5520			77		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039403A	Sample number(s): 9193823-9193824								
pH	7.00	7.02			100		95-105		
Batch number: 17254039403B	Sample number(s): 9193825								
pH	7.00	7.02			100		95-105		
	%	%	%	%					
Batch number: 17250820016B	Sample number(s): 9193823-9193825								
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632B	Sample number(s): 9193823-9193825 UNSPK: P193822									
TOC Solids/Sludges Combustion	N.D.	9615	7426.28			77		47-143		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846731
Reported: 09/25/2017 06:04

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Batch number: 17264667632B	Sample number(s): 9193823-9193825 BKG: P193822			
TOC Solids/Sludges Combustion	N.D.	N.D.	0 (1)	7
	Std. Units	Std. Units		
Batch number: 17254039403A	Sample number(s): 9193823-9193824 BKG: P193814			
pH	7.92	7.91	0	3
Batch number: 17254039403B	Sample number(s): 9193825 BKG: 9193825			
pH	8.14	8.03	1	3
	%	%		
Batch number: 17250820016B	Sample number(s): 9193823-9193825 BKG: 9193825			
Moisture	23.11	22.75	2	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846731 | 9193823-25

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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE		CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310		PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek STATE: CA ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Albert Gregg	SDG #:
TEL: 925-906-9698 FAX: 925-906-9678	MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative / Remarks
								NA	NA	NA	NA	
	2014E75-CP01-0.5	9/4/17	1205	SO		X	2	X	X	X	X	
	2014E75-CP01-06	"	1220	SO		X	2	X	X	X	X	
	2014E75-CP01-11.5	"	1249	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Albert Gregg	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 750

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846731

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

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F : 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 25, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846732
SDG: OTJ36
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
Late80s-CP01-0.5 Composite Soil	09/04/2017 10:20	9193826
Late80s-CP01-6.5 Composite Soil	09/04/2017 11:05	9193827
Late80s-CP01-11.5 Composite Soil	09/04/2017 11:10	9193828

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846732

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9193827, 9193828

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

SW-846 9045C modified, Wet Chemistry

Sample #s: 9193827

The pH was measured in water at 19.8 C.

Sample #s: 9193828

The pH was measured in water at 20.4 C.

Sample #s: 9193826

The pH was measured in water at 20.6 C.

Sample Description: Late80s-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193826
ELLE Group # 1846732
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 10:20 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:07

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

L8011 SDG#: OTJ36-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	6,710	925	2,770	2,770	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.6 C.	n.a.	6.65	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	13.6	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632B	09/22/2017 09:14	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039403A	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016B	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: Late80s-CP01-6.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193827
ELLE Group # 1846732
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 11:05 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:07

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

L8012 SDG#: OTJ36-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	217	652	652	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.59	0.0100	0.0100	0.0100	1
	The pH was measured in water at 19.8 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	19.9	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632B	09/22/2017 09:22	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17255039402B	09/12/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016B	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: Late80s-CP01-11.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193828
ELLE Group # 1846732
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 11:10 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:07

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

L8013 SDG#: OTJ36-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	281	842	842	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.44	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.4 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	17.0	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632B	09/22/2017 09:30	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039403B	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016B	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846732
Reported: 09/25/2017 06:07

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17264667632B	Sample number(s): 9193826-9193828			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632B	Sample number(s): 9193826-9193828								
TOC Solids/Sludges Combustion	7150	5520			77		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039403A	Sample number(s): 9193826								
pH	7.00	7.02			100		95-105		
Batch number: 17254039403B	Sample number(s): 9193828								
pH	7.00	7.02			100		95-105		
Batch number: 17255039402B	Sample number(s): 9193827								
pH	7.00	6.98			100		95-105		
	%	%	%	%					
Batch number: 17250820016B	Sample number(s): 9193826-9193828								
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632B	Sample number(s): 9193826-9193828 UNSPK: P193822									
TOC Solids/Sludges Combustion	N.D.	9615	7426.28			77		47-143		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846732
Reported: 09/25/2017 06:07

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Batch number: 17264667632B	Sample number(s): 9193826-9193828 BKG: P193822			
TOC Solids/Sludges Combustion	N.D.	N.D.	0 (1)	7
	Std. Units	Std. Units		
Batch number: 17254039403A	Sample number(s): 9193826 BKG: P193814			
pH	7.92	7.91	0	3
Batch number: 17254039403B	Sample number(s): 9193828 BKG: P193825			
pH	8.14	8.03	1	3
Batch number: 17255039402B	Sample number(s): 9193827 BKG: P192641			
pH	7.92	7.87	1	3
	%	%		
Batch number: 17250820016B	Sample number(s): 9193826-9193828 BKG: P193825			
Moisture	23.11	22.75	2	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846732 | 9193826-28

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE			CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004 / P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310			PROJECT CONTACT: Oscar Martinez / LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com
SAMPLER(S): (SIGNATURE) Allecia George			SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative	Remarks
								NA	NA	NA	NA		
	Late 80s-CP01 - 0.5	9/4/17	1020	SO	~~X~~	X	2	X	X	X	X		
	Late SOS-CP01 - 6.5	"	1105	SO		X	2	X	X	X	X		
	~~Late~~ Late 80s-CP01 - 11.5	"	1110	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Allecia George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846732

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

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www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 25, 2017

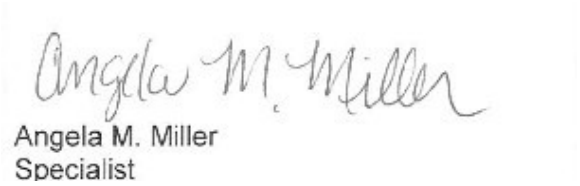
Project: Travis AFB

Account #: 37016
Group Number: 1846734
SDG: OTJ37
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
88C5-CP01-0.5 Composite Soil	09/04/2017 14:05	9193830
88C5-CP01-05 Composite Soil	09/04/2017 14:35	9193831
88C5-CP01-09 Composite Soil	09/04/2017 14:40	9193832

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846734

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9193831, 9193832

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

Sample #s: 9193830

Reporting limits were raised due to interference from the sample matrix.

Batch #: 17265667631A (Sample number(s): 9193831-9193832 UNSPK: 9193831 BKG: 9193831)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: TOC Solids/Sludges Combustion

SW-846 9045C modified, Wet Chemistry

Sample #s: 9193832

The pH was measured in water at 20.3 C.

Sample #s: 9193830, 9193831

The pH was measured in water at 20.4 C.

Sample Description: 88C5-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193830
ELLE Group # 1846734
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 14:05 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:13

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

8C511 SDG#: OTJ37-01

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**		**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	814	J	356	1,070	1,070	1
	Reporting limits were raised due to interference from the sample matrix.							
	SW-846 9045C modified		**Std. Units**		**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	6.18		0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.4 C.							
Wet Chemistry	**SM 2540 G-1997**		**%**		**%**	**%**	**%**	
00111	Moisture	n.a.	1.9		0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.							

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17264667632B	09/22/2017 12:16	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039403B	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016B	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: 88C5-CP01-05 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193831
ELLE Group # 1846734
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 14:35 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:13

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

8C512 SDG#: OTJ37-02

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**		**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	311	J	185	556	556	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.							
	SW-846 9045C modified		**Std. Units**		**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.67		0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.4 C.							
Wet Chemistry	**SM 2540 G-1997**		**%**		**%**	**%**	**%**	
00111	Moisture	n.a.	19.0		0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.							

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17265667631A	09/22/2017 12:45	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039403B	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016B	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: 88C5-CP01-09 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193832
ELLE Group # 1846734
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 14:40 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:13

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

8C513 SDG#: OTJ37-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	174	523	523	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.20	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.3 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	20.2	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17265667631A	09/22/2017 13:31	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039403B	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17250820016B	09/08/2017 10:54	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846734
Reported: 09/25/2017 06:13

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17264667632B	Sample number(s): 9193830			
TOC Solids/Sludges Combustion	N.D.	100	300	300
Batch number: 17265667631A	Sample number(s): 9193831-9193832			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632B	Sample number(s): 9193830								
TOC Solids/Sludges Combustion	7150	5520			77		47-143		
Batch number: 17265667631A	Sample number(s): 9193831-9193832								
TOC Solids/Sludges Combustion	7150	5761.63			81		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039403B	Sample number(s): 9193830-9193832								
pH	7.00	7.02			100		95-105		
	%	%	%	%					
Batch number: 17250820016B	Sample number(s): 9193830-9193832								
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17264667632B	Sample number(s): 9193830 UNSPK: P193822									
TOC Solids/Sludges Combustion	N.D.	9615	7426.28			77		47-143		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846734
Reported: 09/25/2017 06:13

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 17265667631A	Sample number(s): 9193831-9193832 UNSPK: 9193831									
TOC Solids/Sludges Combustion	251.95	9510	7784.11			79		47-143		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Batch number: 17264667632B	Sample number(s): 9193830 BKG: P193822			
TOC Solids/Sludges Combustion	N.D.	N.D.	0 (1)	7
Batch number: 17265667631A	Sample number(s): 9193831-9193832 BKG: 9193831			
TOC Solids/Sludges Combustion	251.95	200.74	23* (1)	7
	Std. Units	Std. Units		
Batch number: 17254039403B	Sample number(s): 9193830-9193832 BKG: P193825			
pH	8.14	8.03	1	3
	%	%		
Batch number: 17250820016B	Sample number(s): 9193830-9193832 BKG: P193825			
Moisture	23.11	22.75	2	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846734 | 9193830-32

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Alexia George	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative	Remarks
								NA	NA	NA	NA		
	SSCS-CP01-0.5	9/4/17	1405	SO		X	2	X	X	X	X		
	SSCS-CP01-05	"	1435	SO		X	2	X	X	X	X		
	SSCS-CP01-09	"	1440	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Alexia George	Received by: (Signature) FedEX	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

Natalie Luciano

From: Oscar Martinez <OMartinez@otie.com>
Sent: Monday, September 11, 2017 4:45 PM
To: Angela Miller
Subject: RE: Acknowledgement(1846773, Travis AFB, 09/06/2017 09:50:00)

Angela,
The times on the spreadsheet are correct

88C5-CP01-05 1435
88C5-CP01-09 1440

Oscar A. Martinez
Oneida Total Integrated Enterprises (OTIE)
210.541-0646 x2230 office
www.otie.com

-----Original Message-----
From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Monday, September 11, 2017 3:34 PM
To: Oscar Martinez
Subject: FW: Acknowledgement(1846773, Travis AFB, 09/06/2017 09:50:00)

Good afternoon Oscar,

We are scheduled to report the collection times per the COC. The sample receipt documentation log indicates that the times on the bottle labels were switched for samples 88C5-CP01-05 and 88C5-CP01-09. Please let me know if any changes are needed.

Thank you,
Angela

Angela Miller
Project Manager

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Phone: 717-556-7260
Fax: 717-656-6766

Email: AngelaMiller@eurofinsus.com
www.EurofinsUS.com/LancLabsEnv

-----Original Message-----
From: LLAutomatedReportingSystem@eurofins.com [mailto:LLAutomatedReportingSystem@eurofins.com]
Sent: Thursday, September 07, 2017 4:20 PM
To: omartinez@otie.com
Cc: Angela Miller
Subject: Acknowledgement(1846773, Travis AFB, 09/06/2017 09:50:00)

Good Afternoon,

Please confirm the collection times for the samples listed on the attached. The sample receipt documentation log indicates that the times on the bottle labels were different from the times listed on the COC.
Please advise at your earliest convenience.

Thank you,
Angela Miller

* Unless agreed in writing prior to sample receipt, the attached General Terms of Sale apply to this sample submittal.

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846734

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	No
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
88C5-CP01-05	9/04/2017 14:40	Time switched with sample 88C5-CP01-09
88C5-CP01-09	9/04/2017 14:35	Time switched with sample 88C5-CP01-05

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 25, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846736
SDG: OTJ38
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
2001Crash-CP01-0.5 Composite Soil	09/03/2017 12:36	9193835
2001Crash-CP01-07 Composite Soil	09/03/2017 14:00	9193836
2001Crash-CP01-12 Composite Soil	09/03/2017 14:07	9193837

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846736

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SM 5310 B modified-2000, Wet Chemistry

Sample #s: 9193836, 9193837

Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.

Batch #: 17265667631A (Sample number(s): 9193835-9193836 UNSPK: P193831 BKG: P193831)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: TOC Solids/Sludges Combustion

SW-846 9045C modified, Wet Chemistry

Sample #s: 9193837

The pH was measured in water at 19.8 C.

Sample #s: 9193835, 9193836

The pH was measured in water at 20.5 C.

SM 2540 G-1997, Wet Chemistry

Batch #: 17256820003B (Sample number(s): 9193835-9193837 BKG: P197945)

The duplicate RPD for the following analyte(s) exceeded the acceptance window:

Moisture

Sample Description: 2001Crash-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193835
ELLE Group # 1846736
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 12:36 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:18

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

20C11 SDG#: OTJ38-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	7,570	231	692	692	1
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH The pH was measured in water at 20.5 C.	n.a.	8.15	0.0100	0.0100	0.0100	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	n.a.	3.8	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17265667631A	09/22/2017 13:40	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039403B	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17256820003B	09/13/2017 10:44	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: 2001Crash-CP01-07 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193836
ELLE Group # 1846736
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 14:00 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:18

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

20C12 SDG#: OTJ38-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	248	745	745	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.83	0.0100	0.0100	0.0100	1
	The pH was measured in water at 20.5 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	16.7	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17265667631A	09/22/2017 13:54	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17254039403B	09/11/2017 20:45	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17256820003B	09/13/2017 10:44	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: 2001Crash-CP01-12 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193837
ELLE Group # 1846736
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 14:07 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 06:18

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

20C13 SDG#: OTJ38-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
Wet Chemistry	**SM 5310 B modified-2000**		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	217	651	651	1
	Due to the nature of this sample matrix, the sample cup was filled to capacity with less than 1000 mg of sample being used. The lowered sample weight has resulted in a raised reporting limit.						
	SW-846 9045C modified		**Std. Units**	**Std. Units**	**Std. Units**	**Std. Units**	
00394	pH	n.a.	8.84	0.0100	0.0100	0.0100	1
	The pH was measured in water at 19.8 C.						
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	24.4	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	17265667631B	09/22/2017 15:41	Drew M Gerhart	1
00394	pH	SW-846 9045C modified	1	17255039402B	09/12/2017 20:05	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997	1	17256820003B	09/13/2017 10:44	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846736
Reported: 09/25/2017 06:18

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	mg/kg	mg/kg	mg/kg	mg/kg
Batch number: 17265667631A	Sample number(s): 9193835-9193836			
TOC Solids/Sludges Combustion	N.D.	100	300	300
Batch number: 17265667631B	Sample number(s): 9193837			
TOC Solids/Sludges Combustion	N.D.	100	300	300

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17265667631A	Sample number(s): 9193835-9193836								
TOC Solids/Sludges Combustion	7150	5761.63			81		47-143		
Batch number: 17265667631B	Sample number(s): 9193837								
TOC Solids/Sludges Combustion	7150	5761.63			81		47-143		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17254039403B	Sample number(s): 9193835-9193836								
pH	7.00	7.02			100		95-105		
Batch number: 17255039402B	Sample number(s): 9193837								
pH	7.00	6.98			100		95-105		
	%	%	%	%					
Batch number: 17256820003B	Sample number(s): 9193835-9193837								
Moisture	89.5	89.44			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846736
Reported: 09/25/2017 06:18

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 17265667631A	Sample number(s): 9193835-9193836 UNSPK: P193831									
TOC Solids/Sludges Combustion	251.95	9510	7784.11			79		47-143		
Batch number: 17265667631B	Sample number(s): 9193837 UNSPK: 9193837									
TOC Solids/Sludges Combustion	N.D.	13410	9306.8			69		47-143		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 17265667631A	Sample number(s): 9193835-9193836 BKG: P193831			
TOC Solids/Sludges Combustion	251.95	200.74	23* (1)	7
Batch number: 17265667631B	Sample number(s): 9193837 BKG: 9193837			
TOC Solids/Sludges Combustion	N.D.	N.D.	0 (1)	7
	Std. Units	Std. Units		
Batch number: 17254039403B	Sample number(s): 9193835-9193836 BKG: P193825			
pH	8.14	8.03	1	3
Batch number: 17255039402B	Sample number(s): 9193837 BKG: P192641			
pH	7.92	7.87	1	3
	%	%		
Batch number: 17256820003B	Sample number(s): 9193835-9193837 BKG: P197945			
Moisture	22.98	21.45	7*	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846734 | 9193835-37

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE			CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310			P.O. NO.: 10976
CITY: Walnut Creek	STATE: CA	ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com			LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698	FAX: 925-906-9678	E-MAIL: MQuillin@otie.com	SAMPLER(S): (SIGNATURE) Allaire George
			SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
-level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: FedEx

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
								NA	NA	NA	NA	
	2001Crash-CP01.0.5	9/3/17	1236	SO		X	2	X	X	X	X	
	2001 Crash-CP01-07	"	1400	SO		X	2	X	X	X	X	
	2001 Crash-CP01-12	"	1407	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Allaire George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846736

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 25, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846763
SDG: OTJ39
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
FS2-CP01-0.5 Composite Soil	08/31/2017 12:05	9193947
FS2-CP01-07 Composite Soil	08/31/2017 12:10	9193948
FS2-CP01-12 Composite Soil	08/31/2017 12:30	9193949

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846763

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: FS2-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193947
ELLE Group # 1846763
Account # 37016

Project Name: Travis AFB

Collected: 08/31/2017 12:05 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 15:16

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS2G1 SDG#: OTJ39-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	59.4	0.50	1.0	1.0	1
11604	% Sand	n.a.	29.8	0.50	1.0	1.0	1
11604	% Silt	n.a.	6.9	0.50	1.0	1.0	1
11604	% Clay	n.a.	4.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	78.8	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	40.6	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	34.0	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	29.0	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	25.1	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	21.8	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	17.5	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	13.4	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	10.9	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	10.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	9.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	7.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	4.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	3.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	2.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 15:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: FS2-CP01-07 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193948
ELLE Group # 1846763
Account # 37016

Project Name: Travis AFB

Collected: 08/31/2017 12:10 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 15:16

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS2G2 SDG#: OTJ39-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	28.0	0.50	1.0	1.0	1
11604	% Silt	n.a.	40.6	0.50	1.0	1.0	1
11604	% Clay	n.a.	31.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	99.6	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	98.9	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	96.3	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	95.8	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	95.6	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	92.3	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	82.3	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	71.6	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	68.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	61.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	46.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	31.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	25.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	21.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 15:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: FS2-CP01-12 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193949
ELLE Group # 1846763
Account # 37016

Project Name: Travis AFB

Collected: 08/31/2017 12:30 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 15:16

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS2G3 SDG#: OTJ39-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	0.84 J	0.50	1.0	1.0	1
11604	% Sand	n.a.	24.6	0.50	1.0	1.0	1
11604	% Silt	n.a.	33.1	0.50	1.0	1.0	1
11604	% Clay	n.a.	41.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	96.2	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	97.1	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	88.9	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	87.7	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	85.3	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	80.8	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	77.4	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	74.6	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	74.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	71.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	60.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	41.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	31.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	23.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846763
Reported: 09/25/2017 15:16

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846763 | 9193947-49

OTIE
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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596 E-MAIL: Omartinez@otie.com	PROJECT CONTACT: Oscar Martinez
TEL: 925-906-9698 FAX: 925-906-9678 E-MAIL: MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
	SAMPLER(S): (SIGNATURE) Alexia George
	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
								NA	NA	NA	NA	
	FS2-CP01-0.5	8/31/17	1205	SO		X	2	X	X	X	X	
	FS2-CP01-07	"	1210	SO		X	2	X	X	X	X	
	FS2-CP01-12	"	1230	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Alexia George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846763

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 25, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846764
SDG: OTJ40
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
CFTA-CP01-01 Composite Soil	08/25/2017 11:15	9193950
CFTA-CP01-12 Composite Soil	08/25/2017 14:00	9193951
CFTA-CP01-20 Composite Soil	08/28/2017 10:35	9193952

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846764

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: CFTA-CP01-01 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193950
ELLE Group # 1846764
Account # 37016

Project Name: Travis AFB

Collected: 08/25/2017 11:15 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 15:18

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

CFTG1 SDG#: OTJ40-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	2.6	0.50	1.0	1.0	1
11604	% Sand	n.a.	19.1	0.50	1.0	1.0	1
11604	% Silt	n.a.	46.2	0.50	1.0	1.0	1
11604	% Clay	n.a.	32.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	97.4	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	96.7	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	94.5	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	94.0	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	93.6	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	91.6	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	85.1	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	78.2	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	75.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	67.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	50.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	32.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	25.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	20.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: CFTA-CP01-12 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193951
ELLE Group # 1846764
Account # 37016

Project Name: Travis AFB

Collected: 08/25/2017 14:00 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 15:18

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

CFTG2 SDG#: OTJ40-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	36.2	0.50	1.0	1.0	1
11604	% Silt	n.a.	35.5	0.50	1.0	1.0	1
11604	% Clay	n.a.	28.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	99.6	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	99.3	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	97.0	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	97.0	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	96.9	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	95.4	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	81.2	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	63.5	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	60.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	53.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	38.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	28.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	24.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	22.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: CFTA-CP01-20 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193952
ELLE Group # 1846764
Account # 37016

Project Name: Travis AFB

Collected: 08/28/2017 10:35 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 15:18

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

CFTG3 SDG#: OTJ40-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	2.8	0.50	1.0	1.0	1
11604	% Sand	n.a.	58.3	0.50	1.0	1.0	1
11604	% Silt	n.a.	22.9	0.50	1.0	1.0	1
11604	% Clay	n.a.	16.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	97.2	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	96.6	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	95.8	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	94.7	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	90.1	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	74.7	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	53.0	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	38.9	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	36.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	32.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	23.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	16.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	11.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	7.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846764
Reported: 09/25/2017 15:18

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846764 | 9193950-52

OTIE
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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alicia George
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: FedEx

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative	Remarks
								NA	NA	NA	NA		
	CFTA-CP01-01	8/25/17	1115	SO		X	2	X	X	X	X		
	CFTA-CP01-12	"	1400	SO		X	2	X	X	X	X		
	CFTA-CP01-20	8/28/17	1035	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Alicia George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846764

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 25, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846765
SDG: OTJ41
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
811-CP01-0.5 Composite Soil	08/30/2017 12:45	9193953
811-CP01-08 Composite Soil	08/30/2017 13:40	9193954
811-CP01-23 Composite Soil	08/30/2017 13:45	9193955

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846765

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: 811-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193953
ELLE Group # 1846765
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 12:45 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 15:19

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

811G1 SDG#: OTJ41-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	10.4	0.50	1.0	1.0	1
11604	% Sand	n.a.	25.4	0.50	1.0	1.0	1
11604	% Silt	n.a.	33.7	0.50	1.0	1.0	1
11604	% Clay	n.a.	30.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	90.1	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	89.6	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	89.5	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	89.4	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	89.4	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	87.7	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	83.4	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	74.4	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	64.2	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	62.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	57.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	42.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	30.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	25.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	22.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: 811-CP01-08 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193954
ELLE Group # 1846765
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 13:40 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 15:19

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

811G2 SDG#: OTJ41-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	39.3	0.50	1.0	1.0	1
11604	% Silt	n.a.	30.8	0.50	1.0	1.0	1
11604	% Clay	n.a.	30.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	100	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	100	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	100	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	99.6	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	94.5	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	79.1	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	69.0	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	60.8	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	59.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	54.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	42.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	30.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	23.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	18.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: 811-CP01-23 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193955
ELLE Group # 1846765
Account # 37016

Project Name: Travis AFB

Collected: 08/30/2017 13:45 by AG

Submitted: 09/06/2017 09:50
Reported: 09/25/2017 15:19

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

811G3 SDG#: OTJ41-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	45.0	0.50	1.0	1.0	1
11604	% Silt	n.a.	25.0	0.50	1.0	1.0	1
11604	% Clay	n.a.	30.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	100	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	100	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	99.9	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	99.7	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	93.6	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	76.6	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	63.5	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	55.0	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	53.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	48.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	38.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	30.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	26.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	23.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846765
Reported: 09/25/2017 15:19

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846765 | 9193953-55

OTIE
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CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Albert George	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: FedEx

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative / Remarks
								NA	NA	NA	NA	
	B11-CP01-0.5	8/30/17	1245	SO		X	2	X	X	X	X	
	B11-CP01-08	"	1340	SO		X	2	X	X	X	X	
	B11-CP01-23	"	1345	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Albert George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846765

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 26, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846766
SDG: OTJ42
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
86B141C-CP01-0.5 Composite Soil	08/31/2017 14:35	9193956
86B141C-CP01-09 Composite Soil	08/31/2017 14:53	9193957
86B141C-CP01-12 Composite Soil	08/31/2017 14:55	9193958

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846766

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: 86B141C-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193956
ELLE Group # 1846766
Account # 37016

Project Name: Travis AFB

Collected: 08/31/2017 14:35 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 10:27

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

86BG1 SDG#: OTJ42-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	24.3	0.50	1.0	1.0	1
11604	% Sand	n.a.	29.4	0.50	1.0	1.0	1
11604	% Silt	n.a.	32.8	0.50	1.0	1.0	1
11604	% Clay	n.a.	13.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	84.1	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	75.7	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	75.6	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	75.5	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	75.5	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	73.0	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	65.5	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	55.1	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	46.3	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	43.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	36.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	24.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	13.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	10.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	7.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1

*=This limit was used in the evaluation of the final result

Sample Description: 86B141C-CP01-09 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193957
ELLE Group # 1846766
Account # 37016

Project Name: Travis AFB

Collected: 08/31/2017 14:53 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 10:27

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

86BG2 SDG#: OTJ42-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	22.7	0.50	1.0	1.0	1
11604	% Silt	n.a.	50.3	0.50	1.0	1.0	1
11604	% Clay	n.a.	27.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	100	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	99.9	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	99.8	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	99.8	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	99.6	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	98.6	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	90.2	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	77.3	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	72.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	60.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	37.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	27.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	23.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	20.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1

*=This limit was used in the evaluation of the final result

Sample Description: 86B141C-CP01-12 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193958
ELLE Group # 1846766
Account # 37016

Project Name: Travis AFB

Collected: 08/31/2017 14:55 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 10:27

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

86BG3 SDG#: OTJ42-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	13.5	0.50	1.0	1.0	1
11604	% Silt	n.a.	52.0	0.50	1.0	1.0	1
11604	% Clay	n.a.	34.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	100	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	99.9	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	99.8	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	99.8	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	99.8	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	99.3	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	94.8	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	86.5	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	82.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	70.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	45.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	34.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	27.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	22.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846766
Reported: 09/26/2017 10:27

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846766 | 9193956-58

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alecia George
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr
							NA	NA	NA	NA	NA
	86B141C-CP01-0.5	8/31/17	1435	SO		X	2	X	X	X	X
	86B141C-CP01-09	"	1453	SO		X	2	X	X	X	X
	86B141C-CP01-12	"	1455	SO		X	2	X	X	X	X

Relinquished by commercial carrier: Fed Ex

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

<-- Preservative

Remarks

Relinquished by: (Signature) Alecia George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

Natalie Luciano

From: US19_USR_PxAdmin
Sent: Thursday, September 07, 2017 2:58 PM
To: omartinez@otie.com
Cc: Angela Miller
Subject: Acknowledgement(1846766, Travis AFB, 09/06/2017 09:50:00)
Attachments: EAcknow_1846766.xls; 1846766d.pdf; 1846766c.pdf

Good Afternoon,

Hello Oscar,

The laboratory received one jar for sample 86B141C-CP01-12. Per our phone conversation we are scheduled to analyze this sample for Grain Size to 1 um and Grain Size Classification (and not for pH or TOC).

Thank you,
Angela Miller

* Unless agreed in writing prior to sample receipt, the attached General Terms of Sale apply to this sample submittal.

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846766

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
86B141C-CP01-12	1	2	

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 26, 2017

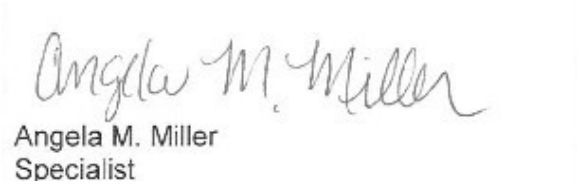
Project: Travis AFB

Account #: 37016
Group Number: 1846767
SDG: OTJ43
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
FS4-CP01-0.5 Composite Soil	09/01/2017 11:19	9193959
FS4-CP01-06 Composite Soil	09/01/2017 12:00	9193960
FS4-CP01-11 Composite Soil	09/01/2017 12:05	9193961

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846767

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: FS4-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193959
ELLE Group # 1846767
Account # 37016

Project Name: Travis AFB

Collected: 09/01/2017 11:19 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 10:37

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS4G1 SDG#: OTJ43-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	6.0	0.50	1.0	1.0	1
11604	% Sand	n.a.	30.2	0.50	1.0	1.0	1
11604	% Silt	n.a.	36.9	0.50	1.0	1.0	1
11604	% Clay	n.a.	27.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	94.0	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	94.0	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	94.0	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	93.8	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	92.9	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	88.5	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	76.5	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	63.9	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	61.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	54.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	39.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	27.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	22.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	20.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1

*=This limit was used in the evaluation of the final result

Sample Description: FS4-CP01-06 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193960
ELLE Group # 1846767
Account # 37016

Project Name: Travis AFB

Collected: 09/01/2017 12:00 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 10:37

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS4G2 SDG#: OTJ43-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	3.1	0.50	1.0	1.0	1
11604	% Sand	n.a.	33.4	0.50	1.0	1.0	1
11604	% Silt	n.a.	33.1	0.50	1.0	1.0	1
11604	% Clay	n.a.	30.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	96.9	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	96.1	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	87.2	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	86.6	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	86.1	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	84.2	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	74.9	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	63.6	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	61.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	54.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	39.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	30.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	22.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	15.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1

*=This limit was used in the evaluation of the final result

Sample Description: FS4-CP01-11 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193961
ELLE Group # 1846767
Account # 37016

Project Name: Travis AFB

Collected: 09/01/2017 12:05 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 10:37

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

FS4G3 SDG#: OTJ43-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	36.3	0.50	1.0	1.0	1
11604	% Silt	n.a.	28.1	0.50	1.0	1.0	1
11604	% Clay	n.a.	35.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	99.9	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	99.8	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	99.6	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	99.6	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	99.0	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	94.5	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	73.7	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	63.6	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	62.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	58.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	47.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	35.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	28.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	22.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846767
Reported: 09/26/2017 10:37

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846767 | 9193959-61

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alain George
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative
								NA	NA	NA	NA	Remarks
	FS4-CP01-0.5	9/1/17	1119	SO		X	2	X	X	X	X	
	FS4-CP01-06	11	1200	SO		X	2	X	X	X	X	
	FS4-CP01-11	11	1205	SO		X	2	X	X	X	X	

Relinquished by: (Signature) Alain George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846767

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

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DoD Type I Data Package

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Project: Travis AFB
Soil Samples
Collected on 09/05/17

SDG# OTJ44

GROUP	SAMPLE NUMBERS
1846768	9193962, 9193964

A2LA (DoD) Cert. # 0001.01
PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M. Kauffman **Date:** **09/29/2017**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Angela Miller at (717) 556-7260.

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

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2. Methodology Summary/Reference 4
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   a. Case Narrative/Conformance Summary 18
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   c. Raw Data 23

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Sample Reference List for SDG Number OTJ44
with a Data Package Type of I-DOD

37016 - Oneida Total Integration Ent.

Project: Travis AFB

Lab Sample Number	Client Sample ID	Collection Date	Date Received
9193962	N0Z-CP01-0.5	09/05/2017 10:20	09/06/2017 09:50
9193964	N0Z-CP01-12	09/05/2017 11:00	09/06/2017 09:50

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

11604 Grain Size Classification
07103 Grain Size to 1 um

A thoroughly dried soil is ground using a rubber pestle to break the aggregations. The ground soil is then sieved to determine percentage of particles passing sizes in the range 75 - 2.36 mm. Particles finer than 2.36 mm are soaked in a dispersing agent for 16 hours and the particle sizes from 0.075 mm - 0.001 mm are determined by a sedimentation process using a hydrometer. The soil from the hydrometer test is dried and then sieved to determine percentage of particles passing sizes in the range 1.18 - 0.075 mm.

Reference: ASTM D422, Standard Test Method for Particle-Size Analysis of Soil

Analysis Reports / Field Chain of Custody

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 28, 2017

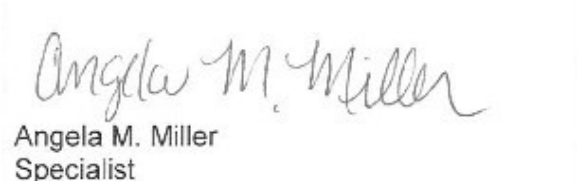
Project: Travis AFB

Account #: 37016
Group Number: 1846768
SDG: OTJ44
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
N0Z-CP01-0.5 Composite Soil	09/05/2017 10:20	9193962
N0Z-CP01-12 Composite Soil	09/05/2017 11:00	9193964

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846768

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: N0Z-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193962
ELLE Group # 1846768
Account # 37016

Project Name: Travis AFB

Collected: 09/05/2017 10:20 by AG

Submitted: 09/06/2017 09:50
Reported: 09/28/2017 11:04

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

N0ZG1 SDG#: OTJ44-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	14.5	0.50	1.0	1.0	1
11604	% Sand	n.a.	42.6	0.50	1.0	1.0	1
11604	% Silt	n.a.	28.0	0.50	1.0	1.0	1
11604	% Clay	n.a.	15.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	95.8	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	85.6	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	80.9	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	80.2	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	78.2	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	74.0	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	63.9	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	52.1	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	43.0	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	40.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	34.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	24.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	15.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	11.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	9.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1

*=This limit was used in the evaluation of the final result

Sample Description: N0Z-CP01-12 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193964
ELLE Group # 1846768
Account # 37016

Project Name: Travis AFB

Collected: 09/05/2017 11:00 by AG

Submitted: 09/06/2017 09:50
Reported: 09/28/2017 11:04

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

N0ZG3 SDG#: OTJ44-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	11.6	0.50	1.0	1.0	1
11604	% Silt	n.a.	58.4	0.50	1.0	1.0	1
11604	% Clay	n.a.	30.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	100	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	99.9	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	99.9	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	99.8	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	99.7	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	98.9	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	94.5	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	88.4	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	83.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	72.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	47.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	30.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	23.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	20.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846768
Reported: 09/28/2017 11:04

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846768 | 9193962-64

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alberia Gooye
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs
-level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: FedEx

Preservation Codes:

H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	<-- Preservative	Remarks
								NA	NA	NA	NA		
	NOZ-CP01 - 0.5	9/5/17	1020	SO		X	2	X	X	X	X		
	NOZ-CP01 - 7.5	"	1055	SO		X	2	X	X	X	X		
	NOZ - CP01 - 12	"	1100	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Alberia Gooye	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

Natalie Luciano

From: Oscar Martinez <OMartinez@otie.com>
Sent: Wednesday, September 27, 2017 5:38 PM
To: Angela Miller
Subject: RE: N0Z-CP01-7.5 Composite Soil (ELLE # 9193963) Travis AFB grainsize analysis

Please note and the reduce the cost on the invoice.

Oscar A. Martinez
Oneida Total Integrated Enterprises (OTIE)
210.541-0646 x2230 office
www.otie.com
OTIE is now part of Oneida ESC Group

Engineering, Science and Construction

From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Wednesday, September 27, 2017 10:29 AM
To: Oscar Martinez
Subject: N0Z-CP01-7.5 Composite Soil (ELLE # 9193963) Travis AFB grainsize analysis

Oscar,

Unfortunately, due to a laboratory error, we are unable to provide a result for the grainsize analysis for the above referenced sample. We are missing a vital piece of the weight needed to calculate the percentages. Unless additional sample volume can be provided we will have to delete the analysis. We apologize for this error.

Sincerely,
Angela

Angela Miller
Project Manager

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Phone: 717-556-7260
Fax: 717-656-6766

Email: AngelaMiller@eurofinsus.com
www.EurofinsUS.com/LancLabsEnv

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846768

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17601-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Wet Chemistry Data

Case Narrative/Conformance Summary

Wet Chemistry

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Case Narrative/Conformance Summary

CLIENT: Oneida Total Integration Ent.
SDG: OTJ44

Water Quality

Fraction: Wet Chemistry

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9193962	N0Z-CP01-0.5		X	1	
9193964	N0Z-CP01-12		X	1	

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.
See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

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Case Narrative/Conformance Summary

CLIENT: Oneida Total Integration Ent.
SDG: OTJ44

Water Quality

Fraction: Wet Chemistry

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

QC Summary

Wet Chemistry

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Quality Control Reference List
Water Quality

CLIENT: Oneida Total Integration Ent.
SDG: OTJ44

Fraction: Wet Chemistry

Batch Number	Sample Number	Analysis Date	Grain Size Classification	Grain Size to 1 um
17255710301A	9193962	09/12/2017 12:00:00	X	X
	9193964	09/12/2017 12:00:00	X	X

Raw Data

Wet Chemistry

Fraction: Wet Chemistry

11604: Grain Size Classification Analyte Name	Default DL	Default LOD	Default LOQ	Units
% Gravel	0.50	1.0	1.0	%
% Sand	0.50	1.0	1.0	%
% Silt	0.50	1.0	1.0	%
% Clay	0.50	1.0	1.0	%
% Silt + Clay	0.50	1.0	1.0	%

07103: Grain Size to 1 um Analyte Name	Default DL	Default LOD	Default LOQ	Units
75 mm	0.50	0.50	0.50	% Passing
37.5 mm	0.50	0.50	0.50	% Passing
19 mm	0.50	0.50	0.50	% Passing
4.75 mm	0.50	0.50	0.50	% Passing
3.35 mm	0.50	0.50	0.50	% Passing
2.36 mm	0.50	0.50	0.50	% Passing
1.18 mm	0.50	0.50	0.50	% Passing
0.6 mm	0.50	0.50	0.50	% Passing
0.3 mm	0.50	0.50	0.50	% Passing
0.15 mm	0.50	0.50	0.50	% Passing
0.075 mm	0.50	0.50	0.50	% Passing
0.064 mm	0.50	0.50	0.50	% Passing
0.05 mm	0.50	0.50	0.50	% Passing
0.02 mm	0.50	0.50	0.50	% Passing
0.005 mm	0.50	0.50	0.50	% Passing
0.002 mm	0.50	0.50	0.50	% Passing
0.001 mm	0.50	0.50	0.50	% Passing

eurofins | Lancaster Laboratories Environmental	Document Title: #7103 Particle Size Distribution / #11604 Grain Size Classification		
	Eurofins Document Reference: 1-P-QM-FOR-9008039	Revision: 7	Historical Reference: Form 3606
	Effective date: Sep 2, 2014	Status: Effective	

Sample: 9193862 Date/Time: 9/12/17 1200 Init./Emp. #: JDT 124931 Batch #: 172557103014

Pan Balance ID#: 9458

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
3 Inch	538.72	538.72
1.5 Inch	559.21	559.21
0.75 Inch	577.08	555.85
#4	554.87	503.23
#6	505.86	482.38
#8	433.00	429.22
PAN	790.49	386.30

Bottle code: 73A

Comments:

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
#16	451.23	450.09
#30	294.01	291.54
#50	270.24	264.20
#100	324.65	317.55
#200	221.70	216.26
PAN	387.59	386.31

Grain Size Classification	
% Gravel	14.45
% Sand	42.59
% Silt	27.96
% Clay	15.00
%Clay + Silt.	N/A

Balance ID#: 16861 Oven ID# 16859

Oven Date/Time/Temp In: 9.22.17 1830 108° Oven Date/Time/Temp Out: 9.23.17 1300 108°

Moisture

Tare Weight (g)	Sample Weight (g)	Oven Dry Wt. (g)
1.0961	5.0032	5.8835

Init./Emp. #: Smg/239

Bulk Density

Tare Weight (g)	Sample Weight (g)	DI H_2O+Sple Wt. (g)
64.4808	15.0027	108.9163

Init./Emp. #: Smg/239

Hydrometer Readings Sample Wt. 50.09 Hydrometer ID #: 237666 Init./Emp #: DSS/237

Time	Temp	Reading
2 minutes	20°	1.015
5 minutes	20°	1.014
15 minutes	20°	1.0125
30 minutes	20°	1.0115
60 minutes	20°	1.0105
250 minutes	20°	1.0095
1440 minutes	20°	1.0085

Comments :

Oven ID#: 16859

Oven Date/Time/Temp In: 9-24-17 | 0430 | 107°

Oven Date/Time/Temp Out: 9-26-17 | 1020 | 108°

Verified by: [illegible] Date: 9/26/17

Particle Size Distribution

Sample:	Date:	Init/Emp #
9193962	09/12/2017 12:00	DSS/237

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
3 inch	538.72	538.72	0.00	100
1.5 inch	559.21	559.21	0.00	100
0.75 inch	577.08	555.85	21.23	95.7903712
# 4	554.87	503.23	51.64	85.5508407
# 6	505.86	482.38	23.48	80.8950666
# 8	433.00	429.22	3.78	80.1455425
PAN	790.49	386.30	404.19	

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
# 16	451.23	450.04	1.19	78.1556783
# 30	294.01	291.54	2.47	74.0254558
# 50	270.24	264.20	6.04	63.9256406
# 100	324.65	317.55	7.10	52.0533412
# 200	221.70	216.26	5.44	42.9568189
PAN	387.59	386.31	1.28	

Moisture Tare Weight	Sample Weight	Oven Dry Weight	Ratio
1.0961	5.0032	5.8835	0.9569

Bulk Density Tare Weight	Sample Weight	DI H2O + Smp. Wt.	Vol H2O	Vol Soil	Result
64.4808	15.0027	108.9163	93.9136	6.0864	2.4650

Hydrometer Readings	Sample Weight	50.09	Hydrometer #:	237666	
Time	Temp	Reading	Corr. Rdng.	Part. Size	% Passing
2 minutes	20.0	1.0150	1.010	0.0361	28.8393261
5 minutes	20.0	1.0140	1.009	0.0231	26.0257333
15 minutes	20.0	1.0125	1.008	0.0136	21.8053441
30 minutes	20.0	1.0115	1.007	0.0097	18.9917513
60 minutes	20.0	1.0105	1.006	0.0070	16.1781585
250 minutes	20.0	1.0095	1.005	0.0034	13.3645658
1440 minutes	20.0	1.0085	1.004	0.0014	10.550973

Particle Size Distribution

Sample:	Date:	Init/Emp #
9193962	09/12/2017 12:00	DSS/237

Percent Passing		Particle Size
100.00		75
100.00		37.5
95.79		19
85.55		4.75
80.90		3.35
80.15		2.36
78.16		1.18
74.03		0.6
63.93		0.3
52.05		0.15
42.96	*	0.075
28.84	*	0.03610
26.03	***	0.02311
21.81	**	0.01360
18.99	**	0.00973
16.18	**	0.00696
13.36	**	0.00343
10.55	**	0.00145

* Used for line 1
** Used for line 2
*** Used for lines 1 and 2
\+ Calculated from line 1
++ Calculated from line 2

Log(particle size)
-1.124939
-1.442476
-1.636213
-1.866325
-2.011924
-2.157631
-2.464377
-2.839953

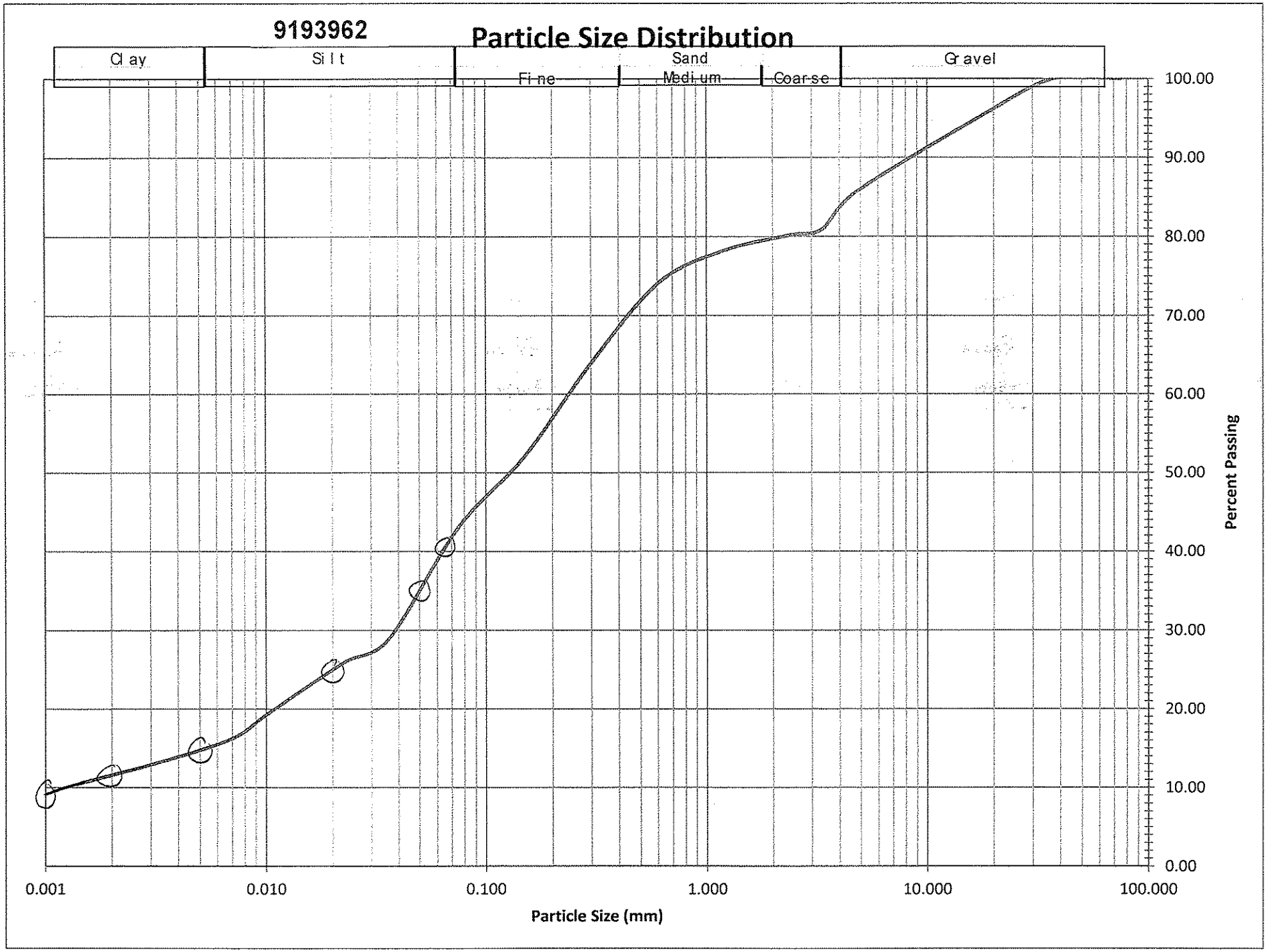
Line 1 Regression Output:	
Constant	80.5720465
Std Err of Y Est	2.9127837
R Squared	0.9484635
No. of Observations	3
Degrees of Freedom	1
X Coefficient(s)	34.2309749
Std Err of Coef.	7.9793297

Line 2 Regression Output:	
Constant	45.3576253
Std Err of Y Est	1.4127783
R Squared	0.9500937
No. of Observations	6
Degrees of Freedom	4
X Coefficient(s)	12.7330338
Std Err of Coef.	1.4591374

Particle Size	Calculated % Passing		
0.064	40.5	+	39.71
0.05	~~35.0~~ 34.5 ③JPT112262 9/26/17	+	36.04
0.02	24.5	++	23.72
0.005	15.0	++	16.06
0.002	11.5	++	10.99
0.001	9.0	++	7.16

JPT112262
9/26/17

9/26/17 9/26/17


9193962
Particle Size Distribution
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Percent Passing
0.001
0.010
0.100
1.000
10.000
100.000
Particle Size (mm)

eurofins | Lancaster Laboratories Environmental	Document Title: #7103 Particle Size Distribution / #11604 Grain Size Classification		
	Eurofins Document Reference: 1-P-QM-FOR-9008039	Revision: 7	Historical Reference: Form 3606
	Effective date: Sep 2, 2014	Status: Effective	

Sample: 9193964 Date/Time: 09/12/17 1200 Init./Emp. #: IDT 124931 Batch #: 172557103011A

Pan Balance ID#: 9458

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
3 Inch	538.71	538.71
1.5 Inch	559.21	559.21
0.75 Inch	555.79	555.79
#4	503.28	503.24
#6	482.52	482.42
#8	429.56	429.37 ~~429.67~~ 37
PAN	613.74	386.27

Bottle code: 73A

Comments:

③ IDT 124931 09/21/17

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
#16	450.17	450.12
#30	291.67	291.63
#50	264.58	264.20
#100	319.73	317.62
#200	219.35	216.39
PAN	386.69	386.32

Grain Size Classification	
% Gravel	0.02
% Sand	11.62
% Silt	58.36
% Clay	30.00
%Clay + Silt	N/A

Balance ID#: 16861 Oven ID# 16859

Oven Date/Time/Temp In: 9.22.17 1830 108° Oven Date/Time/Temp Out: 9.23.17 1300 108°

Moisture

Tare Weight (g)	Sample Weight (g)	Oven Dry Wt. (g)
1.0981	5.0059	5.8993

Init./Emp. #: dmg/239

Bulk Density

Tare Weight (g)	Sample Weight (g)	DI H_2O+Sple Wt. (g)
59.9865	15.0029	104.9223

Init./Emp. #: dmg/239

Hydrometer Readings Sample Wt. 50.18 Hydrometer ID #: 237666 Init./Emp #: DSS/237

Time	Temp	Reading
2 minutes	20°	1.0205
5 minutes	20°	1.0185
15 minutes	20°	1.0165
30 minutes	20°	1.015
60 minutes	20°	1.014
250 minutes	20°	1.0125
1440 minutes	20°	1.011 ~~1.0085~~

Comments :

③ DSS/237 9-24-17

Oven ID#: 16859

Oven Date/Time/Temp In: 9-24-17 | 0930 | 107°

Oven Date/Time/Temp Out: 9-26-17 | 1020 | 108°

Verified by: DSS 9/25 Date: 9/26/17

Particle Size Distribution

Sample:	Date:	Init/Emp #
9193964	09/12/2017 12:00	DSS/237

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
3 inch	538.71	538.71	0.00	100
1.5 inch	559.21	559.21	0.00	100
0.75 inch	555.79	555.79	0.00	100
# 4	503.28	503.24	0.04	99.9824407
# 6	482.52	482.42	0.10	99.9385426
# 8	429.56	429.37	0.19	99.8551361
PAN	613.74	386.27	227.47	

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
# 16	450.17	450.12	0.05	99.7513971
# 30	291.67	291.63	0.04	99.6684059
# 50	264.58	264.20	0.38	98.8799893
# 100	319.73	317.62	2.11	94.5022028
# 200	219.35	216.39	2.96	88.360853
PAN	386.69	386.32	0.37	

Moisture Tare Weight	Sample Weight	Oven Dry Weight	Ratio
1.0981	5.0059	5.8993	0.9591

Bulk Density Tare Weight	Sample Weight	DI H2O + Smp. Wt.	Vol H2O	Vol Soil	Result
59.9865	15.0029	108.9223	93.9194	6.0806	2.4673

Hydrometer Readings	Sample Weight	50.18	Hydrometer #:	237666	
Time	Temp	Reading	Corr. Rdng.	Part. Size	% Passing
2 minutes	20.0	1.0205	1.016	0.0341	54.9478968
5 minutes	20.0	1.0185	1.014	0.0221	47.9703861
15 minutes	20.0	1.0165	1.012	0.0131	40.9928754
30 minutes	20.0	1.0150	1.010	0.0093	35.7597424
60 minutes	20.0	1.0140	1.009	0.0067	32.270987
250 minutes	20.0	1.0125	1.008	0.0033	27.037854
1440 minutes	20.0	1.0110	1.006	0.0014	21.804721

Particle Size Distribution

Sample:	Date:	Init/Emp #
9193964	09/12/2017 12:00	DSS/237

Percent Passing		Particle Size
100.00		75
100.00		37.5
100.00		19
99.98		4.75
99.94		3.35
99.86		2.36
99.75		1.18
99.67		0.6
98.88		0.3
94.50		0.15
88.36	*	0.075
54.95	*	0.03413
47.97	***	0.02207
40.99	**	0.01307
35.76	**	0.00932
32.27	**	0.00667
27.04	**	0.00333
21.80	**	0.00140

* Used for line 1
** Used for line 2
*** Used for lines 1 and 2
\+ Calculated from line 1
++ Calculated from line 2

Log(particle size)
-1.124939
-1.466809
-1.656126
-1.883643
-2.030596
-2.175878
-2.477324
-2.852617

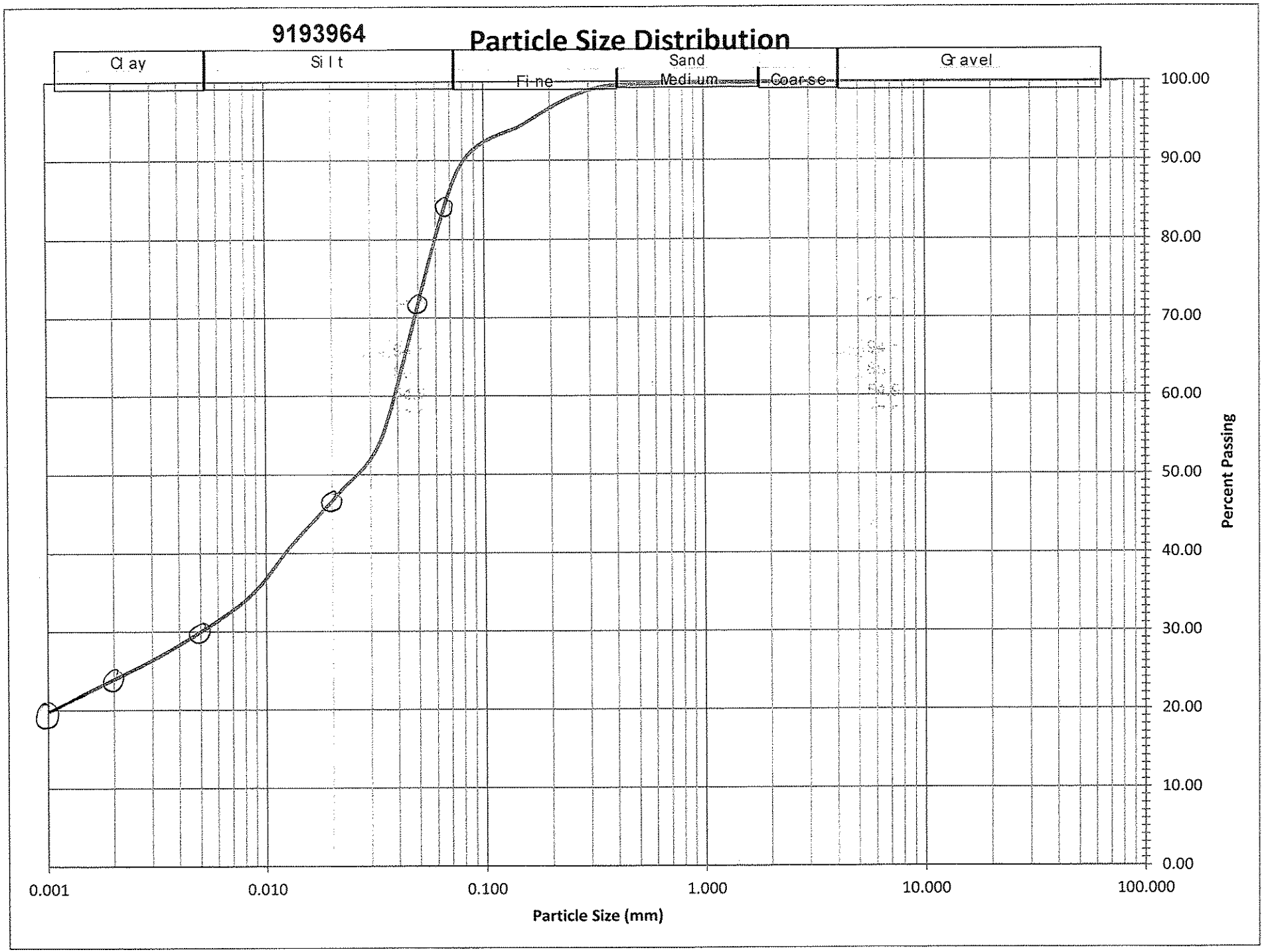
Line 1 Regression Output:	
Constant	175.1110322
Std Err of Y Est	5.9749876
R Squared	0.9617016
No. of Observations	3
Degrees of Freedom	1
X Coefficient(s)	78.6402723
Std Err of Coef.	15.6933251

Line 2 Regression Output:	
Constant	81.2140176
Std Err of Y Est	2.1256325
R Squared	0.9595489
No. of Observations	6
Degrees of Freedom	4
X Coefficient(s)	21.5236760
Std Err of Coef.	2.2096233

Particle Size	Calculated		% Passing
0.064	83.5	+	81.23
0.05	72.0	+	72.80
0.02	47.0	++	44.65
0.005	30.0	++	31.69
0.002	23.5	++	23.12
0.001	20.0	++	16.64

9/26/17

SPT 112262
9/26/17


9193964
Particle Size Distribution
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Percent Passing
0.001
0.010
0.100
1.000
10.000
100.000
Particle Size (mm)

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 26, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846770
SDG: OTJ45
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
82/83C5-CP01-0.5 Composite Soil	09/03/2017 12:00	9193977
82/83C5-CP01-7.5 Composite Soil	09/03/2017 13:15	9193978
82/83C5-CP01-14 Composite Soil	09/03/2017 14:10	9193979

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846770

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: 82/83C5-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193977
ELLE Group # 1846770
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 12:00 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 14:35

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

83CG1 SDG#: OTJ45-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	17.1	0.50	1.0	1.0	1
11604	% Sand	n.a.	47.6	0.50	1.0	1.0	1
11604	% Silt	n.a.	22.8	0.50	1.0	1.0	1
11604	% Clay	n.a.	12.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	97.0	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	82.9	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	76.6	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	74.4	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	71.1	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	68.0	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	59.2	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	45.9	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	35.3	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	33.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	31.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	21.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	12.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	9.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	7.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1
07103	Grain Size to 1 um	ASTM D422	1	17255710301A	09/12/2017 12:00	Daniel S Smith	1

*=This limit was used in the evaluation of the final result

Sample Description: 82/83C5-CP01-7.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193978
ELLE Group # 1846770
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 13:15 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 14:35

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

83CG2 SDG#: OTJ45-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	4.9	0.50	1.0	1.0	1
11604	% Sand	n.a.	39.6	0.50	1.0	1.0	1
11604	% Silt	n.a.	29.6	0.50	1.0	1.0	1
11604	% Clay	n.a.	26.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	95.1	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	90.2	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	88.8	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	88.4	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	86.2	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	75.4	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	66.7	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	55.6	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	53.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	48.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	37.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	26.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	22.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	17.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Daniel S Smith	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Daniel S Smith	1

*=This limit was used in the evaluation of the final result

Sample Description: 82/83C5-CP01-14 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193979
ELLE Group # 1846770
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 14:10 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 14:35

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

83CG3 SDG#: OTJ45-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	30.4	0.50	1.0	1.0	1
11604	% Silt	n.a.	46.8	0.50	1.0	1.0	1
11604	% Clay	n.a.	22.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	99.6	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	99.0	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	98.3	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	97.7	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	96.4	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	88.4	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	76.8	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	69.3	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	66.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	57.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	38.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	22.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	18.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	15.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Daniel S Smith	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Daniel S Smith	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846770
Reported: 09/26/2017 14:35

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

OTIE
An Oneida Nation Company

37016 | 1846770 | 9193977-79

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Albert George
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs

-level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr												
								NA	NA	NA	NA												
	82/83CS-CP01-0.5	9/3/17	1200	SO		X	2	X	X	X	X												
	82/83CS-CP01-7.5	9/3/17	1315	SO		X	2	X	X	X	X												
	82/83CS-CP01-14	11	1410	SO		X	2	X	X	X	X												

Relinquished by commercial carrier: FedEx

Preservation Codes:

H = HCl NA = Not Applicable

N = HNO_3 T = Trizma

S = H_2SO_4 B = NaOH

<-- Preservative

Remarks

Relinquished by: (Signature) Albert George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846770

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 26, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846771
SDG: OTJ46
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
2014E75-CP01-0.5 Composite Soil	09/04/2017 12:05	9193980
2014E75-CP01-06 Composite Soil	09/04/2017 12:20	9193981
2014E75-CP01-11.5 Composite Soil	09/04/2017 12:49	9193982

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846771

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: 2014E75-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193980
ELLE Group # 1846771
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 12:05 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 10:51

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

E75G1 SDG#: OTJ46-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	4.2	0.50	1.0	1.0	1
11604	% Sand	n.a.	45.8	0.50	1.0	1.0	1
11604	% Silt	n.a.	32.0	0.50	1.0	1.0	1
11604	% Clay	n.a.	18.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	95.8	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	90.5	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	86.7	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	84.7	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	81.5	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	72.6	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	59.4	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	50.0	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	47.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	39.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	27.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	18.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	16.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	15.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Luz M Groff	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Sample Description: 2014E75-CP01-06 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193981
ELLE Group # 1846771
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 12:20 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 10:51

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

E75G2 SDG#: OTJ46-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	23.4	0.50	1.0	1.0	1
11604	% Sand	n.a.	26.7	0.50	1.0	1.0	1
11604	% Silt	n.a.	28.9	0.50	1.0	1.0	1
11604	% Clay	n.a.	21.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	76.6	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	66.4	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	60.5	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	60.1	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	59.6	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	58.5	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	55.7	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	49.9	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	48.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	42.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	33.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	21.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	16.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	15.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Luz M Groff	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Sample Description: 2014E75-CP01-11.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193982
ELLE Group # 1846771
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 12:49 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 10:51

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

E75G3 SDG#: OTJ46-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	N.D.	0.50	1.0	1.0	1
11604	% Sand	n.a.	39.3	0.50	1.0	1.0	1
11604	% Silt	n.a.	50.1	0.50	1.0	1.0	1
11604	% Clay	n.a.	10.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	99.9	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	99.9	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	99.6	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	99.6	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	99.1	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	92.9	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	74.0	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	60.6	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	53.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	34.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	17.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	10.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	8.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	7.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Luz M Groff	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846771
Reported: 09/26/2017 10:51

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

OTIE
An Oneida Nation Company

37016 | 1846771 | 9193980-82

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alicia Arroyo
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs
-level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr
								NA	NA	NA	NA
	2014E75-CP01-0.5	9/4/17	1205	SO		X	2	X	X	X	X
	2014E75-CP01-06	"	1220	SO		X	2	X	X	X	X
	2014E75-CP01-11.5	"	1249	SO		X	2	X	X	X	X

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

<-- Preservative

Remarks

Relinquished by: (Signature) Alicia Arroyo	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846771

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 26, 2017

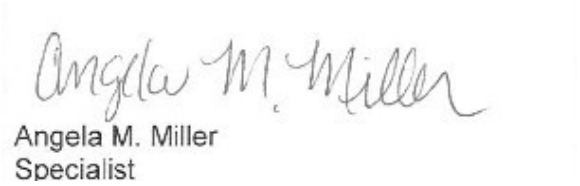
Project: Travis AFB

Account #: 37016
Group Number: 1846772
SDG: OTJ47
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
Late80s-CP01-0.5 Composite Soil	09/04/2017 10:20	9193983
Late80s-CP01-6.5 Composite Soil	09/04/2017 11:05	9193984
Late80s-CP01-11.5 Composite Soil	09/04/2017 11:10	9193985

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846772

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: Late80s-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193983
ELLE Group # 1846772
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 10:20 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 12:43

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

L80G1 SDG#: OTJ47-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	5.6	0.50	1.0	1.0	1
11604	% Sand	n.a.	44.4	0.50	1.0	1.0	1
11604	% Silt	n.a.	30.5	0.50	1.0	1.0	1
11604	% Clay	n.a.	19.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	94.4	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	90.1	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	85.0	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	84.0	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	81.9	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	73.4	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	60.5	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	50.0	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	47.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	41.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	29.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	19.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	15.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	13.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Luz M Groff	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Sample Description: Late80s-CP01-6.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193984
ELLE Group # 1846772
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 11:05 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 12:43

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

L80G2 SDG#: OTJ47-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	0.52 J	0.50	1.0	1.0	1
11604	% Sand	n.a.	21.3	0.50	1.0	1.0	1
11604	% Silt	n.a.	38.1	0.50	1.0	1.0	1
11604	% Clay	n.a.	40.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	99.5	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	98.6	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	93.4	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	92.5	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	91.8	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	89.7	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	85.5	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	78.1	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	75.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	68.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	50.5	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	40.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	32.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	23.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1

*=This limit was used in the evaluation of the final result

Sample Description: Late80s-CP01-11.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193985
ELLE Group # 1846772
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 11:10 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 12:43

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

L80G3 SDG#: OTJ47-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	3.4	0.50	1.0	1.0	1
11604	% Sand	n.a.	67.3	0.50	1.0	1.0	1
11604	% Silt	n.a.	19.8	0.50	1.0	1.0	1
11604	% Clay	n.a.	9.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	96.6	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	93.7	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	91.6	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	91.2	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	88.0	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	69.9	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	44.1	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	29.3	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	27.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	21.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	15.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	9.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	8.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	7.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846772
Reported: 09/26/2017 12:43

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846772 | 9193983-85

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Alicia George
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
-level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: Fed Ex

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Corr	<-- Preservative	Remarks
								NA	NA	NA	NA		
	Late 80s-CP01-0.5	9/4/17	1020	SO	X	X	2	X	X	X	X		
	Late 80s-CP01-6.5	"	1105	SO		X	2	X	X	X	X		
	~~Late~~ Late 80s-CP01-11.5	"	1110	SO		X	2	X	X	X	X		

Relinquished by: (Signature) Alicia George	Received by: (Signature) Fed Ex	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 750

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846772

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

Page 9 of 11

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 26, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846773
SDG: OTJ48
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
88C5-CP01-0.5 Composite Soil	09/04/2017 14:05	9193986
88C5-CP01-05 Composite Soil	09/04/2017 14:35	9193987
88C5-CP01-09 Composite Soil	09/04/2017 14:40	9193988

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846773

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: 88C5-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193986
ELLE Group # 1846773
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 14:05 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 12:59

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

88CG1 SDG#: OTJ48-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	4.3	0.50	1.0	1.0	1
11604	% Sand	n.a.	44.8	0.50	1.0	1.0	1
11604	% Silt	n.a.	39.9	0.50	1.0	1.0	1
11604	% Clay	n.a.	11.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	95.7	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	89.8	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	87.8	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	87.4	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	86.4	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	81.9	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	68.5	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	50.9	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	46.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	33.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	18.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	11.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	8.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	6.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1

*=This limit was used in the evaluation of the final result

Sample Description: 88C5-CP01-05 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193987
ELLE Group # 1846773
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 14:35 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 12:59

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

88CG2 SDG#: OTJ48-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	14.7	0.50	1.0	1.0	1
11604	% Sand	n.a.	35.8	0.50	1.0	1.0	1
11604	% Silt	n.a.	34.5	0.50	1.0	1.0	1
11604	% Clay	n.a.	15.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	85.3	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	74.7	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	70.5	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	70.1	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	69.9	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	68.7	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	60.5	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	49.5	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	45.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	36.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	22.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	15.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	13.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	12.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1

*=This limit was used in the evaluation of the final result

Sample Description: 88C5-CP01-09 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193988
ELLE Group # 1846773
Account # 37016

Project Name: Travis AFB

Collected: 09/04/2017 14:40 by AG

Submitted: 09/06/2017 09:50
Reported: 09/26/2017 12:59

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

88CG3 SDG#: OTJ48-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	7.5	0.50	1.0	1.0	1
11604	% Sand	n.a.	51.4	0.50	1.0	1.0	1
11604	% Silt	n.a.	29.1	0.50	1.0	1.0	1
11604	% Clay	n.a.	12.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	92.5	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	81.9	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	78.0	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	77.9	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	77.9	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	75.1	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	56.5	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	41.1	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	37.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	27.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	17.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	12.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	10.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	7.5	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846773
Reported: 09/26/2017 12:59

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846773 | 9193986-88

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE				CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004	P.O. NO.: 10976
ADDRESS: 1777 N. California Blvd., Suite 310				PROJECT CONTACT: Oscar Martinez	LAB CONTACT / QUOTE NO.: Angela Miller/37016
CITY: Walnut Creek	STATE: CA	ZIP: 94596	E-MAIL: Omartinez@otie.com	SAMPLER(S): (SIGNATURE) Allegia George	SDG #:
TEL: 925-906-9698	FAX: 925-906-9678		MQuillin@otie.com		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
-level III data package unless otherwise noted.

REQUESTED ANALYSIS

| Lab Use | SAMPLE ID | SAMPLING DATE | TIME | MATRIX | GRAB | COMP. | No. of containers | Grain Size | pH | Moisture | TOC Solids/Sludges Corr | | | | |

Natalie Luciano

From: Oscar Martinez <OMartinez@otie.com>
Sent: Monday, September 11, 2017 4:45 PM
To: Angela Miller
Subject: RE: Acknowledgement(1846773, Travis AFB, 09/06/2017 09:50:00)

Angela,
The times on the spreadsheet are correct

88C5-CP01-05 1435
88C5-CP01-09 1440

Oscar A. Martinez
Oneida Total Integrated Enterprises (OTIE)
210.541-0646 x2230 office
www.otie.com

-----Original Message-----
From: Angela Miller [mailto:AngelaMiller@eurofinsUS.com]
Sent: Monday, September 11, 2017 3:34 PM
To: Oscar Martinez
Subject: FW: Acknowledgement(1846773, Travis AFB, 09/06/2017 09:50:00)

Good afternoon Oscar,

We are scheduled to report the collection times per the COC. The sample receipt documentation log indicates that the times on the bottle labels were switched for samples 88C5-CP01-05 and 88C5-CP01-09. Please let me know if any changes are needed.

Thank you,
Angela

Angela Miller
Project Manager

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Phone: 717-556-7260
Fax: 717-656-6766

Email: AngelaMiller@eurofinsus.com
www.EurofinsUS.com/LancLabsEnv

-----Original Message-----
From: LLAutomatedReportingSystem@eurofins.com [mailto:LLAutomatedReportingSystem@eurofins.com]
Sent: Thursday, September 07, 2017 4:20 PM
To: omartinez@otie.com
Cc: Angela Miller
Subject: Acknowledgement(1846773, Travis AFB, 09/06/2017 09:50:00)

Good Afternoon,

Please confirm the collection times for the samples listed on the attached. The sample receipt documentation log indicates that the times on the bottle labels were different from the times listed on the COC.
Please advise at your earliest convenience.

Thank you,
Angela Miller

* Unless agreed in writing prior to sample receipt, the attached General Terms of Sale apply to this sample submittal.

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846773

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	No
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
88C5-CP01-05	9/04/2017 14:40	Time switched with sample 88C5-CP01-09
88C5-CP01-09	9/04/2017 14:35	Time switched with sample 88C5-CP01-05

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

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DoD Type I Data Package

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Project: Travis AFB
Soil Samples
Collected on 09/03/17

SDG# OTJ49

GROUP	SAMPLE NUMBERS
1846774	9193989-9193991

A2LA (DoD) Cert. # 0001.01
PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date:** **10/05/2017**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Angela Miller at (717) 556-7260.

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

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2. Methodology Summary/Reference 4
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Sample Reference List for SDG Number OTJ49
with a Data Package Type of I-DOD

37016 - Oneida Total Integration Ent.

Project: Travis AFB

Lab Sample Number	Client Sample ID	Collection Date	Date Received
9193989	2001Crash-CP01-0.5	09/03/2017 12:36	09/06/2017 09:50
9193990	2001Crash-CP01-07	09/03/2017 14:00	09/06/2017 09:50
9193991	2001Crash-CP01-12	09/03/2017 14:07	09/06/2017 09:50

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

11604 Grain Size Classification
07103 Grain Size to 1 um

A thoroughly dried soil is ground using a rubber pestle to break the aggregations. The ground soil is then sieved to determine percentage of particles passing sizes in the range 75 - 2.36 mm. Particles finer than 2.36 mm are soaked in a dispersing agent for 16 hours and the particle sizes from 0.075 mm - 0.001 mm are determined by a sedimentation process using a hydrometer. The soil from the hydrometer test is dried and then sieved to determine percentage of particles passing sizes in the range 1.18 - 0.075 mm.

Reference: ASTM D422, Standard Test Method for Particle-Size Analysis of Soil

Analysis Reports / Field Chain of Custody

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

Report Date: September 29, 2017

Project: Travis AFB

Account #: 37016
Group Number: 1846774
SDG: OTJ49
PO Number: 10976
State of Sample Origin: CA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Oneida Total Integration Ent.	Attn: Catalina Restrepo
Electronic Copy To	Oneida Total Integration Ent.	Attn: Oscar Martinez

Respectfully Submitted,



Angela M. Miller
Specialist

(717) 556-7260

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
2001Crash-CP01-0.5 Composite Soil	09/03/2017 12:36	9193989
2001Crash-CP01-07 Composite Soil	09/03/2017 14:00	9193990
2001Crash-CP01-12 Composite Soil	09/03/2017 14:07	9193991

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Travis AFB
LL Group #: 1846774

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: 2001Crash-CP01-0.5 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193989
ELLE Group # 1846774
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 12:36 by AG

Submitted: 09/06/2017 09:50
Reported: 09/29/2017 13:15

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

20CG1 SDG#: OTJ49-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	36.2	0.50	1.0	1.0	1
11604	% Sand	n.a.	31.3	0.50	1.0	1.0	1
11604	% Silt	n.a.	24.0	0.50	1.0	1.0	1
11604	% Clay	n.a.	8.5	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	93.6	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	63.8	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	54.0	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	48.2	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	45.7	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	42.7	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	39.0	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	35.3	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	32.5	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	30.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	23.5	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	14.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	8.5	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	5.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	4.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Joshua P Trost	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Joshua P Trost	1

*=This limit was used in the evaluation of the final result

Sample Description: 2001Crash-CP01-07 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193990
ELLE Group # 1846774
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 14:00 by AG

Submitted: 09/06/2017 09:50
Reported: 09/29/2017 13:15

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

20CG2 SDG#: OTJ49-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	22.2	0.50	1.0	1.0	1
11604	% Sand	n.a.	38.3	0.50	1.0	1.0	1
11604	% Silt	n.a.	29.5	0.50	1.0	1.0	1
11604	% Clay	n.a.	10.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	100	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	77.8	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	68.7	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	65.5	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	63.8	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	61.7	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	55.5	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	47.2	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	39.5	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	36.5	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	29.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	18.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	10.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	7.5	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	5.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1

*=This limit was used in the evaluation of the final result

Sample Description: 2001Crash-CP01-12 Composite Soil
Travis AFB 2015341-10-1004

ELLE Sample # SW 9193991
ELLE Group # 1846774
Account # 37016

Project Name: Travis AFB

Collected: 09/03/2017 14:07 by AG

Submitted: 09/06/2017 09:50
Reported: 09/29/2017 13:15

Oneida Total Integration Ent.
1033 N. Mayfair Road
Suite 200
Milwaukee WI 53226-3442

20CG3 SDG#: OTJ49-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
Wet Chemistry	**ASTM D422**		%	%	%	%	
11604	% Gravel	n.a.	23.8	0.50	1.0	1.0	1
11604	% Sand	n.a.	42.6	0.50	1.0	1.0	1
11604	% Silt	n.a.	20.6	0.50	1.0	1.0	1
11604	% Clay	n.a.	13.0	0.50	1.0	1.0	1
Wet Chemistry	**ASTM D422**		% Passing	% Passing	% Passing	% Passing	
07103	75 mm	n.a.	100	0.50	0.50	0.50	1
07103	37.5 mm	n.a.	100	0.50	0.50	0.50	1
07103	19 mm	n.a.	96.0	0.50	0.50	0.50	1
07103	4.75 mm	n.a.	76.2	0.50	0.50	0.50	1
07103	3.35 mm	n.a.	66.4	0.50	0.50	0.50	1
07103	2.36 mm	n.a.	62.2	0.50	0.50	0.50	1
07103	1.18 mm	n.a.	61.6	0.50	0.50	0.50	1
07103	0.6 mm	n.a.	59.8	0.50	0.50	0.50	1
07103	0.3 mm	n.a.	51.5	0.50	0.50	0.50	1
07103	0.15 mm	n.a.	40.9	0.50	0.50	0.50	1
07103	0.075 mm	n.a.	33.6	0.50	0.50	0.50	1
07103	0.064 mm	n.a.	32.0	0.50	0.50	0.50	1
07103	0.05 mm	n.a.	26.0	0.50	0.50	0.50	1
07103	0.02 mm	n.a.	18.0	0.50	0.50	0.50	1
07103	0.005 mm	n.a.	13.0	0.50	0.50	0.50	1
07103	0.002 mm	n.a.	10.0	0.50	0.50	0.50	1
07103	0.001 mm	n.a.	7.0	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11604	Grain Size Classification	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1
07103	Grain Size to 1 um	ASTM D422	1	17255710302A	09/12/2017 12:05	Ian D Toomey	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Oneida Total Integration Ent. Group Number: 1846774
Reported: 09/29/2017 13:15

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

37016 | 1846774 | 9193989-91

OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 9/5/17

PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com, MQuillin@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Allaire George
	SDG #:

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:

-OTIE specific EDDs
-level III data package unless otherwise noted.

REQUESTED ANALYSIS

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges Com	Remarks
							NA	NA	NA	NA		<-- Preservative
	2001 Crash - CP01. 0.5	9/3/17	1236	SO		X	2	X	X	X	X	
	2001 Crash - CP01 - 07	"	1400	SO		X	2	X	X	X	X	
	2001 Crash - CP01 - 12	"	1407	SO		X	2	X	X	X	X	

Relinquished by commercial carrier: FedEx

Preservation Codes:

H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Relinquished by: (Signature) Allaire George	Received by: (Signature) FedEx	Date: 9/5/17	Time: 1615
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/6/17	Time: 950

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Sample Administration Receipt Documentation Log

Doc Log ID: 193500

Group Number(s): 1846774

Client: OTIE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/06/2017 9:50
Number of Packages:	4	Number of Projects:	11
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Simon Nies (25112) at 14:52 on 09/06/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.8	DT	Wet	Y	Bagged	N
2	DT42-01	1.6	DT	Wet	Y	Bagged	N
3	DT42-01	1.2	DT	Wet	Y	Bagged	N
4	DT42-01	1.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Wet Chemistry Data

Case Narrative/Conformance Summary

Wet Chemistry

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Case Narrative/Conformance Summary

CLIENT: Oneida Total Integration Ent.
SDG: OTJ49

Water Quality

Fraction: Wet Chemistry

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9193989	2001Crash-CP01-0.5		X	1	
9193990	2001Crash-CP01-07		X	1	
9193991	2001Crash-CP01-12		X	1	

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.
See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

QC samples were not analyzed for the grain size analysis.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

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Case Narrative/Conformance Summary

CLIENT: Oneida Total Integration Ent.
SDG: OTJ49

Water Quality

Fraction: Wet Chemistry

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

QC Summary

Wet Chemistry

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Quality Control Reference List
Water Quality

CLIENT: Oneida Total Integration Ent.
SDG: OTJ49

Fraction: Wet Chemistry

Batch Number	Sample Number	Analysis Date	Grain Size Classification	Grain Size to 1 um
17255710302A	9193989	09/12/2017 12:05:00	X	X
	9193990	09/12/2017 12:05:00	X	X
	9193991	09/12/2017 12:05:00	X	X

Raw Data

Wet Chemistry

Fraction: Wet Chemistry

11604: Grain Size Classification Analyte Name	Default DL	Default LOD	Default LOQ	Units
% Gravel	0.50	1.0	1.0	%
% Sand	0.50	1.0	1.0	%
% Silt	0.50	1.0	1.0	%
% Clay	0.50	1.0	1.0	%
% Silt + Clay	0.50	1.0	1.0	%

07103: Grain Size to 1 um Analyte Name	Default DL	Default LOD	Default LOQ	Units
75 mm	0.50	0.50	0.50	% Passing
37.5 mm	0.50	0.50	0.50	% Passing
19 mm	0.50	0.50	0.50	% Passing
4.75 mm	0.50	0.50	0.50	% Passing
3.35 mm	0.50	0.50	0.50	% Passing
2.36 mm	0.50	0.50	0.50	% Passing
1.18 mm	0.50	0.50	0.50	% Passing
0.6 mm	0.50	0.50	0.50	% Passing
0.3 mm	0.50	0.50	0.50	% Passing
0.15 mm	0.50	0.50	0.50	% Passing
0.075 mm	0.50	0.50	0.50	% Passing
0.064 mm	0.50	0.50	0.50	% Passing
0.05 mm	0.50	0.50	0.50	% Passing
0.02 mm	0.50	0.50	0.50	% Passing
0.005 mm	0.50	0.50	0.50	% Passing
0.002 mm	0.50	0.50	0.50	% Passing
0.001 mm	0.50	0.50	0.50	% Passing

eurofins | Lancaster Laboratories Environmental	Document Title: #7103 Particle Size Distribution/#11604 Grain Size Classification		
	Eurofins Document Reference : T-WC-FRM11473	Revision: 7.1	Historical Reference: 1-P-QM-FOR-9008039: Form3606
	Effective date : 28 Dec 2016	Effective	

Sample: 9193989 Date/Time: 9/12/17 1205 Init./Emp. #: JDT / 249931 Batch #: 172557103024
Pan Balance ID#: 9458

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
3 Inch	538.72	538.72
1.5 Inch	559.21	559.21
0.75 Inch	595.68	555.84
#4	687.92	503.26
#6	542.99	482.43
#8	465.80	429.32
PAN	685.00	386.31

Bottle code: 73A
Comments:

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
#16	452.65	450.16
#30	294.69	291.68
#50	267.88	264.24
#100	321.30	317.58
#200	219.12	216.28
PAN	386.66	386.28

Grain Size Classification	
% Gravel	36.20
% Sand	31.32
% Silt	23.98
% Clay	8.50
%Clay + Silt	N/A

Balance ID#: 16861 Oven ID# 16859
Oven Date/Time/Temp In: 9/22/17 1830 108° Oven Date/Time/Temp Out: 9/23/17 1300 108°

Moisture

Tare Weight (g)	Sample Weight (g)	Oven Dry Wt. (g)
1.1508	5.0062	5.9622

Init./Emp. #: LMG/239

Bulk Density

Tare Weight (g)	Sample Weight (g)	DI H_2O+Sple Wt. (g)
60.1641	15.0083	108.8463

Init./Emp. #: LMG/239

Hydrometer Readings Sample Wt. 50.19 Hydrometer ID #: 372418 Init./Emp #: JPT/12262

Time	Temp	Reading
2 minutes	20.0°	1.015
5 minutes	20.0°	1.014
15 minutes	20.0°	1.013
30 minutes	20.0°	1.012
60 minutes	19.0°	1.0115
250 minutes	19.0°	1.0095
1440 minutes	20.0°	1.008

Comments :

Oven ID#: 16859
Oven Date/Time/Temp In: 9/23/17 1600 108°
Oven Date/Time/Temp Out: 9/24/17 1300 108°

Verified by: Michelle Rahn. OTJ49 Page 25 of 36 Date: 9/29/17

Particle Size Distribution

Sample:	Date:	Init/Emp #
9193989	09/12/2017 12:05	JPT/12262

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
3 inch	538.72	538.72	0.00	100
1.5 inch	559.21	559.21	0.00	100
0.75 inch	595.68	555.84	39.84	93.5765764
# 4	687.92	503.26	184.66	63.8037502
# 6	542.99	482.43	60.56	54.0396305
# 8	465.80	429.32	36.48	48.1579414
PAN	685.00	386.31	298.69	

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
# 16	452.65	450.16	2.49	45.6720234
# 30	294.69	291.68	3.01	42.6669579
# 50	267.88	264.24	3.64	39.0329252
# 100	321.30	317.58	3.72	35.3190236
# 200	219.12	216.28	2.84	32.4836794
PAN	386.66	386.28	0.38	

Moisture Tare Weight	Sample Weight	Oven Dry Weight	Ratio
1.1508	5.0062	5.9622	0.9611

Bulk Density Tare Weight	Sample Weight	DI H2O + Smp. Wt.	Vol H2O	Vol Soil	Result
60.1641	15.0083	108.8463	93.8380	6.1620	2.4356

Hydrometer Readings	Sample Weight	50.19	Hydrometer #:	372418	
Time	Temp	Reading	Corr. Rdng.	Part. Size	% Passing
2 minutes	20.0	1.0150	1.010	0.0363	16.6668063
5 minutes	20.0	1.0140	1.009	0.0232	14.9730252
15 minutes	20.0	1.0130	1.008	0.0136	13.279244
30 minutes	20.0	1.0120	1.007	0.0097	11.5854629
60 minutes	19.0	1.0115	1.006	0.0070	10.5183808
250 minutes	19.0	1.0095	1.004	0.0035	7.13081854
1440 minutes	20.0	1.0080	1.003	0.0015	4.8103384

Particle Size Distribution

Sample:	Date:	Init/Emp #
9193989	09/12/2017 12:05	JPT/12262

Percent Passing		Particle Size
100.00		75
100.00		37.5
93.58		19
63.80		4.75
54.04		3.35
48.16		2.36
45.67		1.18
42.67		0.6
39.03		0.3
35.32		0.15
32.48	*	0.075
16.67	*	0.03629
14.97	***	0.02323
13.28	**	0.01357
11.59	**	0.00967
10.52	**	0.00700
7.13	**	0.00349
4.81	**	0.00145

* Used for line 1
** Used for line 2
*** Used for lines 1 and 2
\+ Calculated from line 1
++ Calculated from line 2

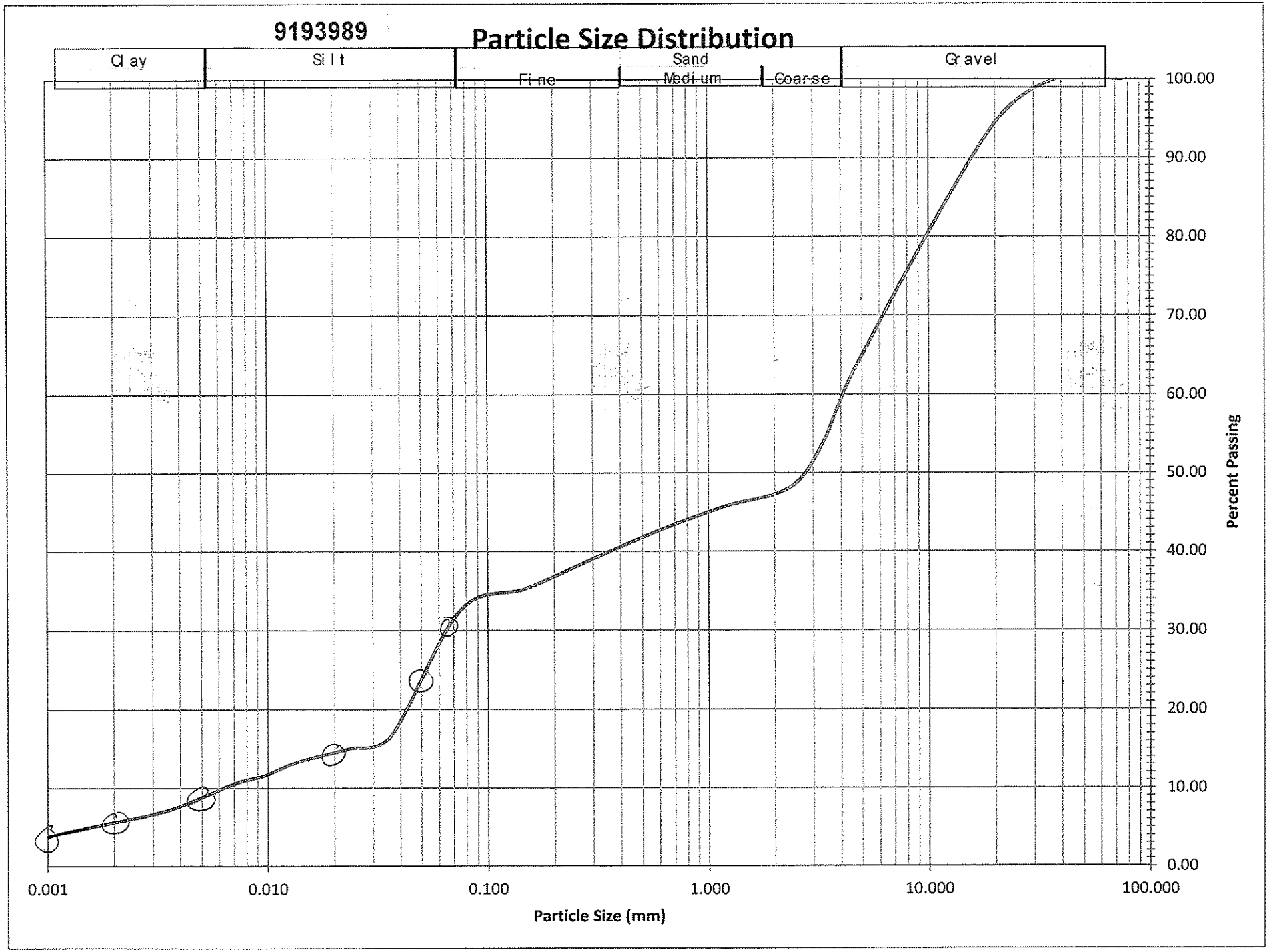
Log(particle size)
-1.124939
-1.440262
-1.633999
-1.867450
-2.014624
-2.154915
-2.456854
-2.837737

Line 1 Regression Output:	
Constant	71.6580485
Std Err of Y Est	4.0202635
R Squared	0.9133633
No. of Observations	3
Degrees of Freedom	1
X Coefficient(s)	35.9236611
Std Err of Coef.	11.0639380

Line 2 Regression Output:	
Constant	29.3706192
Std Err of Y Est	0.4126967
R Squared	0.9906099
No. of Observations	6
Degrees of Freedom	4
X Coefficient(s)	8.7868380
Std Err of Coef.	0.4277475

Particle Size	Calculated		% Passing
0.064	30.5	+	28.77
0.05	23.5	+	24.92
0.02	14.0	++	14.44
0.005	8.5	++	9.15
0.002	5.5	++	5.66
0.001	4.0	++	3.01

JPT/12262
9/28/17


9193989
Particle Size Distribution
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Percent Passing
0.001
0.010
0.100
1.000
10.000
100.000
Particle Size (mm)

eurofins | Lancaster Laboratories Environmental	Document Title: #7103 Particle Size Distribution / #11604 Grain Size Classification		
	Eurofins Document Reference: 1-P-QM-FOR-9008039	Revision: 7	Historical Reference: Form 3606
	Effective date: Sep 2, 2014	Status: Effective	

Sample: 9193990 Date/Time: 9/12/17 1205 Init./Emp. #: EPT 124931 Batch #: 172557103°2A

Pan Balance ID#: 9458

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
3 Inch	538.71	538.71
1.5 Inch	559.21	559.21
0.75 Inch	555.85	555.85
#4	624.63	503.27
#6	532.35	482.49
#8	446.69	429.28
PAN	744.20	386.29

Bottle code: 73A

Comments:

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
#16	451.41	450.18
#30	293.26	291.69
#50	268.84	264.26
#100	323.63	317.57
#200	222.00	216.34
PAN	387.48	386.33

Grain Size Classification	
% Gravel	22.21
% Sand	38.26
% Silt	29.53
% Clay	10.0
%Clay + Silt	N/A

M16/1124 9/26/17

Balance ID#: 16861 Oven ID# 16859

Oven Date/Time/Temp In: 9.22.17 1830 108° Oven Date/Time/Temp Out: 9.23.17 1300 108°

Moisture

Tare Weight (g)	Sample Weight (g)	Oven Dry Wt. (g)
1.0839	5.0031	5.9002

Init./Emp. #: Smg/239

Bulk Density

Tare Weight (g)	Sample Weight (g)	DI H_2O+Sple Wt. (g)
60.1627	15.0028	108.8082

Init./Emp. #: Smg/239

Hydrometer Readings Sample Wt. 50.05 Hydrometer ID #: 237666 Init./Emp #: Smg/239

Time	Temp	Reading
2 minutes	20°	1.014
5 minutes	20°	1.013
15 minutes	20°	1.012
30 minutes	20°	1.011
60 minutes	20°	1.010
250 minutes	20°	1.0085
1440 minutes	20°	1.0075

Comments :

Oven ID#: 16859

Oven Date/Time/Temp In: 9.23.17 1600 108°

Oven Date/Time/Temp Out: 9.24.17 1300 108

Verified by: Michelle Rolli Date: 9.26.17

Particle Size Distribution

Sample:	Date:	Init/Emp #
9193990	09/12/2017 12:05	LMG/239

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
3 inch	538.71	538.71	0.00	100
1.5 inch	559.21	559.21	0.00	100
0.75 inch	555.85	555.85	0.00	100
# 4	624.63	503.27	121.36	77.7948549
# 6	532.35	482.49	49.86	68.6720094
# 8	446.69	429.28	17.41	65.4865152
PAN	744.20	386.29	357.91	

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
# 16	451.41	450.18	1.23	63.8147373
# 30	293.26	291.69	1.57	61.680842
# 50	268.84	264.26	4.58	55.4558482
# 100	323.63	317.57	6.06	47.2192842
# 200	222.00	216.34	5.66	39.5263878
PAN	387.48	386.33	1.15	

Moisture Tare Weight	Sample Weight	Oven Dry Weight	Ratio
1.0839	5.0031	5.9002	0.9627

Bulk Density Tare Weight	Sample Weight	DI H2O + Smp. Wt.	Vol H2O	Vol Soil	Result
60.1627	15.0028	108.8082	93.8054	6.1946	2.4219

Hydrometer Readings	Sample Weight	50.05	Hydrometer #:	237666	
Time	Temp	Reading	Corr. Rdng.	Part. Size	% Passing
2 minutes	20.0	1.0140	1.009	0.0369	21.4141252
5 minutes	20.0	1.0130	1.008	0.0236	19.0990846
15 minutes	20.0	1.0120	1.007	0.0137	16.784044
30 minutes	20.0	1.0110	1.006	0.0098	14.4690035
60 minutes	20.0	1.0100	1.005	0.0070	12.1539629
250 minutes	20.0	1.0085	1.004	0.0035	8.68140209
1440 minutes	20.0	1.0075	1.003	0.0015	6.36636153

Particle Size Distribution

Sample:	Date:	Init/Emp #
9193990	09/12/2017 12:05	LMG/239

Percent Passing		Particle Size
100.00		75
100.00		37.5
100.00		19
77.79		4.75
68.67		3.35
65.49		2.36
63.81		1.18
61.68		0.6
55.46		0.3
47.22		0.15
39.53	*	0.075
21.41	*	0.03690
19.10	***	0.02361
16.78	**	0.01374
14.47	**	0.00982
12.15	**	0.00702
8.68	**	0.00350
6.37	**	0.00147

* Used for line 1
** Used for line 2
*** Used for lines 1 and 2
\+ Calculated from line 1
++ Calculated from line 2

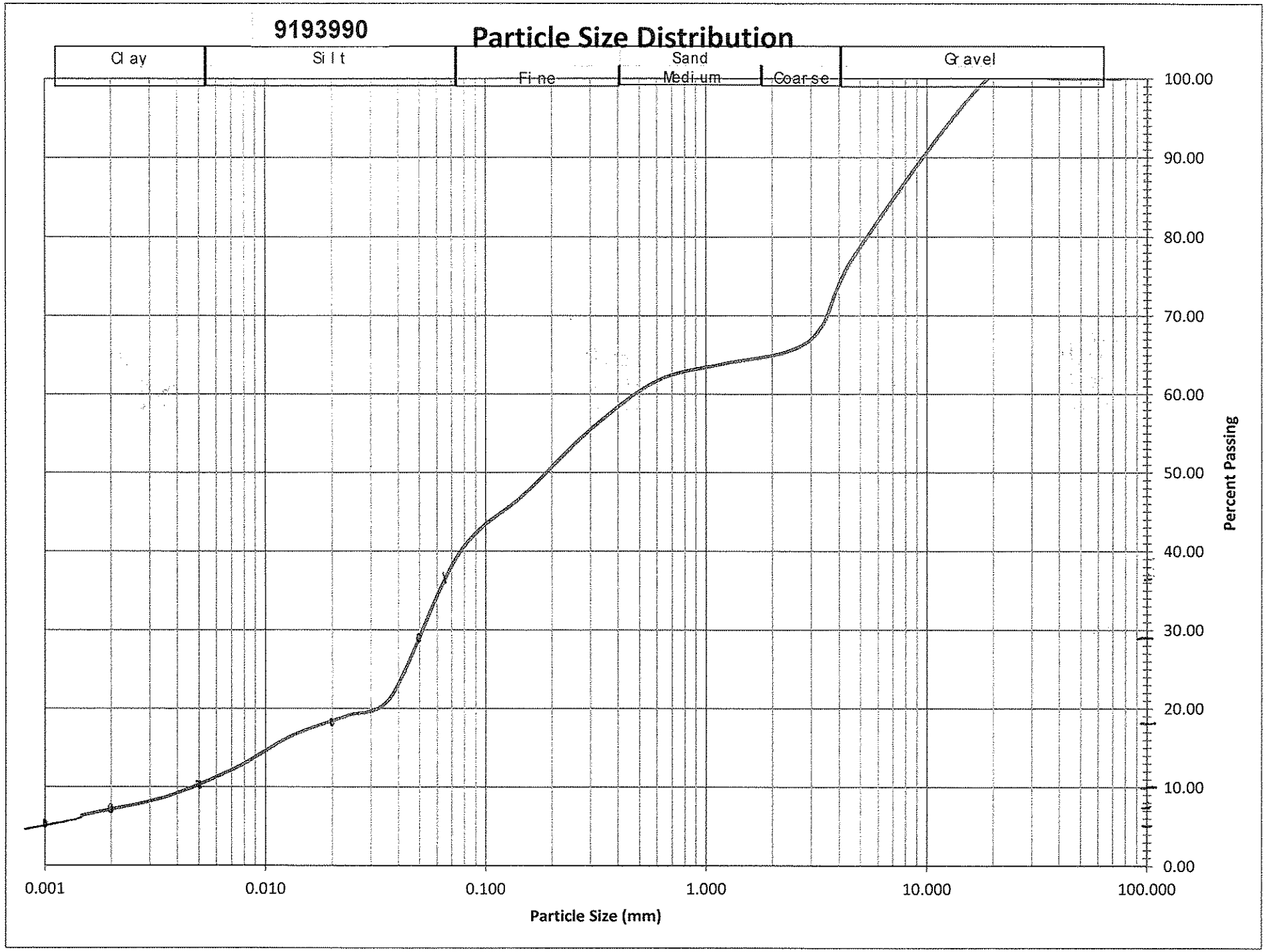
Log(particle size)
-1.124939
-1.433000
-1.626860
-1.862080
-2.007678
-2.153386
-2.455498
-2.832672

Line 1 Regression Output:	
Constant	85.7613339
Std Err of Y Est	4.5129745
R Squared	0.9186069
No. of Observations	3
Degrees of Freedom	1
X Coefficient(s)	42.3543402
Std Err of Coef.	12.6074361

Line 2 Regression Output:	
Constant	36.7413744
Std Err of Y Est	0.8434671
R Squared	0.9756803
No. of Observations	6
Degrees of Freedom	4
X Coefficient(s)	11.0444008
Std Err of Coef.	0.8718423

Particle Size	Calculated % Passing		
0.064	36.5	+	35.20
0.05	29.0	+	30.66
0.02	18.0	++	17.98
0.005	10.0	++	11.33
0.002	7.5	++	6.93
0.001	5.0	++	3.61

MG/1124 9/26/17


9193990
Particle Size Distribution
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Percent Passing
0.001
0.010
0.100
1.000
10.000
100.000
Particle Size (mm)

eurofins | Lancaster Laboratories Environmental	Document Title: #7103 Particle Size Distribution / #11604 Grain Size Classification		
	Eurofins Document Reference: 1-P-QM-FOR-9008039	Revision: 7	Historical Reference: Form 3606
	Effective date: Sep 2, 2014		Status: Effective

Sample: 919389| Date/Time: 9/12/17 1205 Init./Emp. #: IDT/24931 Batch #: 172657103 0 eA

Pan Balance ID#: 9458

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
3 Inch	538.71	538.71
1.5 Inch	559.22	559.22
0.75 Inch	575.75	555.84
#4	600.35	503.32
#6	536.56	482.47
#8	449.92	429.38
PAN	692.10	386.29

Bottle code: 73 A

Comments:

Sieve Size (Mr)	Tare+Sample Wt.(g)	Tare Weight (g)
#16	450.68	450.17
#30	293.08	291.66
#50	270.73	264.29
#100	325.80	317.55
#200	222.07	216.34
PAN	387.00	386.30

Grain Size Classification	
% Gravel	23.8
% Sand	42.61
% Silt	20.59
% Clay	13.0
%Clay + Silt.	N/A

MG 11124 9/26/17

Balance ID#: 16861 Oven ID# 16859

Oven Date/Time/Temp In: 9.22.17 1830 108° Oven Date/Time/Temp Out: 9.23.17 1300 108°

Moisture

Tare Weight (g)	Sample Weight (g)	Oven Dry Wt. (g)
1.0855	5.0084	5.9275

Init./Emp. #: SMG/239

Bulk Density

Tare Weight (g)	Sample Weight (g)	DI H_2O+Sple Wt. (g)
57.3146	15.0017	108.6249

Init./Emp. #: SMG/239

Hydrometer Readings Sample Wt. 50.22 Hydrometer ID #: 237666 Init./Emp #: SMG/239

Time	Temp	Reading
2 minutes	20°	1.014
5 minutes	20°	1.013
15 minutes	20°	1.0125
30 minutes	20°	1.012
60 minutes	20°	1.011
250 minutes	20°	1.0105
1440 minutes	20°	1.0085

Comments :

Oven ID#: 16859

Oven Date/Time/Temp In: 9.23.17 1600 108°

Oven Date/Time/Temp Out: 9.24.17 1300 108°

Verified by: Michelle Lalli Date: 9.26.17

Particle Size Distribution

Sample:	Date:	Init/Emp #
9193991	09/12/2017 12:05	LMG/239

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
3 inch	538.71	538.71	0.00	100
1.5 inch	559.22	559.22	0.00	100
0.75 inch	575.75	555.84	19.91	95.948146
# 4	600.35	503.32	97.03	76.2017176
# 6	530.56	482.47	48.09	66.4149945
# 8	449.92	429.38	20.54	62.2349302
PAN	692.10	386.29	305.81	

Sieve Size (Mr)	Tare + Smp. Wt.	Tare Weight	Diff. (Mr)	% Passing
# 16	450.68	450.17	0.51	61.581195
# 30	293.08	291.66	1.42	59.760991
# 50	270.73	264.29	6.44	51.5059813
# 100	325.80	317.55	8.25	40.9308524
# 200	222.07	216.34	5.73	33.5859447
PAN	387.00	386.30	0.70	

Moisture Tare Weight	Sample Weight	Oven Dry Weight	Ratio
1.0855	5.0084	5.9275	0.9668

Bulk Density Tare Weight	Sample Weight	DI H2O + Smp. Wt.	Vol H2O	Vol Soil	Result
57.3146	15.0017	108.6249	93.6232	6.3768	2.3525

Hydrometer Readings	Sample Weight	50.22	Hydrometer #:	237666	
Time	Temp	Reading	Corr. Rdng.	Part. Size	% Passing
2 minutes	20.0	1.0140	1.009	0.0378	20.6233808
5 minutes	20.0	1.0130	1.008	0.0242	18.3938261
15 minutes	20.0	1.0125	1.008	0.0141	17.2790488
30 minutes	20.0	1.0120	1.007	0.0099	16.1642714
60 minutes	20.0	1.0110	1.006	0.0071	13.9347168
250 minutes	20.0	1.0105	1.006	0.0035	12.8199394
1440 minutes	20.0	1.0085	1.004	0.0015	8.36083005

Particle Size Distribution

Sample:	Date:	Init/Emp #
9193991	09/12/2017 12:05	LMG/239

Percent Passing		Particle Size
100.00		75
100.00		37.5
95.95		19
76.20		4.75
66.41		3.35
62.23		2.36
61.58		1.18
59.76		0.6
51.51		0.3
40.93		0.15
33.59	*	0.075
20.62	*	0.03777
18.39	***	0.02417
17.28	**	0.01406
16.16	**	0.00994
13.93	**	0.00711
12.82	**	0.00352
8.36	**	0.00149

* Used for line 1
** Used for line 2
*** Used for lines 1 and 2
\+ Calculated from line 1
++ Calculated from line 2

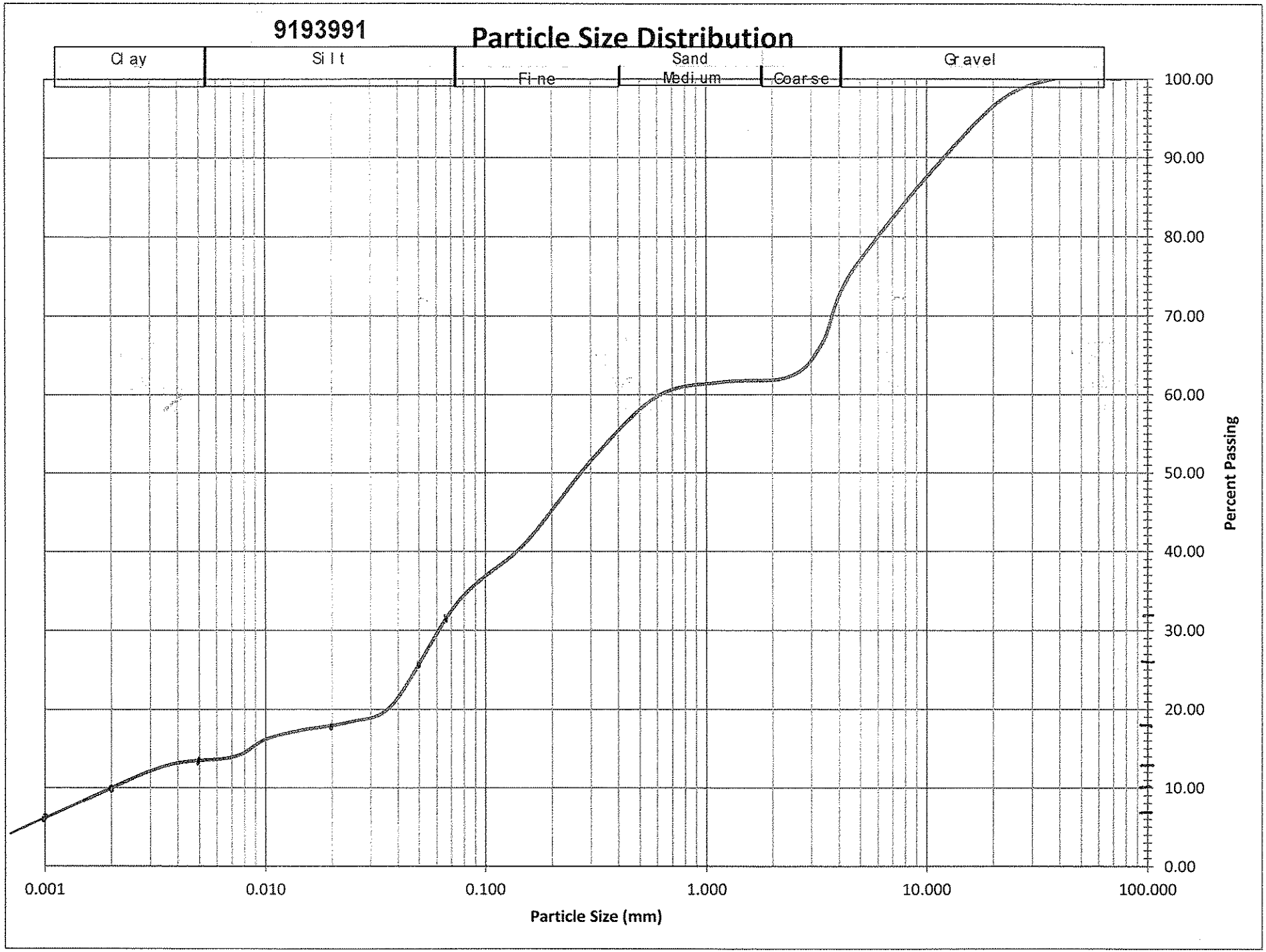
Log(particle size)
-1.124939
-1.422872
-1.616732
-1.851954
-2.002467
-2.148065
-2.453154
-2.825581

Line 1 Regression Output:	
Constant	68.5586282
Std Err of Y Est	3.0465878
R Squared	0.9310423
No. of Observations	3
Degrees of Freedom	1
X Coefficient(s)	31.9537460
Std Err of Coef.	8.6961805

Line 2 Regression Output:	
Constant	32.2812482
Std Err of Y Est	0.6871228
R Squared	0.9715947
No. of Observations	6
Degrees of Freedom	4
X Coefficient(s)	8.2753330
Std Err of Coef.	0.7074768

Particle Size	Calculated % Passing		
0.064	32.0	+	30.41
0.05	26.0	+	26.99
0.02	18.0	++	18.22
0.005	13.0	++	13.24
0.002	10.0	++	9.95
0.001	7.0	++	7.46

MIG/1124 9/26/17


9193991
Particle Size Distribution
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Percent Passing
0.001
0.010
0.100
1.000
10.000
100.000
Particle Size (mm)

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WORK ORDER NUMBER: 17-10-0568

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For
Client: OTIE
Client Project Name: Travis AFB 2015341-10-1004
Attention: Oscar Martinez
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Approved for release on 10/24/2017 by:
Terri Chang
Project Manager

ResultLink

Email your PM

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Work Order Number: 17-10-0568

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Work Order Narrative

Work Order: 17-10-0568 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 10/07/17. They were assigned to Work Order 17-10-0568.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	OTIE	Work Order:	17-10-0568
	1777 N. California Blvd., Suite 310	Project Name:	Travis AFB 2015341-10-1004
	Walnut Creek, CA 94596-4159	PO Number:	10976
		Date/Time Received:	10/07/17 10:30
		Number of Containers:	60
Attn:	Oscar Martinez		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
TRIP BLANK 100517	17-10-0568-1	10/05/17 09:00	2	Aqueous
IDW-Decon A	17-10-0568-2	10/05/17 10:00	11	Aqueous
IDW-Decon B	17-10-0568-3	10/05/17 10:10	11	Aqueous
IDW-DRUM A	17-10-0568-4	10/05/17 10:21	6	Solid
IDW-DRUM B	17-10-0568-5	10/05/17 10:32	6	Solid
IDW-DRUM C	17-10-0568-6	10/05/17 10:41	6	Solid
IDW-DRUM D	17-10-0568-7	10/05/17 10:50	6	Solid
IDW-DRUM E	17-10-0568-8	10/05/17 11:08	6	Solid
IDW-DRUM F	17-10-0568-9	10/05/17 11:19	6	Solid

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Project: Travis AFB 2015341-10-1004

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: N/A
Method: ASTM D-2216 (M)
Units: %

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM A	**17-10-0568-4-A**	**10/05/17 10:21**	**Solid**	**N/A**	**10/13/17**	**10/13/17 17:00**	**H1013MOIB3**

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Moisture	21	0.10	0.10	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM B	**17-10-0568-5-A**	**10/05/17 10:32**	**Solid**	**N/A**	**10/13/17**	**10/13/17 17:00**	**H1013MOIB3**

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Moisture	26	0.10	0.10	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM C	**17-10-0568-6-A**	**10/05/17 10:41**	**Solid**	**N/A**	**10/13/17**	**10/13/17 17:00**	**H1013MOIB3**

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Moisture	21	0.10	0.10	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM D	**17-10-0568-7-A**	**10/05/17 10:50**	**Solid**	**N/A**	**10/13/17**	**10/13/17 17:00**	**H1013MOIB3**

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Moisture	21	0.10	0.10	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM E	**17-10-0568-8-A**	**10/05/17 11:08**	**Solid**	**N/A**	**10/13/17**	**10/13/17 17:00**	**H1013MOIB3**

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Moisture	21	0.10	0.10	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM F	**17-10-0568-9-A**	**10/05/17 11:19**	**Solid**	**N/A**	**10/13/17**	**10/13/17 17:00**	**H1013MOIB3**

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Moisture	22	0.10	0.10	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-05-014-7344**	**N/A**	**Solid**	**N/A**	**10/13/17**	**10/13/17 17:00**	**H1013MOIB3**

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Moisture	ND	0.10	0.10	0.10	1.00	U

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: N/A
Method: EPA 1010
Units: ºF

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon A	**17-10-0568-2-G**	**10/05/17 10:00**	**Aqueous**	**FP 4**	**N/A**	**10/17/17 17:00**	**H1017PD1**

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Ignitability	>212	70	70	70	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon B	**17-10-0568-3-H**	**10/05/17 10:10**	**Aqueous**	**FP 4**	**N/A**	**10/17/17 17:00**	**H1017PD1**

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Ignitability	>212	70	70	70	1.00	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	N/A
		Method:	SM 4500 H+ B
		Units:	pH units
Project: Travis AFB 2015341-10-1004			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon A	**17-10-0568-2-H**	**10/05/17 10:00**	**Aqueous**	**PH 1**	**N/A**	**10/07/17 15:40**	**H1007PHD1**

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
pH	8.99	0.01	0.01	0.01	1.00	BV,BU

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon B	**17-10-0568-3-G**	**10/05/17 10:10**	**Aqueous**	**PH 1**	**N/A**	**10/07/17 15:40**	**H1007PHD1**

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
pH	8.16	0.01	0.01	0.01	1.00	BV,BU

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3510C
		Method:	EPA 8015B (M)
		Units:	ug/L
Project: Travis AFB 2015341-10-1004			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon A	**17-10-0568-2-J**	**10/05/17 10:00**	**Aqueous**	**GC 45**	**10/12/17**	**10/13/17 07:02**	**171012B02**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Motor Oil is quantified in the carbon range C16-C36.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Motor Oil	100	47	50	120	1.00	HD,J

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	86	51-141	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon B	**17-10-0568-3-J**	**10/05/17 10:10**	**Aqueous**	**GC 45**	**10/12/17**	**10/13/17 07:25**	**171012B02**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Motor Oil is quantified in the carbon range C16-C36.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Motor Oil	250	47	50	120	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	93	51-141	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-396-141**	**N/A**	**Aqueous**	**GC 45**	**10/12/17**	**10/13/17 05:10**	**171012B02**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Motor Oil	ND	47	50	120	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	95	51-141	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: Travis AFB 2015341-10-1004			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM A	**17-10-0568-4-A**	**10/05/17 10:21**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 13:03**	**171013B12**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Diesel is quantified in the carbon range C10-C28.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Diesel	2.9	1.4	2.5	6.2	1.00	HD,J

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	108	62-152	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM B	**17-10-0568-5-B**	**10/05/17 10:32**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 15:49**	**171013B12**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Diesel is quantified in the carbon range C10-C28.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Diesel	6.8	1.5	2.6	6.6	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	117	62-152	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM C	**17-10-0568-6-B**	**10/05/17 10:41**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 16:09**	**171013B12**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Diesel is quantified in the carbon range C10-C28.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Diesel	7.8	1.5	2.5	6.3	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	115	62-152	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: Travis AFB 2015341-10-1004			Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM D	**17-10-0568-7-B**	**10/05/17 10:50**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 17:11**	**171013B12**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Diesel is quantified in the carbon range C10-C28.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Diesel	260	7.2	12	31	5.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	110	62-152	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM E	**17-10-0568-8-B**	**10/05/17 11:08**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 17:32**	**171013B12**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Diesel is quantified in the carbon range C10-C28.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Diesel	14	1.5	2.5	6.3	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	107	62-152	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM F	**17-10-0568-9-B**	**10/05/17 11:19**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 17:52**	**171013B12**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Diesel is quantified in the carbon range C10-C28.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Diesel	2.6	1.5	2.5	6.3	1.00	HD,J

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	109	62-152	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-512-327**	**N/A**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 09:55**	**171013B12**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Diesel	ND	1.2	2.0	5.0	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	98	62-152	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: Travis AFB 2015341-10-1004			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM A	**17-10-0568-4-A**	**10/05/17 10:21**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 13:03**	**171013B13**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Motor Oil is quantified in the carbon range C16-C36.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Motor Oil	ND	7.4	12	31	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	108	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM B	**17-10-0568-5-B**	**10/05/17 10:32**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 15:49**	**171013B13**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Motor Oil is quantified in the carbon range C16-C36.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Motor Oil	22	7.9	13	33	1.00	HD,J

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	117	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM C	**17-10-0568-6-B**	**10/05/17 10:41**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 16:09**	**171013B13**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Motor Oil is quantified in the carbon range C16-C36.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Motor Oil	13	7.6	13	32	1.00	HD,J

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	115	61-145	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: Travis AFB 2015341-10-1004			Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM D	**17-10-0568-7-B**	**10/05/17 10:50**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 17:11**	**171013B13**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Motor Oil is quantified in the carbon range C16-C36.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Motor Oil	560	37	62	160	5.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	110	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM E	**17-10-0568-8-B**	**10/05/17 11:08**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 17:32**	**171013B13**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Motor Oil is quantified in the carbon range C16-C36.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Motor Oil	21	7.5	13	31	1.00	HD,J

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	107	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM F	**17-10-0568-9-B**	**10/05/17 11:19**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 17:52**	**171013B13**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Motor Oil is quantified in the carbon range C16-C36.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Motor Oil	ND	7.6	13	32	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	109	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-536-195**	**N/A**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 09:55**	**171013B13**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Motor Oil	ND	6.0	10	25	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	98	61-145	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3510C
		Method:	EPA 8015B (M)
		Units:	ug/L
Project: Travis AFB 2015341-10-1004			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon A	**17-10-0568-2-J**	**10/05/17 10:00**	**Aqueous**	**GC 45**	**10/12/17**	**10/13/17 07:02**	**171012B01**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Diesel is quantified in the carbon range C10-C28.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Diesel	93	17	20	50	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	86	51-141	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon B	**17-10-0568-3-J**	**10/05/17 10:10**	**Aqueous**	**GC 45**	**10/12/17**	**10/13/17 07:25**	**171012B01**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Diesel is quantified in the carbon range C10-C28.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Diesel	210	17	20	50	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	93	51-141	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-692-56**	**N/A**	**Aqueous**	**GC 45**	**10/12/17**	**10/13/17 05:10**	**171012B01**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Diesel	ND	17	20	50	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	95	51-141	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: Travis AFB 2015341-10-1004			Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM A	**17-10-0568-4-B**	**10/05/17 10:21**	**Solid**	**GC 4**	**10/09/17**	**10/11/17 23:58**	**171011L057**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Gasoline is quantified in the carbon range C6-C10

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	ND	0.16	0.32	0.64	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	82	39-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM B	**17-10-0568-5-B**	**10/05/17 10:32**	**Solid**	**GC 4**	**10/09/17**	**10/12/17 00:32**	**171011L057**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Gasoline is quantified in the carbon range C6-C10

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	ND	0.17	0.34	0.67	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	85	39-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM C	**17-10-0568-6-B**	**10/05/17 10:41**	**Solid**	**GC 4**	**10/09/17**	**10/12/17 01:05**	**171011L057**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Gasoline is quantified in the carbon range C6-C10

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	ND	0.16	0.31	0.63	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	81	39-129	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: Travis AFB 2015341-10-1004			Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM D	**17-10-0568-7-A**	**10/05/17 10:50**	**Solid**	**GC 4**	**10/18/17**	**10/18/17 17:31**	**171018L038**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Gasoline is quantified in the carbon range C6-C10

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	580	6.3	13	25	39.9	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	136	39-129	2,7

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM E	**17-10-0568-8-B**	**10/05/17 11:08**	**Solid**	**GC 4**	**10/13/17**	**10/13/17 13:14**	**171013L069**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Gasoline is quantified in the carbon range C6-C10

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	ND	0.16	0.32	0.64	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	84	39-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM F	**17-10-0568-9-B**	**10/05/17 11:19**	**Solid**	**GC 4**	**10/09/17**	**10/12/17 02:47**	**171011L057**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Gasoline is quantified in the carbon range C6-C10

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	ND	0.17	0.33	0.67	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	84	39-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-493-66**	**N/A**	**Solid**	**GC 4**	**10/11/17**	**10/11/17 22:50**	**171011L057**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	ND	0.13	0.25	0.50	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	76	39-129	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: Travis AFB 2015341-10-1004			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-493-68**	**N/A**	**Solid**	**GC 4**	**10/13/17**	**10/13/17 12:07**	**171013L069**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	ND	0.13	0.25	0.50	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	75	39-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-493-67**	**N/A**	**Solid**	**GC 4**	**10/18/17**	**10/18/17 11:17**	**171018L038**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	ND	1.0	2.0	4.0	8.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	82	39-129	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
		Units:	ug/L
Project: Travis AFB 2015341-10-1004			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon A	**17-10-0568-2-F**	**10/05/17 10:00**	**Aqueous**	**GC 4**	**10/18/17**	**10/18/17 22:01**	**171018L039**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Gasoline is quantified in the carbon range C6-C10

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	ND	48	50	100	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	71	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon B	**17-10-0568-3-F**	**10/05/17 10:10**	**Aqueous**	**GC 4**	**10/18/17**	**10/18/17 22:35**	**171018L039**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.
- TPH as Gasoline is quantified in the carbon range C6-C10

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	ND	48	50	100	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	74	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-797-119**	**N/A**	**Aqueous**	**GC 4**	**10/18/17**	**10/18/17 21:27**	**171018L039**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
TPH as Gasoline	ND	48	50	100	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	77	38-134	

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM A	**17-10-0568-4-A**	**10/05/17 10:21**	**Solid**	**ICP 7300**	**10/19/17**	**10/20/17 11:00**	**171019L01D**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Antimony	0.660	0.189	0.190	0.951	1.01	J
Arsenic	12.2	0.328	0.380	0.634	1.01	
Barium	243	0.196	0.317	0.634	1.01	
Beryllium	0.518	0.174	0.317	0.634	1.01	J
Cadmium	0.418	0.172	0.317	0.634	1.01	J
Chromium	32.5	0.180	0.317	0.634	1.01	
Cobalt	15.5	0.188	0.317	0.634	1.01	
Copper	33.5	0.171	0.317	0.634	1.01	
Lead	10.6	0.167	0.317	0.634	1.01	
Molybdenum	ND	0.167	0.317	0.634	1.01	U
Nickel	36.4	0.183	0.317	0.634	1.01	
Selenium	ND	0.380	0.475	0.951	1.01	U
Silver	ND	0.109	0.158	0.317	1.01	U
Thallium	ND	0.192	0.475	0.951	1.01	U
Vanadium	57.0	0.179	0.317	0.634	1.01	
Zinc	70.1	0.225	0.317	0.634	1.01	B

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM B	**17-10-0568-5-B**	**10/05/17 10:32**	**Solid**	**ICP 7300**	**10/19/17**	**10/20/17 11:03**	**171019L01D**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Antimony	ND	0.200	0.202	1.01	1.00	U
Arsenic	13.1	0.349	0.404	0.673	1.00	
Barium	179	0.208	0.336	0.673	1.00	
Beryllium	0.508	0.184	0.336	0.673	1.00	J
Cadmium	0.577	0.182	0.336	0.673	1.00	J
Chromium	32.9	0.192	0.336	0.673	1.00	
Cobalt	19.3	0.199	0.336	0.673	1.00	
Copper	34.8	0.181	0.336	0.673	1.00	
Lead	10.8	0.177	0.336	0.673	1.00	
Molybdenum	ND	0.178	0.336	0.673	1.00	U
Nickel	37.0	0.195	0.336	0.673	1.00	
Selenium	ND	0.403	0.505	1.01	1.00	U
Silver	ND	0.115	0.168	0.336	1.00	U
Thallium	ND	0.204	0.505	1.01	1.00	U
Vanadium	81.3	0.190	0.336	0.673	1.00	
Zinc	76.0	0.239	0.336	0.673	1.00	B

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: Travis AFB 2015341-10-1004			Page 3 of 7

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM C	**17-10-0568-6-A**	**10/05/17 10:41**	**Solid**	**ICP 7300**	**10/19/17**	**10/20/17 11:04**	**171019L01D**

Comment(s): - Results are reported on a dry weight basis.

- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Antimony	0.610	0.182	0.183	0.916	0.966	J
Arsenic	11.5	0.317	0.366	0.611	0.966	
Barium	248	0.189	0.305	0.611	0.966	
Beryllium	0.535	0.167	0.305	0.611	0.966	J
Cadmium	0.462	0.165	0.305	0.611	0.966	J
Chromium	26.4	0.174	0.305	0.611	0.966	
Cobalt	14.4	0.181	0.305	0.611	0.966	
Copper	31.9	0.165	0.305	0.611	0.966	
Lead	11.1	0.161	0.305	0.611	0.966	
Molybdenum	0.379	0.161	0.305	0.611	0.966	J
Nickel	41.9	0.177	0.305	0.611	0.966	
Selenium	ND	0.366	0.458	0.916	0.966	U
Silver	ND	0.105	0.153	0.305	0.966	U
Thallium	ND	0.185	0.458	0.916	0.966	U
Vanadium	48.3	0.173	0.305	0.611	0.966	
Zinc	73.2	0.217	0.305	0.611	0.966	B

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Travis AFB 2015341-10-1004 Page 4 of 7

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM D	**17-10-0568-7-A**	**10/05/17 10:50**	**Solid**	**ICP 7300**	**10/19/17**	**10/20/17 11:05**	**171019L01D**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Antimony	0.523	0.184	0.185	0.926	0.976	J
Arsenic	10.5	0.320	0.370	0.617	0.976	
Barium	194	0.191	0.309	0.617	0.976	
Beryllium	0.482	0.169	0.309	0.617	0.976	J
Cadmium	0.566	0.167	0.309	0.617	0.976	J
Chromium	27.3	0.176	0.309	0.617	0.976	
Cobalt	18.7	0.183	0.309	0.617	0.976	
Copper	34.4	0.166	0.309	0.617	0.976	
Lead	11.6	0.163	0.309	0.617	0.976	
Molybdenum	ND	0.163	0.309	0.617	0.976	U
Nickel	34.2	0.179	0.309	0.617	0.976	
Selenium	ND	0.370	0.463	0.926	0.976	U
Silver	ND	0.106	0.154	0.309	0.976	U
Thallium	ND	0.187	0.463	0.926	0.976	U
Vanadium	83.5	0.174	0.309	0.617	0.976	
Zinc	79.9	0.219	0.309	0.617	0.976	B

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM E	**17-10-0568-8-B**	**10/05/17 11:08**	**Solid**	**ICP 7300**	**10/19/17**	**10/20/17 11:11**	**171019L01D**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Antimony	1.14	0.199	0.200	1.00	1.05	
Arsenic	8.99	0.346	0.401	0.668	1.05	
Barium	366	0.206	0.334	0.668	1.05	
Beryllium	0.499	0.183	0.334	0.668	1.05	J
Cadmium	0.483	0.181	0.334	0.668	1.05	J
Chromium	33.4	0.190	0.334	0.668	1.05	
Cobalt	13.6	0.198	0.334	0.668	1.05	
Copper	26.4	0.180	0.334	0.668	1.05	
Lead	8.38	0.176	0.334	0.668	1.05	
Molybdenum	0.352	0.176	0.334	0.668	1.05	J
Nickel	27.2	0.193	0.334	0.668	1.05	
Selenium	ND	0.400	0.501	1.00	1.05	U
Silver	ND	0.114	0.167	0.334	1.05	U
Thallium	ND	0.203	0.501	1.00	1.05	U
Vanadium	48.6	0.189	0.334	0.668	1.05	
Zinc	71.0	0.237	0.334	0.668	1.05	B

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM F	**17-10-0568-9-B**	**10/05/17 11:19**	**Solid**	**ICP 7300**	**10/19/17**	**10/20/17 11:12**	**171019L01D**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Antimony	0.421	0.191	0.193	0.964	1.00	J
Arsenic	9.35	0.333	0.386	0.643	1.00	
Barium	603	0.198	0.321	0.643	1.00	
Beryllium	0.467	0.176	0.321	0.643	1.00	J
Cadmium	0.477	0.174	0.321	0.643	1.00	J
Chromium	23.9	0.183	0.321	0.643	1.00	
Cobalt	14.9	0.190	0.321	0.643	1.00	
Copper	25.0	0.173	0.321	0.643	1.00	
Lead	8.06	0.169	0.321	0.643	1.00	
Molybdenum	0.228	0.170	0.321	0.643	1.00	J
Nickel	26.5	0.186	0.321	0.643	1.00	
Selenium	ND	0.385	0.482	0.964	1.00	U
Silver	ND	0.110	0.161	0.321	1.00	U
Thallium	ND	0.195	0.482	0.964	1.00	U
Vanadium	42.0	0.182	0.321	0.643	1.00	
Zinc	66.1	0.228	0.321	0.643	1.00	B

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: Travis AFB 2015341-10-1004			Page 7 of 7

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-481-307**	**N/A**	**Solid**	**ICP 7300**	**10/19/17**	**10/20/17 10:57**	**171019L01D**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Antimony	ND	0.143	0.144	0.718	0.957	U
Arsenic	ND	0.248	0.287	0.478	0.957	U
Barium	ND	0.148	0.239	0.478	0.957	U
Beryllium	ND	0.131	0.239	0.478	0.957	U
Cadmium	ND	0.130	0.239	0.478	0.957	U
Chromium	ND	0.136	0.239	0.478	0.957	U
Cobalt	ND	0.142	0.239	0.478	0.957	U
Copper	ND	0.129	0.239	0.478	0.957	U
Lead	ND	0.126	0.239	0.478	0.957	U
Molybdenum	ND	0.126	0.239	0.478	0.957	U
Nickel	ND	0.139	0.239	0.478	0.957	U
Selenium	ND	0.287	0.359	0.718	0.957	U
Silver	ND	0.0820	0.120	0.239	0.957	U
Thallium	ND	0.145	0.359	0.718	0.957	U
Vanadium	ND	0.135	0.239	0.478	0.957	U
Zinc	0.270	0.170	0.239	0.478	0.957	J

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3010A Total
		Method:	EPA 6010B
		Units:	mg/L
Project: Travis AFB 2015341-10-1004			Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon A	**17-10-0568-2-I**	**10/05/17 10:00**	**Aqueous**	**ICP 7300**	**10/11/17**	**10/12/17 10:28**	**171011LA4D**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Antimony	ND	0.00787	0.00900	0.0150	1.00	U
Arsenic	ND	0.00438	0.00500	0.0100	1.00	U
Barium	0.0226	0.00296	0.00500	0.0100	1.00	
Beryllium	ND	0.00262	0.00500	0.0100	1.00	U
Cadmium	ND	0.00269	0.00500	0.0100	1.00	U
Chromium	ND	0.00271	0.00500	0.0100	1.00	U
Cobalt	0.00802	0.00295	0.00500	0.0100	1.00	J
Copper	0.00432	0.00267	0.00500	0.0100	1.00	J
Lead	ND	0.00406	0.00500	0.0100	1.00	U
Molybdenum	0.0420	0.00278	0.00500	0.0100	1.00	
Nickel	0.00799	0.00298	0.00500	0.0100	1.00	J
Selenium	0.00746	0.00699	0.00750	0.0150	1.00	J
Silver	ND	0.00139	0.00250	0.00500	1.00	U
Thallium	ND	0.00291	0.00300	0.0150	1.00	U
Vanadium	0.00377	0.00244	0.00500	0.0100	1.00	J
Zinc	0.0406	0.00352	0.00500	0.0100	1.00	

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 3010A Total
Method: EPA 6010B
Units: mg/L

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon B	**17-10-0568-3-I**	**10/05/17 10:10**	**Aqueous**	**ICP 7300**	**10/11/17**	**10/12/17 10:23**	**171011LA4D**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Antimony	ND	0.00787	0.00900	0.0150	1.00	U
Arsenic	ND	0.00438	0.00500	0.0100	1.00	U
Barium	0.0584	0.00296	0.00500	0.0100	1.00	
Beryllium	ND	0.00262	0.00500	0.0100	1.00	U
Cadmium	ND	0.00269	0.00500	0.0100	1.00	U
Chromium	ND	0.00271	0.00500	0.0100	1.00	U
Cobalt	0.00372	0.00295	0.00500	0.0100	1.00	J
Copper	0.00304	0.00267	0.00500	0.0100	1.00	J
Lead	ND	0.00406	0.00500	0.0100	1.00	U
Molybdenum	0.0699	0.00278	0.00500	0.0100	1.00	
Nickel	0.00833	0.00298	0.00500	0.0100	1.00	J
Selenium	ND	0.00699	0.00750	0.0150	1.00	U
Silver	ND	0.00139	0.00250	0.00500	1.00	U
Thallium	ND	0.00291	0.00300	0.0150	1.00	U
Vanadium	ND	0.00244	0.00500	0.0100	1.00	U
Zinc	0.0197	0.00352	0.00500	0.0100	1.00	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3010A Total
		Method:	EPA 6010B
		Units:	mg/L
Project: Travis AFB 2015341-10-1004			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-483-265**	**N/A**	**Aqueous**	**ICP 7300**	**10/11/17**	**10/12/17 10:20**	**171011LA4D**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Antimony	ND	0.00787	0.00900	0.0150	1.00	U
Arsenic	ND	0.00438	0.00500	0.0100	1.00	U
Barium	ND	0.00296	0.00500	0.0100	1.00	U
Beryllium	ND	0.00262	0.00500	0.0100	1.00	U
Cadmium	ND	0.00269	0.00500	0.0100	1.00	U
Chromium	ND	0.00271	0.00500	0.0100	1.00	U
Cobalt	ND	0.00295	0.00500	0.0100	1.00	U
Copper	ND	0.00267	0.00500	0.0100	1.00	U
Lead	ND	0.00406	0.00500	0.0100	1.00	U
Molybdenum	ND	0.00278	0.00500	0.0100	1.00	U
Nickel	ND	0.00298	0.00500	0.0100	1.00	U
Selenium	ND	0.00699	0.00750	0.0150	1.00	U
Silver	ND	0.00139	0.00250	0.00500	1.00	U
Thallium	ND	0.00291	0.00300	0.0150	1.00	U
Vanadium	ND	0.00244	0.00500	0.0100	1.00	U
Zinc	ND	0.00352	0.00500	0.0100	1.00	U

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Project: Travis AFB 2015341-10-1004

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 7470A Total
Method: EPA 7470A
Units: mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon A	**17-10-0568-2-I**	**10/05/17 10:00**	**Aqueous**	**Mercury 07**	**10/16/17**	**10/16/17 19:25**	**171016LA1D**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Mercury	ND	0.0000453	0.000100	0.000500	1.00	U

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon B	**17-10-0568-3-I**	**10/05/17 10:10**	**Aqueous**	**Mercury 07**	**10/16/17**	**10/16/17 19:36**	**171016LA1D**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Mercury	ND	0.0000453	0.000100	0.000500	1.00	U

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-487-129**	**N/A**	**Aqueous**	**Mercury 07**	**10/16/17**	**10/16/17 19:20**	**171016LA1D**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Mercury	ND	0.0000453	0.000100	0.000500	1.00	U

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
		Units:	mg/kg
Project: Travis AFB 2015341-10-1004			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM A	**17-10-0568-4-A**	**10/05/17 10:21**	**Solid**	**Mercury 07**	**10/19/17**	**10/19/17 19:35**	**171019L02D**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Mercury	0.0318	0.00717	0.0203	0.102	1.00	J

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM B	**17-10-0568-5-B**	**10/05/17 10:32**	**Solid**	**Mercury 07**	**10/19/17**	**10/19/17 19:47**	**171019L02D**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Mercury	0.284	0.00817	0.0232	0.116	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM C	**17-10-0568-6-A**	**10/05/17 10:41**	**Solid**	**Mercury 07**	**10/19/17**	**10/19/17 19:49**	**171019L02D**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Mercury	0.0370	0.00755	0.0214	0.107	1.00	J

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM D	**17-10-0568-7-B**	**10/05/17 10:50**	**Solid**	**Mercury 07**	**10/19/17**	**10/19/17 19:51**	**171019L02D**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Mercury	0.0679	0.00756	0.0215	0.107	1.00	J

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM E	**17-10-0568-8-B**	**10/05/17 11:08**	**Solid**	**Mercury 07**	**10/19/17**	**10/19/17 19:58**	**171019L02D**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Mercury	0.0184	0.00771	0.0219	0.109	1.00	J

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM F	**17-10-0568-9-B**	**10/05/17 11:19**	**Solid**	**Mercury 07**	**10/19/17**	**10/19/17 20:01**	**171019L02D**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Mercury	0.00787	0.00767	0.0218	0.109	1.00	J

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
		Units:	mg/kg
Project: Travis AFB 2015341-10-1004			Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-280-142**	**N/A**	**Solid**	**Mercury 07**	**10/19/17**	**10/19/17 19:31**	**171019L02D**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Mercury	ND	0.00578	0.0164	0.0820	1.00	U

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TRIP BLANK 100517	**17-10-0568-1-A**	**10/05/17 09:00**	**Aqueous**	**GC/MS Z**	**10/13/17**	**10/13/17 21:44**	**171013L028**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	6.6	6.0	10	20	1.00	J
Benzene	ND	0.14	0.50	1.0	1.00	U
Bromodichloromethane	ND	0.21	0.50	5.0	1.00	U
Bromoform	ND	0.50	1.0	10	1.00	U
Bromomethane	ND	3.9	5.0	20	1.00	U
2-Butanone	ND	2.2	5.0	10	1.00	U
Carbon Disulfide	ND	0.41	0.50	5.0	1.00	U
Carbon Tetrachloride	ND	0.23	0.50	1.0	1.00	U
Chlorobenzene	ND	0.17	0.50	5.0	1.00	U
Chloroethane	ND	2.3	5.0	10	1.00	U
Chloroform	ND	0.46	0.50	5.0	1.00	U
Chloromethane	ND	1.8	2.0	10	1.00	U
Dibromochloromethane	ND	0.25	0.50	1.0	1.00	U
1,2-Dibromo-3-Chloropropane	ND	1.2	2.0	10	1.00	U
1,2-Dibromoethane	ND	0.36	0.50	1.0	1.00	U
1,2-Dichlorobenzene	ND	0.46	0.50	1.0	1.00	U
1,3-Dichlorobenzene	ND	0.40	0.50	1.0	1.00	U
1,4-Dichlorobenzene	ND	0.43	0.50	1.0	1.00	U
Dichlorodifluoromethane	ND	0.46	0.50	1.0	1.00	U
1,1-Dichloroethane	ND	0.28	0.50	5.0	1.00	U
1,2-Dichloroethane	ND	0.24	0.50	1.0	1.00	U
1,1-Dichloroethene	ND	0.43	0.50	1.0	1.00	U
c-1,2-Dichloroethene	ND	0.48	0.50	1.0	1.00	U
t-1,2-Dichloroethene	ND	0.37	0.50	1.0	1.00	U
1,2-Dichloropropane	ND	0.42	0.50	1.0	1.00	U
c-1,3-Dichloropropene	ND	0.25	0.50	1.0	1.00	U
t-1,3-Dichloropropene	ND	0.25	0.50	1.0	1.00	U
Ethylbenzene	ND	0.14	0.50	1.0	1.00	U
2-Hexanone	ND	2.1	5.0	10	1.00	U
Isopropylbenzene	ND	0.58	1.0	5.0	1.00	U
Methylene Chloride	ND	0.64	1.0	5.0	1.00	U
4-Methyl-2-Pentanone	ND	4.4	5.0	10	1.00	U
Styrene	ND	0.17	0.50	1.0	1.00	U
1,1,2,2-Tetrachloroethane	ND	0.41	0.50	1.0	1.00	U
Tetrachloroethene	ND	0.39	0.50	1.0	1.00	U
Toluene	ND	0.24	0.50	1.0	1.00	U

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: Travis AFB 2015341-10-1004			Page 2 of 8

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	0.50	1.0	5.0	1.00	U
1,1,1-Trichloroethane	ND	0.30	0.50	5.0	1.00	U
1,1,2-Trichloroethane	ND	0.38	0.50	1.0	1.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.45	0.50	1.0	1.00	U
Trichloroethene	ND	0.37	0.50	1.0	1.00	U
Trichlorofluoromethane	ND	1.7	2.0	10	1.00	U
Vinyl Chloride	ND	0.30	0.50	1.0	1.00	U
p/m-Xylene	ND	0.30	1.0	10	1.00	U
o-Xylene	ND	0.23	0.50	1.0	1.00	U
Xylenes (total)	ND	0.23	0.50	1.0	1.00	U
Methyl-t-Butyl Ether (MTBE)	ND	0.31	0.50	1.0	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	91	75-120	
Dibromofluoromethane	103	85-115	
1,2-Dichloroethane-d4	115	70-120	
Toluene-d8	96	85-120	

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon A	**17-10-0568-2-A**	**10/05/17 10:00**	**Aqueous**	**GC/MS Z**	**10/13/17**	**10/13/17 22:15**	**171013L028**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	ND	6.0	10	20	1.00	U
Benzene	ND	0.14	0.50	1.0	1.00	U
Bromodichloromethane	ND	0.21	0.50	5.0	1.00	U
Bromoform	ND	0.50	1.0	10	1.00	U
Bromomethane	ND	3.9	5.0	20	1.00	U
2-Butanone	ND	2.2	5.0	10	1.00	U
Carbon Disulfide	ND	0.41	0.50	5.0	1.00	U
Carbon Tetrachloride	ND	0.23	0.50	1.0	1.00	U
Chlorobenzene	ND	0.17	0.50	5.0	1.00	U
Chloroethane	ND	2.3	5.0	10	1.00	U
Chloroform	ND	0.46	0.50	5.0	1.00	U
Chloromethane	ND	1.8	2.0	10	1.00	U
Dibromochloromethane	ND	0.25	0.50	1.0	1.00	U
1,2-Dibromo-3-Chloropropane	ND	1.2	2.0	10	1.00	U
1,2-Dibromoethane	ND	0.36	0.50	1.0	1.00	U
1,2-Dichlorobenzene	ND	0.46	0.50	1.0	1.00	U
1,3-Dichlorobenzene	ND	0.40	0.50	1.0	1.00	U
1,4-Dichlorobenzene	ND	0.43	0.50	1.0	1.00	U
Dichlorodifluoromethane	ND	0.46	0.50	1.0	1.00	U
1,1-Dichloroethane	ND	0.28	0.50	5.0	1.00	U
1,2-Dichloroethane	ND	0.24	0.50	1.0	1.00	U
1,1-Dichloroethene	ND	0.43	0.50	1.0	1.00	U
c-1,2-Dichloroethene	ND	0.48	0.50	1.0	1.00	U
t-1,2-Dichloroethene	ND	0.37	0.50	1.0	1.00	U
1,2-Dichloropropane	ND	0.42	0.50	1.0	1.00	U
c-1,3-Dichloropropene	ND	0.25	0.50	1.0	1.00	U
t-1,3-Dichloropropene	ND	0.25	0.50	1.0	1.00	U
Ethylbenzene	ND	0.14	0.50	1.0	1.00	U
2-Hexanone	ND	2.1	5.0	10	1.00	U
Isopropylbenzene	ND	0.58	1.0	5.0	1.00	U
Methylene Chloride	ND	0.64	1.0	5.0	1.00	U
4-Methyl-2-Pentanone	ND	4.4	5.0	10	1.00	U
Styrene	ND	0.17	0.50	1.0	1.00	U
1,1,2,2-Tetrachloroethane	ND	0.41	0.50	1.0	1.00	U
Tetrachloroethene	ND	0.39	0.50	1.0	1.00	U
Toluene	ND	0.24	0.50	1.0	1.00	U

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: Travis AFB 2015341-10-1004			Page 4 of 8

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	0.50	1.0	5.0	1.00	U
1,1,1-Trichloroethane	ND	0.30	0.50	5.0	1.00	U
1,1,2-Trichloroethane	ND	0.38	0.50	1.0	1.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.45	0.50	1.0	1.00	U
Trichloroethene	ND	0.37	0.50	1.0	1.00	U
Trichlorofluoromethane	ND	1.7	2.0	10	1.00	U
Vinyl Chloride	ND	0.30	0.50	1.0	1.00	U
p/m-Xylene	ND	0.30	1.0	10	1.00	U
o-Xylene	ND	0.23	0.50	1.0	1.00	U
Xylenes (total)	ND	0.23	0.50	1.0	1.00	U
Methyl-t-Butyl Ether (MTBE)	ND	0.31	0.50	1.0	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	93	75-120	
Dibromofluoromethane	108	85-115	
1,2-Dichloroethane-d4	118	70-120	
Toluene-d8	102	85-120	

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-Decon B	**17-10-0568-3-A**	**10/05/17 10:10**	**Aqueous**	**GC/MS Z**	**10/13/17**	**10/13/17 22:46**	**171013L028**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	8.2	6.0	10	20	1.00	J
Benzene	ND	0.14	0.50	1.0	1.00	U
Bromodichloromethane	ND	0.21	0.50	5.0	1.00	U
Bromoform	ND	0.50	1.0	10	1.00	U
Bromomethane	ND	3.9	5.0	20	1.00	U
2-Butanone	ND	2.2	5.0	10	1.00	U
Carbon Disulfide	ND	0.41	0.50	5.0	1.00	U
Carbon Tetrachloride	ND	0.23	0.50	1.0	1.00	U
Chlorobenzene	ND	0.17	0.50	5.0	1.00	U
Chloroethane	ND	2.3	5.0	10	1.00	U
Chloroform	ND	0.46	0.50	5.0	1.00	U
Chloromethane	ND	1.8	2.0	10	1.00	U
Dibromochloromethane	ND	0.25	0.50	1.0	1.00	U
1,2-Dibromo-3-Chloropropane	ND	1.2	2.0	10	1.00	U
1,2-Dibromoethane	ND	0.36	0.50	1.0	1.00	U
1,2-Dichlorobenzene	ND	0.46	0.50	1.0	1.00	U
1,3-Dichlorobenzene	ND	0.40	0.50	1.0	1.00	U
1,4-Dichlorobenzene	ND	0.43	0.50	1.0	1.00	U
Dichlorodifluoromethane	ND	0.46	0.50	1.0	1.00	U
1,1-Dichloroethane	ND	0.28	0.50	5.0	1.00	U
1,2-Dichloroethane	ND	0.24	0.50	1.0	1.00	U
1,1-Dichloroethene	ND	0.43	0.50	1.0	1.00	U
c-1,2-Dichloroethene	ND	0.48	0.50	1.0	1.00	U
t-1,2-Dichloroethene	ND	0.37	0.50	1.0	1.00	U
1,2-Dichloropropane	ND	0.42	0.50	1.0	1.00	U
c-1,3-Dichloropropene	ND	0.25	0.50	1.0	1.00	U
t-1,3-Dichloropropene	ND	0.25	0.50	1.0	1.00	U
Ethylbenzene	ND	0.14	0.50	1.0	1.00	U
2-Hexanone	ND	2.1	5.0	10	1.00	U
Isopropylbenzene	ND	0.58	1.0	5.0	1.00	U
Methylene Chloride	ND	0.64	1.0	5.0	1.00	U
4-Methyl-2-Pentanone	ND	4.4	5.0	10	1.00	U
Styrene	ND	0.17	0.50	1.0	1.00	U
1,1,2,2-Tetrachloroethane	ND	0.41	0.50	1.0	1.00	U
Tetrachloroethene	ND	0.39	0.50	1.0	1.00	U
Toluene	ND	0.24	0.50	1.0	1.00	U

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: Travis AFB 2015341-10-1004			Page 6 of 8

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	0.50	1.0	5.0	1.00	U
1,1,1-Trichloroethane	ND	0.30	0.50	5.0	1.00	U
1,1,2-Trichloroethane	ND	0.38	0.50	1.0	1.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.45	0.50	1.0	1.00	U
Trichloroethene	ND	0.37	0.50	1.0	1.00	U
Trichlorofluoromethane	ND	1.7	2.0	10	1.00	U
Vinyl Chloride	ND	0.30	0.50	1.0	1.00	U
p/m-Xylene	ND	0.30	1.0	10	1.00	U
o-Xylene	ND	0.23	0.50	1.0	1.00	U
Xylenes (total)	ND	0.23	0.50	1.0	1.00	U
Methyl-t-Butyl Ether (MTBE)	ND	0.31	0.50	1.0	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	92	75-120	
Dibromofluoromethane	107	85-115	
1,2-Dichloroethane-d4	114	70-120	
Toluene-d8	97	85-120	

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-479-1390**	**N/A**	**Aqueous**	**GC/MS Z**	**10/13/17**	**10/13/17 17:32**	**171013L028**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	ND	6.0	10	20	1.00	U
Benzene	ND	0.14	0.50	1.0	1.00	U
Bromodichloromethane	ND	0.21	0.50	5.0	1.00	U
Bromoform	ND	0.50	1.0	10	1.00	U
Bromomethane	ND	3.9	5.0	20	1.00	U
2-Butanone	ND	2.2	5.0	10	1.00	U
Carbon Disulfide	ND	0.41	0.50	5.0	1.00	U
Carbon Tetrachloride	ND	0.23	0.50	1.0	1.00	U
Chlorobenzene	ND	0.17	0.50	5.0	1.00	U
Chloroethane	ND	2.3	5.0	10	1.00	U
Chloroform	ND	0.46	0.50	5.0	1.00	U
Chloromethane	ND	1.8	2.0	10	1.00	U
Dibromochloromethane	ND	0.25	0.50	1.0	1.00	U
1,2-Dibromo-3-Chloropropane	ND	1.2	2.0	10	1.00	U
1,2-Dibromoethane	ND	0.36	0.50	1.0	1.00	U
1,2-Dichlorobenzene	ND	0.46	0.50	1.0	1.00	U
1,3-Dichlorobenzene	ND	0.40	0.50	1.0	1.00	U
1,4-Dichlorobenzene	ND	0.43	0.50	1.0	1.00	U
Dichlorodifluoromethane	ND	0.46	0.50	1.0	1.00	U
1,1-Dichloroethane	ND	0.28	0.50	5.0	1.00	U
1,2-Dichloroethane	ND	0.24	0.50	1.0	1.00	U
1,1-Dichloroethene	ND	0.43	0.50	1.0	1.00	U
c-1,2-Dichloroethene	ND	0.48	0.50	1.0	1.00	U
t-1,2-Dichloroethene	ND	0.37	0.50	1.0	1.00	U
1,2-Dichloropropane	ND	0.42	0.50	1.0	1.00	U
c-1,3-Dichloropropene	ND	0.25	0.50	1.0	1.00	U
t-1,3-Dichloropropene	ND	0.25	0.50	1.0	1.00	U
Ethylbenzene	ND	0.14	0.50	1.0	1.00	U
2-Hexanone	ND	2.1	5.0	10	1.00	U
Isopropylbenzene	ND	0.58	1.0	5.0	1.00	U
Methylene Chloride	ND	0.64	1.0	5.0	1.00	U
4-Methyl-2-Pentanone	ND	4.4	5.0	10	1.00	U
Styrene	ND	0.17	0.50	1.0	1.00	U
1,1,2,2-Tetrachloroethane	ND	0.41	0.50	1.0	1.00	U
Tetrachloroethene	ND	0.39	0.50	1.0	1.00	U
Toluene	ND	0.24	0.50	1.0	1.00	U

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: Travis AFB 2015341-10-1004			Page 8 of 8

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	0.50	1.0	5.0	1.00	U
1,1,1-Trichloroethane	ND	0.30	0.50	5.0	1.00	U
1,1,2-Trichloroethane	ND	0.38	0.50	1.0	1.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.45	0.50	1.0	1.00	U
Trichloroethene	ND	0.37	0.50	1.0	1.00	U
Trichlorofluoromethane	ND	1.7	2.0	10	1.00	U
Vinyl Chloride	ND	0.30	0.50	1.0	1.00	U
p/m-Xylene	ND	0.30	1.0	10	1.00	U
o-Xylene	ND	0.23	0.50	1.0	1.00	U
Xylenes (total)	ND	0.23	0.50	1.0	1.00	U
Methyl-t-Butyl Ether (MTBE)	ND	0.31	0.50	1.0	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	96	75-120	
Dibromofluoromethane	108	85-115	
1,2-Dichloroethane-d4	118	70-120	
Toluene-d8	97	85-120	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: Travis AFB 2015341-10-1004			Page 1 of 16

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM A	**17-10-0568-4-E**	**10/05/17 10:21**	**Solid**	**GC/MS OO**	**10/05/17**	**10/13/17 21:11**	**171013L029**

Comment(s): - Results are reported on a dry weight basis.

- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	14	5.6	9.0	18	1.00	J
Benzene	ND	0.12	0.18	0.45	1.00	U
Bromodichloromethane	ND	0.21	0.45	4.5	1.00	U
Bromoform	ND	0.72	1.8	9.0	1.00	U
Bromomethane	ND	8.5	9.0	18	1.00	U,IH
2-Butanone	ND	3.4	4.5	9.0	1.00	U
Carbon Disulfide	4.7	0.28	0.45	4.5	1.00	
Carbon Tetrachloride	ND	0.26	0.45	4.5	1.00	U
Chlorobenzene	ND	0.20	0.45	4.5	1.00	U
Chloroethane	ND	1.3	1.8	9.0	1.00	U
Chloroform	ND	0.22	0.45	4.5	1.00	U
Chloromethane	ND	0.27	0.45	9.0	1.00	U,IJ,ICJ
Dibromochloromethane	ND	0.51	1.8	9.0	1.00	U
1,2-Dibromo-3-Chloropropane	ND	1.6	1.8	9.0	1.00	U
1,2-Dibromoethane	ND	0.23	0.45	9.0	1.00	U
1,2-Dichlorobenzene	ND	0.21	0.45	4.5	1.00	U
1,3-Dichlorobenzene	ND	0.16	0.45	4.5	1.00	U
1,4-Dichlorobenzene	ND	0.20	0.45	4.5	1.00	U
Dichlorodifluoromethane	ND	0.40	0.45	9.0	1.00	U,ICJ
1,1-Dichloroethane	ND	0.19	0.45	4.5	1.00	U
1,2-Dichloroethane	ND	0.28	0.45	4.5	1.00	U
1,1-Dichloroethene	ND	0.31	0.45	4.5	1.00	U
c-1,2-Dichloroethene	ND	0.25	0.45	4.5	1.00	U
t-1,2-Dichloroethene	ND	0.46	1.8	4.5	1.00	U
1,2-Dichloropropane	ND	0.40	0.45	4.5	1.00	U
c-1,3-Dichloropropene	ND	0.23	0.45	4.5	1.00	U
t-1,3-Dichloropropene	ND	0.55	1.8	9.0	1.00	U
Ethylbenzene	ND	0.14	0.18	4.5	1.00	U
2-Hexanone	ND	1.6	1.8	9.0	1.00	U
Isopropylbenzene	ND	0.49	1.8	9.0	1.00	U
Methylene Chloride	ND	1.2	1.8	4.5	1.00	U
4-Methyl-2-Pentanone	ND	3.9	4.5	9.0	1.00	U
Styrene	ND	0.55	1.8	18	1.00	U
1,1,2,2-Tetrachloroethane	ND	0.31	0.45	18	1.00	U
Tetrachloroethene	ND	0.19	0.45	4.5	1.00	U

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: Travis AFB 2015341-10-1004			Page 2 of 16

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Toluene	ND	0.46	1.8	4.5	1.00	U
1,2,4-Trichlorobenzene	ND	0.28	0.45	18	1.00	U
1,1,1-Trichloroethane	ND	0.20	0.45	4.5	1.00	U
1,1,2-Trichloroethane	ND	0.32	0.45	4.5	1.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.32	0.45	4.5	1.00	U
Trichloroethene	ND	0.27	0.45	4.5	1.00	U
Trichlorofluoromethane	ND	0.34	0.45	4.5	1.00	U
Vinyl Chloride	ND	0.45	1.8	9.0	1.00	U
p/m-Xylene	ND	0.24	0.36	9.0	1.00	U
o-Xylene	ND	0.50	1.8	9.0	1.00	U
Xylenes (total)	ND	0.24	0.36	9.0	1.00	U
Methyl-t-Butyl Ether (MTBE)	ND	0.27	0.45	4.5	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	102	85-120	
Dibromofluoromethane	107	76-142	
1,2-Dichloroethane-d4	110	77-135	
Toluene-d8	99	85-115	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: Travis AFB 2015341-10-1004			Page 3 of 16

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM B	**17-10-0568-5-E**	**10/05/17 10:32**	**Solid**	**GC/MS OO**	**10/05/17**	**10/13/17 21:39**	**171013L029**

Comment(s): - Results are reported on a dry weight basis.

- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	45	7.6	12	24	1.00	
Benzene	ND	0.16	0.24	0.61	1.00	U
Bromodichloromethane	ND	0.28	0.61	6.1	1.00	U
Bromoform	ND	0.97	2.4	12	1.00	U
Bromomethane	ND	12	12	24	1.00	U,IH
2-Butanone	ND	4.6	6.1	12	1.00	U
Carbon Disulfide	2.7	0.37	0.61	6.1	1.00	J
Carbon Tetrachloride	ND	0.35	0.61	6.1	1.00	U
Chlorobenzene	ND	0.27	0.61	6.1	1.00	U
Chloroethane	ND	1.8	2.4	12	1.00	U
Chloroform	ND	0.29	0.61	6.1	1.00	U
Chloromethane	ND	0.37	0.61	12	1.00	U,IJ,ICJ
Dibromochloromethane	ND	0.70	2.4	12	1.00	U
1,2-Dibromo-3-Chloropropane	ND	2.1	2.4	12	1.00	U
1,2-Dibromoethane	ND	0.31	0.61	12	1.00	U
1,2-Dichlorobenzene	ND	0.28	0.61	6.1	1.00	U
1,3-Dichlorobenzene	ND	0.22	0.61	6.1	1.00	U
1,4-Dichlorobenzene	ND	0.27	0.61	6.1	1.00	U
Dichlorodifluoromethane	ND	0.54	0.61	12	1.00	U,ICJ
1,1-Dichloroethane	ND	0.26	0.61	6.1	1.00	U
1,2-Dichloroethane	ND	0.38	0.61	6.1	1.00	U
1,1-Dichloroethene	ND	0.42	0.61	6.1	1.00	U
c-1,2-Dichloroethene	ND	0.34	0.61	6.1	1.00	U
t-1,2-Dichloroethene	ND	0.62	2.4	6.1	1.00	U
1,2-Dichloropropane	ND	0.54	0.61	6.1	1.00	U
c-1,3-Dichloropropene	ND	0.31	0.61	6.1	1.00	U
t-1,3-Dichloropropene	ND	0.74	2.4	12	1.00	U
Ethylbenzene	ND	0.19	0.24	6.1	1.00	U
2-Hexanone	ND	2.2	2.4	12	1.00	U
Isopropylbenzene	ND	0.67	2.4	12	1.00	U
Methylene Chloride	ND	1.6	2.4	6.1	1.00	U
4-Methyl-2-Pentanone	ND	5.3	6.1	12	1.00	U
Styrene	ND	0.74	2.4	24	1.00	U
1,1,2,2-Tetrachloroethane	ND	0.42	0.61	24	1.00	U
Tetrachloroethene	ND	0.26	0.61	6.1	1.00	U

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: Travis AFB 2015341-10-1004			Page 4 of 16

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Toluene	ND	0.63	2.4	6.1	1.00	U
1,2,4-Trichlorobenzene	ND	0.38	0.61	24	1.00	U
1,1,1-Trichloroethane	ND	0.27	0.61	6.1	1.00	U
1,1,2-Trichloroethane	ND	0.43	0.61	6.1	1.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.43	0.61	6.1	1.00	U
Trichloroethene	ND	0.37	0.61	6.1	1.00	U
Trichlorofluoromethane	ND	0.46	0.61	6.1	1.00	U
Vinyl Chloride	ND	0.61	2.4	12	1.00	U
p/m-Xylene	ND	0.33	0.49	12	1.00	U
o-Xylene	ND	0.68	2.4	12	1.00	U
Xylenes (total)	ND	0.33	0.49	12	1.00	U
Methyl-t-Butyl Ether (MTBE)	ND	0.36	0.61	6.1	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	100	85-120	
Dibromofluoromethane	107	76-142	
1,2-Dichloroethane-d4	111	77-135	
Toluene-d8	102	85-115	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: Travis AFB 2015341-10-1004			Page 5 of 16

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM C	**17-10-0568-6-E**	**10/05/17 10:41**	**Solid**	**GC/MS OO**	**10/05/17**	**10/13/17 22:08**	**171013L029**

Comment(s): - Results are reported on a dry weight basis.

- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	33	5.1	8.2	16	1.00	
Benzene	ND	0.11	0.16	0.41	1.00	U
Bromodichloromethane	ND	0.19	0.41	4.1	1.00	U
Bromoform	ND	0.65	1.6	8.2	1.00	U
Bromomethane	ND	7.8	8.2	16	1.00	U,IH
2-Butanone	ND	3.1	4.1	8.2	1.00	U
Carbon Disulfide	0.31	0.25	0.41	4.1	1.00	J
Carbon Tetrachloride	ND	0.23	0.41	4.1	1.00	U
Chlorobenzene	ND	0.18	0.41	4.1	1.00	U
Chloroethane	ND	1.2	1.6	8.2	1.00	U
Chloroform	ND	0.20	0.41	4.1	1.00	U
Chloromethane	ND	0.25	0.41	8.2	1.00	U,IJ,ICJ
Dibromochloromethane	ND	0.47	1.6	8.2	1.00	U
1,2-Dibromo-3-Chloropropane	ND	1.4	1.6	8.2	1.00	U
1,2-Dibromoethane	ND	0.21	0.41	8.2	1.00	U
1,2-Dichlorobenzene	ND	0.19	0.41	4.1	1.00	U
1,3-Dichlorobenzene	ND	0.15	0.41	4.1	1.00	U
1,4-Dichlorobenzene	ND	0.18	0.41	4.1	1.00	U
Dichlorodifluoromethane	ND	0.37	0.41	8.2	1.00	U,ICJ
1,1-Dichloroethane	ND	0.17	0.41	4.1	1.00	U
1,2-Dichloroethane	ND	0.26	0.41	4.1	1.00	U
1,1-Dichloroethene	ND	0.29	0.41	4.1	1.00	U
c-1,2-Dichloroethene	ND	0.23	0.41	4.1	1.00	U
t-1,2-Dichloroethene	ND	0.42	1.6	4.1	1.00	U
1,2-Dichloropropane	ND	0.36	0.41	4.1	1.00	U
c-1,3-Dichloropropene	ND	0.21	0.41	4.1	1.00	U
t-1,3-Dichloropropene	ND	0.50	1.6	8.2	1.00	U
Ethylbenzene	ND	0.12	0.16	4.1	1.00	U
2-Hexanone	ND	1.5	1.6	8.2	1.00	U
Isopropylbenzene	ND	0.45	1.6	8.2	1.00	U
Methylene Chloride	ND	1.1	1.6	4.1	1.00	U
4-Methyl-2-Pentanone	ND	3.6	4.1	8.2	1.00	U
Styrene	ND	0.50	1.6	16	1.00	U
1,1,2,2-Tetrachloroethane	ND	0.28	0.41	16	1.00	U
Tetrachloroethene	ND	0.17	0.41	4.1	1.00	U

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Travis AFB 2015341-10-1004

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Toluene	ND	0.42	1.6	4.1	1.00	U
1,2,4-Trichlorobenzene	ND	0.26	0.41	16	1.00	U
1,1,1-Trichloroethane	ND	0.19	0.41	4.1	1.00	U
1,1,2-Trichloroethane	ND	0.29	0.41	4.1	1.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.29	0.41	4.1	1.00	U
Trichloroethene	ND	0.25	0.41	4.1	1.00	U
Trichlorofluoromethane	ND	0.31	0.41	4.1	1.00	U
Vinyl Chloride	ND	0.41	1.6	8.2	1.00	U
p/m-Xylene	ND	0.22	0.33	8.2	1.00	U
o-Xylene	ND	0.46	1.6	8.2	1.00	U
Xylenes (total)	ND	0.22	0.33	8.2	1.00	U
Methyl-t-Butyl Ether (MTBE)	ND	0.24	0.41	4.1	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	100	85-120	
Dibromofluoromethane	105	76-142	
1,2-Dichloroethane-d4	110	77-135	
Toluene-d8	100	85-115	

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM D	**17-10-0568-7-G**	**10/05/17 10:50**	**Solid**	**GC/MS OO**	**10/05/17**	**10/13/17 23:34**	**171013L063**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	ND	210	330	660	50.0	U
Benzene	ND	4.3	6.6	17	50.0	U
Bromodichloromethane	ND	7.7	17	170	50.0	U
Bromoform	ND	26	66	330	50.0	U
Bromomethane	ND	310	330	660	50.0	U,IH
2-Butanone	ND	120	170	330	50.0	U
Carbon Disulfide	ND	10	17	170	50.0	U
Carbon Tetrachloride	ND	9.4	17	170	50.0	U
Chlorobenzene	ND	7.4	17	170	50.0	U
Chloroethane	ND	49	66	330	50.0	U
Chloroform	ND	7.9	17	170	50.0	U
Chloromethane	ND	10	17	330	50.0	U,IJ,ICJ
Dibromochloromethane	ND	19	66	330	50.0	U
1,2-Dibromo-3-Chloropropane	ND	58	66	330	50.0	U
1,2-Dibromoethane	ND	8.5	17	330	50.0	U
1,2-Dichlorobenzene	ND	7.6	17	170	50.0	U
1,3-Dichlorobenzene	ND	5.8	17	170	50.0	U
1,4-Dichlorobenzene	ND	7.4	17	170	50.0	U
Dichlorodifluoromethane	ND	15	17	330	50.0	U,ICJ
1,1-Dichloroethane	ND	7.0	17	170	50.0	U
1,2-Dichloroethane	ND	10	17	170	50.0	U
1,1-Dichloroethene	ND	11	17	170	50.0	U
c-1,2-Dichloroethene	ND	9.3	17	170	50.0	U
t-1,2-Dichloroethene	ND	17	66	170	50.0	U
1,2-Dichloropropane	ND	15	17	170	50.0	U
c-1,3-Dichloropropene	ND	8.4	17	170	50.0	U
t-1,3-Dichloropropene	ND	20	66	330	50.0	U
Ethylbenzene	9.3	5.0	6.6	170	50.0	J
2-Hexanone	ND	58	66	330	50.0	U
Isopropylbenzene	20	18	66	330	50.0	J
Methylene Chloride	ND	44	66	170	50.0	U
4-Methyl-2-Pentanone	ND	140	170	330	50.0	U
Styrene	ND	20	66	660	50.0	U
1,1,2,2-Tetrachloroethane	ND	11	17	660	50.0	U
Tetrachloroethene	ND	7.0	17	170	50.0	U

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Travis AFB 2015341-10-1004

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Toluene	ND	17	66	170	50.0	U
1,2,4-Trichlorobenzene	ND	10	17	660	50.0	U
1,1,1-Trichloroethane	ND	7.5	17	170	50.0	U
1,1,2-Trichloroethane	ND	12	17	170	50.0	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	12	17	170	50.0	U
Trichloroethene	ND	10	17	170	50.0	U
Trichlorofluoromethane	ND	12	17	170	50.0	U
Vinyl Chloride	ND	17	66	330	50.0	U
p/m-Xylene	10	8.9	13	330	50.0	J
o-Xylene	ND	18	66	330	50.0	U
Xylenes (total)	10	8.9	13	330	1.00	JA
Methyl-t-Butyl Ether (MTBE)	ND	9.8	17	170	50.0	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	107	85-120	
Dibromofluoromethane	98	76-142	
1,2-Dichloroethane-d4	93	77-135	
Toluene-d8	102	85-115	

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM E	**17-10-0568-8-E**	**10/05/17 11:08**	**Solid**	**GC/MS OO**	**10/05/17**	**10/13/17 22:37**	**171013L029**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	29	6.0	9.7	19	1.00	
Benzene	ND	0.13	0.19	0.48	1.00	U
Bromodichloromethane	ND	0.22	0.48	4.8	1.00	U
Bromoform	ND	0.77	1.9	9.7	1.00	U
Bromomethane	ND	9.1	9.7	19	1.00	U,IH
2-Butanone	ND	3.6	4.8	9.7	1.00	U
Carbon Disulfide	0.90	0.30	0.48	4.8	1.00	J
Carbon Tetrachloride	ND	0.27	0.48	4.8	1.00	U
Chlorobenzene	ND	0.22	0.48	4.8	1.00	U
Chloroethane	ND	1.4	1.9	9.7	1.00	U
Chloroform	ND	0.23	0.48	4.8	1.00	U
Chloromethane	ND	0.29	0.48	9.7	1.00	U,IJ,ICJ
Dibromochloromethane	ND	0.55	1.9	9.7	1.00	U
1,2-Dibromo-3-Chloropropane	ND	1.7	1.9	9.7	1.00	U
1,2-Dibromoethane	ND	0.25	0.48	9.7	1.00	U
1,2-Dichlorobenzene	ND	0.22	0.48	4.8	1.00	U
1,3-Dichlorobenzene	ND	0.17	0.48	4.8	1.00	U
1,4-Dichlorobenzene	ND	0.21	0.48	4.8	1.00	U
Dichlorodifluoromethane	ND	0.43	0.48	9.7	1.00	U,ICJ
1,1-Dichloroethane	ND	0.20	0.48	4.8	1.00	U
1,2-Dichloroethane	ND	0.30	0.48	4.8	1.00	U
1,1-Dichloroethene	ND	0.33	0.48	4.8	1.00	U
c-1,2-Dichloroethene	ND	0.27	0.48	4.8	1.00	U
t-1,2-Dichloroethene	ND	0.49	1.9	4.8	1.00	U
1,2-Dichloropropane	ND	0.42	0.48	4.8	1.00	U
c-1,3-Dichloropropene	ND	0.25	0.48	4.8	1.00	U
t-1,3-Dichloropropene	ND	0.59	1.9	9.7	1.00	U
Ethylbenzene	ND	0.15	0.19	4.8	1.00	U
2-Hexanone	ND	1.7	1.9	9.7	1.00	U
Isopropylbenzene	ND	0.53	1.9	9.7	1.00	U
Methylene Chloride	ND	1.3	1.9	4.8	1.00	U
4-Methyl-2-Pentanone	ND	4.2	4.8	9.7	1.00	U
Styrene	ND	0.58	1.9	19	1.00	U
1,1,2,2-Tetrachloroethane	ND	0.33	0.48	19	1.00	U
Tetrachloroethene	ND	0.20	0.48	4.8	1.00	U

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Travis AFB 2015341-10-1004

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Toluene	ND	0.50	1.9	4.8	1.00	U
1,2,4-Trichlorobenzene	ND	0.30	0.48	19	1.00	U
1,1,1-Trichloroethane	ND	0.22	0.48	4.8	1.00	U
1,1,2-Trichloroethane	ND	0.34	0.48	4.8	1.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.34	0.48	4.8	1.00	U
Trichloroethene	ND	0.29	0.48	4.8	1.00	U
Trichlorofluoromethane	ND	0.36	0.48	4.8	1.00	U
Vinyl Chloride	ND	0.49	1.9	9.7	1.00	U
p/m-Xylene	ND	0.26	0.39	9.7	1.00	U
o-Xylene	ND	0.54	1.9	9.7	1.00	U
Xylenes (total)	ND	0.26	0.39	9.7	1.00	U
Methyl-t-Butyl Ether (MTBE)	ND	0.29	0.48	4.8	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	85-120	
Dibromofluoromethane	106	76-142	
1,2-Dichloroethane-d4	111	77-135	
Toluene-d8	100	85-115	

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
IDW-DRUM F	**17-10-0568-9-E**	**10/05/17 11:19**	**Solid**	**GC/MS OO**	**10/05/17**	**10/13/17 23:06**	**171013L029**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	36	5.5	8.8	18	1.00	
Benzene	ND	0.11	0.18	0.44	1.00	U
Bromodichloromethane	ND	0.20	0.44	4.4	1.00	U
Bromoform	ND	0.70	1.8	8.8	1.00	U
Bromomethane	ND	8.3	8.8	18	1.00	U,IH
2-Butanone	ND	3.3	4.4	8.8	1.00	U
Carbon Disulfide	4.5	0.27	0.44	4.4	1.00	
Carbon Tetrachloride	ND	0.25	0.44	4.4	1.00	U
Chlorobenzene	ND	0.20	0.44	4.4	1.00	U
Chloroethane	ND	1.3	1.8	8.8	1.00	U
Chloroform	ND	0.21	0.44	4.4	1.00	U
Chloromethane	ND	0.27	0.44	8.8	1.00	U,IJ,ICJ
Dibromochloromethane	ND	0.50	1.8	8.8	1.00	U
1,2-Dibromo-3-Chloropropane	ND	1.5	1.8	8.8	1.00	U
1,2-Dibromoethane	ND	0.22	0.44	8.8	1.00	U
1,2-Dichlorobenzene	ND	0.20	0.44	4.4	1.00	U
1,3-Dichlorobenzene	ND	0.15	0.44	4.4	1.00	U
1,4-Dichlorobenzene	ND	0.19	0.44	4.4	1.00	U
Dichlorodifluoromethane	ND	0.39	0.44	8.8	1.00	U,ICJ
1,1-Dichloroethane	ND	0.19	0.44	4.4	1.00	U
1,2-Dichloroethane	ND	0.27	0.44	4.4	1.00	U
1,1-Dichloroethene	ND	0.30	0.44	4.4	1.00	U
c-1,2-Dichloroethene	ND	0.24	0.44	4.4	1.00	U
t-1,2-Dichloroethene	ND	0.44	1.8	4.4	1.00	U
1,2-Dichloropropane	ND	0.38	0.44	4.4	1.00	U
c-1,3-Dichloropropene	ND	0.22	0.44	4.4	1.00	U
t-1,3-Dichloropropene	ND	0.53	1.8	8.8	1.00	U
Ethylbenzene	ND	0.13	0.18	4.4	1.00	U
2-Hexanone	ND	1.5	1.8	8.8	1.00	U
Isopropylbenzene	ND	0.48	1.8	8.8	1.00	U
Methylene Chloride	ND	1.2	1.8	4.4	1.00	U
4-Methyl-2-Pentanone	ND	3.8	4.4	8.8	1.00	U
Styrene	ND	0.53	1.8	18	1.00	U
1,1,2,2-Tetrachloroethane	ND	0.30	0.44	18	1.00	U
Tetrachloroethene	ND	0.18	0.44	4.4	1.00	U

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Travis AFB 2015341-10-1004

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Toluene	ND	0.45	1.8	4.4	1.00	U
1,2,4-Trichlorobenzene	ND	0.27	0.44	18	1.00	U
1,1,1-Trichloroethane	ND	0.20	0.44	4.4	1.00	U
1,1,2-Trichloroethane	ND	0.31	0.44	4.4	1.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.31	0.44	4.4	1.00	U
Trichloroethene	ND	0.26	0.44	4.4	1.00	U
Trichlorofluoromethane	ND	0.33	0.44	4.4	1.00	U
Vinyl Chloride	ND	0.44	1.8	8.8	1.00	U
p/m-Xylene	ND	0.23	0.35	8.8	1.00	U
o-Xylene	ND	0.49	1.8	8.8	1.00	U
Xylenes (total)	ND	0.23	0.35	8.8	1.00	U
Methyl-t-Butyl Ether (MTBE)	ND	0.26	0.44	4.4	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	85-120	
Dibromofluoromethane	107	76-142	
1,2-Dichloroethane-d4	111	77-135	
Toluene-d8	100	85-115	

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Analytical Report

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Travis AFB 2015341-10-1004

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-501-451**	**N/A**	**Solid**	**GC/MS OO**	**10/13/17**	**10/13/17 20:38**	**171013L029**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	ND	6.2	10	20	1.00	U
Benzene	ND	0.13	0.20	0.50	1.00	U
Bromodichloromethane	ND	0.23	0.50	5.0	1.00	U
Bromoform	ND	0.79	2.0	10	1.00	U
Bromomethane	ND	9.4	10	20	1.00	U
2-Butanone	ND	3.8	5.0	10	1.00	U
Carbon Disulfide	ND	0.31	0.50	5.0	1.00	U
Carbon Tetrachloride	ND	0.28	0.50	5.0	1.00	U
Chlorobenzene	ND	0.22	0.50	5.0	1.00	U
Chloroethane	ND	1.5	2.0	10	1.00	U
Chloroform	ND	0.24	0.50	5.0	1.00	U
Chloromethane	ND	0.30	0.50	10	1.00	U
Dibromochloromethane	ND	0.57	2.0	10	1.00	U
1,2-Dibromo-3-Chloropropane	ND	1.7	2.0	10	1.00	U
1,2-Dibromoethane	ND	0.26	0.50	10	1.00	U
1,2-Dichlorobenzene	ND	0.23	0.50	5.0	1.00	U
1,3-Dichlorobenzene	ND	0.18	0.50	5.0	1.00	U
1,4-Dichlorobenzene	ND	0.22	0.50	5.0	1.00	U
Dichlorodifluoromethane	ND	0.44	0.50	10	1.00	U
1,1-Dichloroethane	ND	0.21	0.50	5.0	1.00	U
1,2-Dichloroethane	ND	0.31	0.50	5.0	1.00	U
1,1-Dichloroethene	ND	0.35	0.50	5.0	1.00	U
c-1,2-Dichloroethene	ND	0.28	0.50	5.0	1.00	U
t-1,2-Dichloroethene	ND	0.51	2.0	5.0	1.00	U
1,2-Dichloropropane	ND	0.44	0.50	5.0	1.00	U
c-1,3-Dichloropropene	ND	0.25	0.50	5.0	1.00	U
t-1,3-Dichloropropene	ND	0.61	2.0	10	1.00	U
Ethylbenzene	ND	0.15	0.20	5.0	1.00	U
2-Hexanone	ND	1.8	2.0	10	1.00	U
Isopropylbenzene	ND	0.55	2.0	10	1.00	U
Methylene Chloride	ND	1.3	2.0	5.0	1.00	U
4-Methyl-2-Pentanone	ND	4.3	5.0	10	1.00	U
Styrene	ND	0.60	2.0	20	1.00	U
1,1,2,2-Tetrachloroethane	ND	0.35	0.50	20	1.00	U
Tetrachloroethene	ND	0.21	0.50	5.0	1.00	U
Toluene	ND	0.52	2.0	5.0	1.00	U

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: Travis AFB 2015341-10-1004			Page 14 of 16

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	0.31	0.50	20	1.00	U
1,1,1-Trichloroethane	ND	0.23	0.50	5.0	1.00	U
1,1,2-Trichloroethane	ND	0.35	0.50	5.0	1.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.35	0.50	5.0	1.00	U
Trichloroethene	ND	0.30	0.50	5.0	1.00	U
Trichlorofluoromethane	ND	0.38	0.50	5.0	1.00	U
Vinyl Chloride	ND	0.50	2.0	10	1.00	U
p/m-Xylene	ND	0.27	0.40	10	1.00	U
o-Xylene	ND	0.56	2.0	10	1.00	U
Xylenes (total)	ND	0.27	0.40	10	1.00	U
Methyl-t-Butyl Ether (MTBE)	ND	0.30	0.50	5.0	1.00	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	102	85-120	
Dibromofluoromethane	103	76-142	
1,2-Dichloroethane-d4	100	77-135	
Toluene-d8	100	85-115	

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: Travis AFB 2015341-10-1004			Page 15 of 16

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-501-452**	**N/A**	**Solid**	**GC/MS OO**	**10/13/17**	**10/13/17 17:25**	**171013L063**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
Acetone	ND	620	1000	2000	50.0	U
Benzene	ND	13	20	50	50.0	U
Bromodichloromethane	ND	23	50	500	50.0	U
Bromoform	ND	79	200	1000	50.0	U
Bromomethane	ND	940	1000	2000	50.0	U
2-Butanone	ND	380	500	1000	50.0	U
Carbon Disulfide	ND	31	50	500	50.0	U
Carbon Tetrachloride	ND	28	50	500	50.0	U
Chlorobenzene	ND	22	50	500	50.0	U
Chloroethane	ND	150	200	1000	50.0	U
Chloroform	ND	24	50	500	50.0	U
Chloromethane	ND	30	50	1000	50.0	U
Dibromochloromethane	ND	57	200	1000	50.0	U
1,2-Dibromo-3-Chloropropane	ND	170	200	1000	50.0	U
1,2-Dibromoethane	ND	26	50	1000	50.0	U
1,2-Dichlorobenzene	ND	23	50	500	50.0	U
1,3-Dichlorobenzene	ND	18	50	500	50.0	U
1,4-Dichlorobenzene	ND	22	50	500	50.0	U
Dichlorodifluoromethane	ND	44	50	1000	50.0	U
1,1-Dichloroethane	ND	21	50	500	50.0	U
1,2-Dichloroethane	ND	31	50	500	50.0	U
1,1-Dichloroethene	ND	35	50	500	50.0	U
c-1,2-Dichloroethene	ND	28	50	500	50.0	U
t-1,2-Dichloroethene	ND	51	200	500	50.0	U
1,2-Dichloropropane	ND	44	50	500	50.0	U
c-1,3-Dichloropropene	ND	25	50	500	50.0	U
t-1,3-Dichloropropene	ND	61	200	1000	50.0	U
Ethylbenzene	ND	15	20	500	50.0	U
2-Hexanone	ND	180	200	1000	50.0	U
Isopropylbenzene	ND	55	200	1000	50.0	U
Methylene Chloride	ND	130	200	500	50.0	U
4-Methyl-2-Pentanone	ND	430	500	1000	50.0	U
Styrene	ND	60	200	2000	50.0	U
1,1,2,2-Tetrachloroethane	ND	35	50	2000	50.0	U
Tetrachloroethene	ND	21	50	500	50.0	U
Toluene	ND	52	200	500	50.0	U

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Analytical Report

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: Travis AFB 2015341-10-1004			Page 16 of 16

Parameter	Result	DL	LOD	LOQ	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	31	50	2000	50.0	U
1,1,1-Trichloroethane	ND	23	50	500	50.0	U
1,1,2-Trichloroethane	ND	35	50	500	50.0	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	35	50	500	50.0	U
Trichloroethene	ND	30	50	500	50.0	U
Trichlorofluoromethane	ND	38	50	500	50.0	U
Vinyl Chloride	ND	50	200	1000	50.0	U
p/m-Xylene	ND	27	40	1000	50.0	U
o-Xylene	ND	56	200	1000	50.0	U
Xylenes (total)	ND	27	40	1000	1.00	U
Methyl-t-Butyl Ether (MTBE)	ND	30	50	500	50.0	U

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	100	85-120	
Dibromofluoromethane	101	76-142	
1,2-Dichloroethane-d4	94	77-135	
Toluene-d8	99	85-115	

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 1 of 12

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
IDW-DRUM A	**Sample**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 13:03**	**171013S12**
IDW-DRUM A	**Matrix Spike**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 10:36**	**171013S12**
IDW-DRUM A	**Matrix Spike Duplicate**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 10:58**	**171013S12**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	360.8	90	339.5	85	71-125	6	0-12	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 2 of 12

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
IDW-DRUM A	**Sample**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 13:03**	**171013S13**
IDW-DRUM A	**Matrix Spike**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 11:40**	**171013S13**
IDW-DRUM A	**Matrix Spike Duplicate**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 12:00**	**171013S13**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Motor Oil	ND	400.0	342.7	86	328.6	82	64-130	4	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 3 of 12

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
IDW-DRUM C	**Sample**	**Solid**	**GC 4**	**10/09/17**	**10/12/17 01:05**	**171011S027**
IDW-DRUM C	**Matrix Spike**	**Solid**	**GC 4**	**10/09/17**	**10/12/17 03:21**	**171011S027**
IDW-DRUM C	**Matrix Spike Duplicate**	**Solid**	**GC 4**	**10/09/17**	**10/12/17 03:54**	**171011S027**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	ND	10.00	3.974	40	3.889	39	66-108	2	0-18	3

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 4 of 12

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
IDW-DRUM E	**Sample**	**Solid**	**GC 4**	**10/13/17**	**10/13/17 13:14**	**171013S028**
IDW-DRUM E	**Matrix Spike**	**Solid**	**GC 4**	**10/13/17**	**10/13/17 13:48**	**171013S028**
IDW-DRUM E	**Matrix Spike Duplicate**	**Solid**	**GC 4**	**10/13/17**	**10/13/17 14:21**	**171013S028**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	ND	10.00	5.915	59	8.879	89	66-108	40	0-18	3,4

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 5 of 12

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
IDW-DRUM D	**Sample**	**Solid**	**GC 4**	**10/18/17**	**10/18/17 17:31**	**171018S019**
IDW-DRUM D	**Matrix Spike**	**Solid**	**GC 4**	**10/18/17**	**10/18/17 18:05**	**171018S019**
IDW-DRUM D	**Matrix Spike Duplicate**	**Solid**	**GC 4**	**10/18/17**	**10/18/17 18:39**	**171018S019**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	459.4	399.2	752.6	73	625.4	42	66-108	18	0-18	3

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 6 of 12

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
IDW-Decon A	**Sample**	**Aqueous**	**GC 4**	**10/18/17**	**10/18/17 22:01**	**171018S020**
IDW-Decon A	**Matrix Spike**	**Aqueous**	**GC 4**	**10/18/17**	**10/18/17 23:09**	**171018S020**
IDW-Decon A	**Matrix Spike Duplicate**	**Aqueous**	**GC 4**	**10/18/17**	**10/18/17 23:43**	**171018S020**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	ND	2000	1551	78	1139	57	68-122	31	0-18	3,4

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: Travis AFB 2015341-10-1004			Page 7 of 12

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
IDW-DRUM A	**Sample**	**Solid**	**ICP 7300**	**10/19/17**	**10/20/17 11:00**	**171019S01A**
IDW-DRUM A	**Matrix Spike**	**Solid**	**ICP 7300**	**10/19/17**	**10/20/17 11:00**	**171019S01A**
IDW-DRUM A	**Matrix Spike Duplicate**	**Solid**	**ICP 7300**	**10/19/17**	**10/20/17 11:01**	**171019S01A**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	12.59	50	15.67	63	80-120	22	0-20	3,4
Arsenic	9.704	25.00	36.71	108	32.97	93	80-120	11	0-20	
Barium	192.4	25.00	225.1	4X	214.8	4X	80-120	4X	0-20	Q
Beryllium	ND	25.00	27.78	111	25.56	102	80-120	8	0-20	
Cadmium	ND	25.00	27.64	111	25.20	101	80-120	9	0-20	
Chromium	25.75	25.00	55.19	118	47.93	89	80-120	14	0-20	
Cobalt	12.28	25.00	40.88	114	36.33	96	80-120	12	0-20	
Copper	26.57	25.00	58.60	128	51.71	101	80-120	13	0-20	3
Lead	8.407	25.00	37.39	116	33.90	102	80-120	10	0-20	
Molybdenum	ND	25.00	23.85	95	23.31	93	80-120	2	0-20	
Nickel	28.88	25.00	58.86	120	50.95	88	80-120	14	0-20	
Selenium	ND	25.00	24.57	98	22.75	91	80-120	8	0-20	
Silver	ND	12.50	13.75	110	12.59	101	80-120	9	0-20	
Thallium	ND	25.00	25.55	102	23.52	94	80-120	8	0-20	
Vanadium	45.19	25.00	76.44	125	64.66	78	80-120	17	0-20	3
Zinc	55.56	25.00	89.71	137	77.71	89	80-120	14	0-20	3

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3010A Total
		Method:	EPA 6010B
Project: Travis AFB 2015341-10-1004			Page 8 of 12

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
IDW-Decon B	**Sample**	**Aqueous**	**ICP 7300**	**10/11/17**	**10/12/17 10:23**	**171011SA4**
IDW-Decon B	**Matrix Spike**	**Aqueous**	**ICP 7300**	**10/11/17**	**10/12/17 10:24**	**171011SA4**
IDW-Decon B	**Matrix Spike Duplicate**	**Aqueous**	**ICP 7300**	**10/11/17**	**10/12/17 10:25**	**171011SA4**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	0.5000	0.5026	101	0.5142	103	80-120	2	0-20	
Arsenic	ND	0.5000	0.5112	102	0.5241	105	80-120	2	0-20	
Barium	0.05837	0.5000	0.5723	103	0.5623	101	80-120	2	0-20	
Beryllium	ND	0.5000	0.5099	102	0.5121	102	80-120	0	0-20	
Cadmium	ND	0.5000	0.5216	104	0.5097	102	80-120	2	0-20	
Chromium	ND	0.5000	0.5228	105	0.5121	102	80-120	2	0-20	
Cobalt	ND	0.5000	0.5538	111	0.5415	108	80-120	2	0-20	
Copper	ND	0.5000	0.5348	107	0.5265	105	80-120	2	0-20	
Lead	ND	0.5000	0.5120	102	0.5197	104	80-120	2	0-20	
Molybdenum	0.06987	0.5000	0.5681	100	0.5763	101	80-120	1	0-20	
Nickel	ND	0.5000	0.5327	107	0.5234	105	80-120	2	0-20	
Selenium	ND	0.5000	0.5098	102	0.5113	102	80-120	0	0-20	
Silver	ND	0.2500	0.2536	101	0.2494	100	80-120	2	0-20	
Thallium	ND	0.5000	0.5089	102	0.5153	103	80-120	1	0-20	
Vanadium	ND	0.5000	0.5273	105	0.5159	103	80-120	2	0-20	
Zinc	0.01969	0.5000	0.5940	115	0.5830	113	80-120	2	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 7470A Total
		Method:	EPA 7470A
Project: Travis AFB 2015341-10-1004			Page 9 of 12

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
IDW-Decon A	**Sample**	**Aqueous**	**Mercury 07**	**10/16/17**	**10/16/17 19:25**	**171016SA1**
IDW-Decon A	**Matrix Spike**	**Aqueous**	**Mercury 07**	**10/16/17**	**10/16/17 19:27**	**171016SA1**
IDW-Decon A	**Matrix Spike Duplicate**	**Aqueous**	**Mercury 07**	**10/16/17**	**10/16/17 19:29**	**171016SA1**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.01000	0.009399	94	0.009308	93	80-120	1	0-14	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Travis AFB 2015341-10-1004			Page 10 of 12

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
IDW-DRUM A	**Sample**	**Solid**	**Mercury 07**	**10/19/17**	**10/19/17 19:35**	**171019S02**
IDW-DRUM A	**Matrix Spike**	**Solid**	**Mercury 07**	**10/19/17**	**10/19/17 19:38**	**171019S02**
IDW-DRUM A	**Matrix Spike Duplicate**	**Solid**	**Mercury 07**	**10/19/17**	**10/19/17 19:40**	**171019S02**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.8350	0.8242	99	0.8365	100	80-120	1	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: Travis AFB 2015341-10-1004			Page 11 of 12

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-10-0722-14	**Sample**	**Aqueous**	**GC/MS Z**	**10/13/17**	**10/13/17 18:06**	**171013S016**
17-10-0722-14	**Matrix Spike**	**Aqueous**	**GC/MS Z**	**10/13/17**	**10/13/17 18:37**	**171013S016**
17-10-0722-14	**Matrix Spike Duplicate**	**Aqueous**	**GC/MS Z**	**10/13/17**	**10/13/17 19:07**	**171013S016**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Acetone	ND	50.00	57.03	114	60.63	121	40-140	6	0-20	
Benzene	ND	50.00	54.32	109	51.79	104	80-120	5	0-20	
Bromodichloromethane	ND	50.00	58.36	117	55.74	111	75-120	5	0-20	
Bromoform	ND	50.00	58.95	118	56.26	113	70-130	5	0-20	
Bromomethane	ND	50.00	49.76	100	39.72	79	30-145	22	0-20	4
2-Butanone	ND	50.00	58.87	118	55.97	112	30-150	5	0-20	
Carbon Disulfide	ND	50.00	49.60	99	48.88	98	35-160	1	0-20	
Carbon Tetrachloride	ND	50.00	55.17	110	52.90	106	65-140	4	0-20	
Chlorobenzene	ND	50.00	59.15	118	57.64	115	80-120	3	0-20	
Chloroethane	ND	50.00	52.54	105	56.39	113	60-135	7	0-20	
Chloroform	ND	50.00	56.92	114	56.32	113	65-135	1	0-20	
Chloromethane	ND	50.00	53.38	107	55.66	111	40-125	4	0-20	
Dibromochloromethane	ND	50.00	55.68	111	54.14	108	60-135	3	0-20	
1,2-Dibromo-3-Chloropropane	ND	50.00	64.62	129	63.12	126	50-130	2	0-20	
1,2-Dibromoethane	ND	50.00	62.05	124	61.04	122	80-120	2	0-20	3
1,2-Dichlorobenzene	ND	50.00	57.80	116	56.26	113	70-120	3	0-20	
1,3-Dichlorobenzene	ND	50.00	55.24	110	54.94	110	75-125	1	0-20	
1,4-Dichlorobenzene	ND	50.00	54.50	109	53.67	107	75-125	2	0-20	
Dichlorodifluoromethane	ND	50.00	44.72	89	44.00	88	30-155	2	0-20	
1,1-Dichloroethane	ND	50.00	62.36	125	61.01	122	70-135	2	0-20	
1,2-Dichloroethane	ND	50.00	63.27	127	59.11	118	70-130	7	0-20	
1,1-Dichloroethene	ND	50.00	60.28	121	59.12	118	70-130	2	0-20	
c-1,2-Dichloroethene	ND	50.00	55.72	111	54.77	110	70-125	2	0-20	
t-1,2-Dichloroethene	ND	50.00	54.77	110	54.30	109	60-140	1	0-20	
1,2-Dichloropropane	ND	50.00	61.52	123	58.97	118	75-125	4	0-20	
c-1,3-Dichloropropene	ND	50.00	55.59	111	52.99	106	70-130	5	0-20	
t-1,3-Dichloropropene	ND	50.00	60.44	121	59.48	119	55-140	2	0-20	
Ethylbenzene	ND	50.00	59.81	120	59.02	118	75-125	1	0-20	
2-Hexanone	ND	50.00	64.58	129	61.79	124	55-130	4	0-20	
Isopropylbenzene	ND	50.00	61.29	123	60.06	120	75-125	2	0-20	
Methylene Chloride	ND	50.00	56.55	113	55.21	110	55-140	2	0-20	
4-Methyl-2-Pentanone	ND	50.00	64.30	129	60.63	121	60-135	6	0-20	
Styrene	ND	50.00	56.37	113	54.56	109	65-135	3	0-20	
1,1,2,2-Tetrachloroethane	ND	50.00	64.66	129	62.14	124	65-130	4	0-20	
Tetrachloroethene	ND	50.00	45.97	92	45.83	92	45-150	0	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: Travis AFB 2015341-10-1004			Page 12 of 12

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Toluene	ND	50.00	54.44	109	51.44	103	75-120	6	0-20	
1,2,4-Trichlorobenzene	ND	50.00	60.99	122	60.87	122	65-135	0	0-20	
1,1,1-Trichloroethane	ND	50.00	56.00	112	53.77	108	65-130	4	0-20	
1,1,2-Trichloroethane	ND	50.00	60.07	120	57.53	115	75-125	4	0-20	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50.00	60.82	122	60.22	120	80-130	1	0-20	
Trichloroethene	ND	50.00	52.90	106	50.50	101	70-125	5	0-20	
Trichlorofluoromethane	ND	50.00	59.29	119	58.45	117	60-145	1	0-20	
Vinyl Chloride	ND	50.00	53.51	107	54.78	110	50-145	2	0-20	
p/m-Xylene	ND	100.0	121.0	121	118.4	118	75-130	2	0-20	
o-Xylene	ND	50.00	58.61	117	57.24	114	80-120	2	0-20	
Methyl-t-Butyl Ether (MTBE)	ND	50.00	56.02	112	54.12	108	65-125	3	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - PDS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: Travis AFB 2015341-10-1004			Page 1 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PDSD Batch Number
IDW-DRUM A	**Sample**	**Solid**	**ICP 7300**	**10/19/17 00:00**	**10/20/17 11:00**	**171019S01A**
IDW-DRUM A	**PDS**	**Solid**	**ICP 7300**	**10/19/17 00:00**	**10/20/17 11:02**	**171019S01A**

Parameter	Sample Conc.	Spike Added	PDS Conc.	PDS %Rec.	%Rec. CL	Qualifiers
Antimony	ND	25.00	24.98	100	75-125	
Arsenic	9.704	25.00	32.93	93	75-125	
Barium	192.4	25.00	216.5	4X	75-125	Q
Beryllium	ND	25.00	25.32	101	75-125	
Cadmium	ND	25.00	25.14	101	75-125	
Chromium	25.75	25.00	50.46	99	75-125	
Cobalt	12.28	25.00	36.94	99	75-125	
Copper	26.57	25.00	52.40	103	75-125	
Lead	8.407	25.00	33.59	101	75-125	
Molybdenum	ND	25.00	23.91	96	75-125	
Nickel	28.88	25.00	53.08	97	75-125	
Selenium	ND	25.00	23.08	92	75-125	
Silver	ND	12.50	12.35	99	75-125	
Thallium	ND	25.00	22.99	92	75-125	
Vanadium	45.19	25.00	69.42	97	75-125	
Zinc	55.56	25.00	81.06	102	75-125	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - PDS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3010A Total
		Method:	EPA 6010B
Project: Travis AFB 2015341-10-1004			Page 2 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PDSD Batch Number
IDW-Decon B	**Sample**	**Aqueous**	**ICP 7300**	**10/11/17 00:00**	**10/12/17 10:23**	**171011SA4**
IDW-Decon B	**PDS**	**Aqueous**	**ICP 7300**	**10/11/17 00:00**	**10/12/17 10:26**	**171011SA4**

Parameter	Sample Conc.	Spike Added	PDS Conc.	PDS %Rec.	%Rec. CL	Qualifiers
Antimony	ND	0.5000	0.4663	93	75-125	
Arsenic	ND	0.5000	0.4971	99	75-125	
Barium	0.05837	0.5000	0.5892	106	75-125	
Beryllium	ND	0.5000	0.5186	104	75-125	
Cadmium	ND	0.5000	0.5169	103	75-125	
Chromium	ND	0.5000	0.5104	102	75-125	
Cobalt	ND	0.5000	0.5394	108	75-125	
Copper	ND	0.5000	0.5379	108	75-125	
Lead	ND	0.5000	0.5065	101	75-125	
Molybdenum	0.06987	0.5000	0.5678	100	75-125	
Nickel	ND	0.5000	0.5304	106	75-125	
Selenium	ND	0.5000	0.4940	99	75-125	
Silver	ND	0.2500	0.2571	103	75-125	
Thallium	ND	0.5000	0.5063	101	75-125	
Vanadium	ND	0.5000	0.5123	102	75-125	
Zinc	0.01969	0.5000	0.5847	113	75-125	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - PDS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 7470A Total
		Method:	EPA 7470A
Project: Travis AFB 2015341-10-1004			Page 3 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PDSD Batch Number
IDW-Decon A	**Sample**	**Aqueous**	**Mercury 07**	**10/16/17 00:00**	**10/16/17 19:25**	**171016SA1**
IDW-Decon A	**PDS**	**Aqueous**	**Mercury 07**	**10/16/17 00:00**	**10/16/17 19:32**	**171016SA1**

Parameter	Sample Conc.	Spike Added	PDS Conc.	PDS %Rec.	%Rec. CL	Qualifiers
Mercury	ND	0.01000	0.009363	94	75-125	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - PDS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Travis AFB 2015341-10-1004			Page 4 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PDSD Batch Number
IDW-DRUM A	**Sample**	**Solid**	**Mercury 07**	**10/19/17 00:00**	**10/19/17 19:35**	**171019S02**
IDW-DRUM A	**PDS**	**Solid**	**Mercury 07**	**10/19/17 00:00**	**10/19/17 19:42**	**171019S02**

Parameter	Sample Conc.	Spike Added	PDS Conc.	PDS %Rec.	%Rec. CL	Qualifiers
Mercury	ND	0.8350	0.8509	102	75-125	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	N/A
		Method:	ASTM D-2216 (M)
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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
17-10-0891-1	**Sample**	**Solid**	**N/A**	**10/13/17 00:00**	**10/13/17 17:00**	**H1013MOID3**
17-10-0891-1	**Sample Duplicate**	**Solid**	**N/A**	**10/13/17 00:00**	**10/13/17 17:00**	**H1013MOID3**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Moisture	78.50	78.60	0	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	N/A
		Method:	EPA 1010
Project: Travis AFB 2015341-10-1004			Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
IDW-Decon A	**Sample**	**Aqueous**	**FP 4**	**N/A**	**10/17/17 17:00**	**H1017PD1**
IDW-Decon A	**Sample Duplicate**	**Aqueous**	**FP 4**	**N/A**	**10/17/17 17:00**	**H1017PD1**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Ignitability	>212	>212	0	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	N/A
		Method:	SM 4500 H+ B
Project: Travis AFB 2015341-10-1004			Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
17-10-0554-2	**Sample**	**Aqueous**	**PH 1**	**N/A**	**10/07/17 15:40**	**H1007PHD1**
17-10-0554-2	**Sample Duplicate**	**Aqueous**	**PH 1**	**N/A**	**10/07/17 15:40**	**H1007PHD1**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
pH	8.380	8.140	3	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3510C
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 1 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-396-141	**LCS**	**Aqueous**	**GC 45**	**10/12/17**	**10/13/17 06:17**	**171012B02**
099-15-396-141	**LCSD**	**Aqueous**	**GC 45**	**10/12/17**	**10/13/17 06:40**	**171012B02**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Motor Oil	2000	2128	106	2120	106	75-117	0	0-13	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 2 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-512-327	**LCS**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 10:16**	**171013B12**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	347.8	87	71-119	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 3 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-536-195	**LCS**	**Solid**	**GC 46**	**10/13/17**	**10/18/17 11:19**	**171013B13**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Motor Oil	400.0	332.4	83	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

OTIE	Date Received: 10/07/17
1777 N. California Blvd., Suite 310	Work Order: 17-10-0568
Walnut Creek, CA 94596-4159	Preparation: EPA 3510C
	Method: EPA 8015B (M)
Project: Travis AFB 2015341-10-1004	Page 4 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-16-692-56	**LCS**	**Aqueous**	**GC 45**	**10/12/17**	**10/13/17 05:31**	**171012B01**
099-16-692-56	**LCSD**	**Aqueous**	**GC 45**	**10/12/17**	**10/13/17 05:55**	**171012B01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	2000	2096	105	2102	105	60-132	0	0-11	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 5 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-493-66	**LCS**	**Solid**	**GC 4**	**10/11/17**	**10/11/17 22:16**	**171011L057**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Gasoline	10.00	7.571	76	70-124	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 6 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-493-68	**LCS**	**Solid**	**GC 4**	**10/13/17**	**10/13/17 11:33**	**171013L069**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Gasoline	10.00	7.972	80	70-124	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 7 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-493-67	**LCS**	**Solid**	**GC 4**	**10/18/17**	**10/18/17 10:10**	**171018L038**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Gasoline	10.00	8.226	82	70-124	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: Travis AFB 2015341-10-1004			Page 8 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-797-119	**LCS**	**Aqueous**	**GC 4**	**10/18/17**	**10/18/17 20:54**	**171018L039**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Gasoline	2000	1695	85	78-120	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: Travis AFB 2015341-10-1004			Page 9 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-481-307	**LCS**	**Solid**	**ICP 7300**	**10/19/17**	**10/20/17 10:58**	**171019L01D**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Antimony	25.00	24.19	97	80-120	
Arsenic	25.00	24.52	98	80-120	
Barium	25.00	25.65	103	80-120	
Beryllium	25.00	23.72	95	80-120	
Cadmium	25.00	25.81	103	80-120	
Chromium	25.00	26.02	104	80-120	
Cobalt	25.00	26.40	106	80-120	
Copper	25.00	25.37	101	80-120	
Lead	25.00	26.47	106	80-120	
Molybdenum	25.00	24.44	98	80-120	
Nickel	25.00	26.29	105	80-120	
Selenium	25.00	24.21	97	80-120	
Silver	12.50	12.88	103	80-120	
Thallium	25.00	25.37	101	80-120	
Vanadium	25.00	24.79	99	80-120	
Zinc	25.00	25.86	103	80-120	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 3010A Total
		Method:	EPA 6010B
Project: Travis AFB 2015341-10-1004			Page 10 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-483-265	**LCS**	**Aqueous**	**ICP 7300**	**10/11/17**	**10/12/17 10:21**	**171011LA4D**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Antimony	0.5000	0.4719	94	80-120	
Arsenic	0.5000	0.5091	102	80-120	
Barium	0.5000	0.5396	108	80-120	
Beryllium	0.5000	0.5196	104	80-120	
Cadmium	0.5000	0.5303	106	80-120	
Chromium	0.5000	0.5494	110	80-120	
Cobalt	0.5000	0.5676	114	80-120	
Copper	0.5000	0.5264	105	80-120	
Lead	0.5000	0.5675	114	80-120	
Molybdenum	0.5000	0.5351	107	80-120	
Nickel	0.5000	0.5440	109	80-120	
Selenium	0.5000	0.5153	103	80-120	
Silver	0.2500	0.2593	104	80-120	
Thallium	0.5000	0.5478	110	80-120	
Vanadium	0.5000	0.5270	105	80-120	
Zinc	0.5000	0.5363	107	80-120	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 7470A Total
		Method:	EPA 7470A
Project: Travis AFB 2015341-10-1004			Page 11 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-487-129	**LCS**	**Aqueous**	**Mercury 07**	**10/16/17**	**10/16/17 19:22**	**171016LA1D**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.01000	0.009385	94	80-120	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Travis AFB 2015341-10-1004			Page 12 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-280-142	**LCS**	**Solid**	**Mercury 07**	**10/19/17**	**10/19/17 19:33**	**171019L02D**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.8583	103	80-120	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: Travis AFB 2015341-10-1004			Page 13 of 18

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-479-1390	**LCS**	**Aqueous**	**GC/MS Z**	**10/13/17**	**10/13/17 15:48**	**171013L028**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Acetone	50.00	51.86	104	40-140	
Benzene	50.00	44.85	90	80-120	
Bromodichloromethane	50.00	48.12	96	75-120	
Bromoform	50.00	50.00	100	70-130	
Bromomethane	50.00	37.96	76	30-145	
2-Butanone	50.00	47.34	95	30-150	
Carbon Disulfide	50.00	41.79	84	35-160	
Carbon Tetrachloride	50.00	44.73	89	65-140	
Chlorobenzene	50.00	50.09	100	80-120	
Chloroethane	50.00	43.23	86	60-135	
Chloroform	50.00	48.01	96	65-135	
Chloromethane	50.00	45.59	91	40-125	
Dibromochloromethane	50.00	46.10	92	60-135	
1,2-Dibromo-3-Chloropropane	50.00	54.51	109	50-130	
1,2-Dibromoethane	50.00	52.00	104	80-120	
1,2-Dichlorobenzene	50.00	50.23	100	70-120	
1,3-Dichlorobenzene	50.00	49.17	98	75-125	
1,4-Dichlorobenzene	50.00	48.26	97	75-125	
Dichlorodifluoromethane	50.00	33.40	67	30-155	
1,1-Dichloroethane	50.00	51.87	104	70-135	
1,2-Dichloroethane	50.00	51.71	103	70-130	
1,1-Dichloroethene	50.00	49.16	98	70-130	
c-1,2-Dichloroethene	50.00	47.92	96	70-125	
t-1,2-Dichloroethene	50.00	46.03	92	60-140	
1,2-Dichloropropane	50.00	50.32	101	75-125	
c-1,3-Dichloropropene	50.00	47.13	94	70-130	
t-1,3-Dichloropropene	50.00	51.30	103	55-140	
Ethylbenzene	50.00	50.41	101	75-125	
2-Hexanone	50.00	51.90	104	55-130	
Isopropylbenzene	50.00	51.57	103	75-125	
Methylene Chloride	50.00	47.72	95	55-140	
4-Methyl-2-Pentanone	50.00	52.43	105	60-135	
Styrene	50.00	47.79	96	65-135	
1,1,2,2-Tetrachloroethane	50.00	51.26	103	65-130	
Tetrachloroethene	50.00	46.36	93	45-150	
Toluene	50.00	45.87	92	75-120	
1,2,4-Trichlorobenzene	50.00	56.50	113	65-135	
1,1,1-Trichloroethane	50.00	45.51	91	65-130	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

OTIE	Date Received:	10/07/17
1777 N. California Blvd., Suite 310	Work Order:	17-10-0568
Walnut Creek, CA 94596-4159	Preparation:	EPA 5030C
	Method:	EPA 8260B
Project: Travis AFB 2015341-10-1004		Page 14 of 18

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
1,1,2-Trichloroethane	50.00	50.24	100	75-125	
1,1,2-Trichloro-1,2,2-Trifluoroethane	50.00	46.53	93	80-130	
Trichloroethene	50.00	45.63	91	70-125	
Trichlorofluoromethane	50.00	46.81	94	60-145	
Vinyl Chloride	50.00	44.70	89	50-145	
p/m-Xylene	100.0	102.6	103	75-130	
o-Xylene	50.00	49.89	100	80-120	
Methyl-t-Butyl Ether (MTBE)	50.00	47.76	96	65-125	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Project: Travis AFB 2015341-10-1004

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5035
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-501-451	**LCS**	**Solid**	**GC/MS OO**	**10/13/17**	**10/13/17 15:48**	**171013L029**
099-14-501-451	**LCSD**	**Solid**	**GC/MS OO**	**10/13/17**	**10/13/17 16:17**	**171013L029**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Acetone	50.00	45.20	90	46.40	93	20-160	3	0-20	
Benzene	50.00	47.90	96	48.06	96	75-125	0	0-20	
Bromodichloromethane	50.00	45.32	91	45.99	92	70-130	1	0-20	
Bromoform	50.00	47.29	95	47.41	95	55-135	0	0-20	
Bromomethane	50.00	73.26	147	75.50	151	30-160	3	0-20	
2-Butanone	50.00	45.21	90	43.85	88	30-160	3	0-20	
Carbon Disulfide	50.00	47.06	94	46.31	93	45-160	2	0-20	
Carbon Tetrachloride	50.00	48.38	97	48.08	96	65-135	1	0-20	
Chlorobenzene	50.00	51.82	104	50.70	101	75-125	2	0-20	
Chloroethane	50.00	48.49	97	49.38	99	40-155	2	0-20	
Chloroform	50.00	47.34	95	47.62	95	70-125	1	0-20	
Chloromethane	50.00	35.35	71	32.87	66	50-130	7	0-20	
Dibromochloromethane	50.00	49.33	99	48.74	97	65-130	1	0-20	
1,2-Dibromo-3-Chloropropane	50.00	47.37	95	45.41	91	40-135	4	0-20	
1,2-Dibromoethane	50.00	50.14	100	49.13	98	70-125	2	0-20	
1,2-Dichlorobenzene	50.00	49.85	100	50.02	100	75-120	0	0-20	
1,3-Dichlorobenzene	50.00	51.50	103	50.59	101	70-125	2	0-20	
1,4-Dichlorobenzene	50.00	49.41	99	49.91	100	70-125	1	0-20	
Dichlorodifluoromethane	50.00	48.02	96	47.66	95	35-135	1	0-20	
1,1-Dichloroethane	50.00	48.90	98	48.54	97	75-125	1	0-20	
1,2-Dichloroethane	50.00	46.69	93	47.16	94	70-135	1	0-20	
1,1-Dichloroethene	50.00	47.27	95	47.28	95	70-135	0	0-20	
c-1,2-Dichloroethene	50.00	49.70	99	49.90	100	65-125	0	0-20	
t-1,2-Dichloroethene	50.00	48.31	97	47.85	96	65-135	1	0-20	
1,2-Dichloropropane	50.00	47.65	95	47.77	96	70-120	0	0-20	
c-1,3-Dichloropropene	50.00	49.13	98	49.72	99	70-125	1	0-20	
t-1,3-Dichloropropene	50.00	51.86	104	50.50	101	65-125	3	0-20	
Ethylbenzene	50.00	49.77	100	49.79	100	77-125	0	0-20	
2-Hexanone	50.00	44.62	89	42.50	85	45-145	5	0-20	
Isopropylbenzene	50.00	50.01	100	49.56	99	75-130	1	0-20	
Methylene Chloride	50.00	48.10	96	45.92	92	55-140	5	0-20	
4-Methyl-2-Pentanone	50.00	44.16	88	44.06	88	45-145	0	0-20	
Styrene	50.00	49.76	100	49.80	100	75-125	0	0-20	
1,1,2,2-Tetrachloroethane	50.00	47.45	95	46.79	94	55-130	1	0-20	
Tetrachloroethene	50.00	50.47	101	49.48	99	65-140	2	0-20	
Toluene	50.00	47.94	96	48.64	97	70-125	1	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

OTIE		Date Received:	10/07/17
1777 N. California Blvd., Suite 310		Work Order:	17-10-0568
Walnut Creek, CA 94596-4159		Preparation:	EPA 5035
		Method:	EPA 8260B
Project: Travis AFB 2015341-10-1004			Page 16 of 18

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
1,2,4-Trichlorobenzene	50.00	53.61	107	53.40	107	65-130	0	0-20	
1,1,1-Trichloroethane	50.00	47.58	95	47.10	94	70-135	1	0-20	
1,1,2-Trichloroethane	50.00	48.70	97	47.01	94	75-125	4	0-20	
1,1,2-Trichloro-1,2,2-Trifluoroethane	50.00	48.17	96	47.74	95	60-125	1	0-20	
Trichloroethene	50.00	46.94	94	47.33	95	75-125	1	0-20	
Trichlorofluoromethane	50.00	47.90	96	48.07	96	25-185	0	0-20	
Vinyl Chloride	50.00	48.25	97	48.83	98	60-125	1	0-20	
p/m-Xylene	100.0	98.82	99	98.36	98	80-125	0	0-20	
o-Xylene	50.00	48.24	96	48.30	97	75-125	0	0-20	
Methyl-t-Butyl Ether (MTBE)	50.00	47.81	96	49.38	99	75-129	3	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

OTIE
1777 N. California Blvd., Suite 310
Walnut Creek, CA 94596-4159

Project: Travis AFB 2015341-10-1004

Date Received: 10/07/17
Work Order: 17-10-0568
Preparation: EPA 5035
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-501-452	**LCS**	**Solid**	**GC/MS OO**	**10/13/17**	**10/13/17 15:48**	**171013L063**
099-14-501-452	**LCSD**	**Solid**	**GC/MS OO**	**10/13/17**	**10/13/17 16:17**	**171013L063**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Acetone	50.00	45.20	90	46.40	93	20-160	3	0-20	
Benzene	50.00	47.90	96	48.06	96	75-125	0	0-20	
Bromodichloromethane	50.00	45.32	91	45.99	92	70-130	1	0-20	
Bromoform	50.00	47.29	95	47.41	95	55-135	0	0-20	
Bromomethane	50.00	73.26	147	75.50	151	30-160	3	0-20	
2-Butanone	50.00	45.21	90	43.85	88	30-160	3	0-20	
Carbon Disulfide	50.00	47.06	94	46.31	93	45-160	2	0-20	
Carbon Tetrachloride	50.00	48.38	97	48.08	96	65-135	1	0-20	
Chlorobenzene	50.00	51.82	104	50.70	101	75-125	2	0-20	
Chloroethane	50.00	48.49	97	49.38	99	40-155	2	0-20	
Chloroform	50.00	47.34	95	47.62	95	70-125	1	0-20	
Chloromethane	50.00	35.35	71	32.87	66	50-130	7	0-20	
Dibromochloromethane	50.00	49.33	99	48.74	97	65-130	1	0-20	
1,2-Dibromo-3-Chloropropane	50.00	47.37	95	45.41	91	40-135	4	0-20	
1,2-Dibromoethane	50.00	50.14	100	49.13	98	70-125	2	0-20	
1,2-Dichlorobenzene	50.00	49.85	100	50.02	100	75-120	0	0-20	
1,3-Dichlorobenzene	50.00	51.50	103	50.59	101	70-125	2	0-20	
1,4-Dichlorobenzene	50.00	49.41	99	49.91	100	70-125	1	0-20	
Dichlorodifluoromethane	50.00	48.02	96	47.66	95	35-135	1	0-20	
1,1-Dichloroethane	50.00	48.90	98	48.54	97	75-125	1	0-20	
1,2-Dichloroethane	50.00	46.69	93	47.16	94	70-135	1	0-20	
1,1-Dichloroethene	50.00	47.27	95	47.28	95	70-135	0	0-20	
c-1,2-Dichloroethene	50.00	49.70	99	49.90	100	65-125	0	0-20	
t-1,2-Dichloroethene	50.00	48.31	97	47.85	96	65-135	1	0-20	
1,2-Dichloropropane	50.00	47.65	95	47.77	96	70-120	0	0-20	
c-1,3-Dichloropropene	50.00	49.13	98	49.72	99	70-125	1	0-20	
t-1,3-Dichloropropene	50.00	51.86	104	50.50	101	65-125	3	0-20	
Ethylbenzene	50.00	49.77	100	49.79	100	77-125	0	0-20	
2-Hexanone	50.00	44.62	89	42.50	85	45-145	5	0-20	
Isopropylbenzene	50.00	50.01	100	49.56	99	75-130	1	0-20	
Methylene Chloride	50.00	48.10	96	45.92	92	55-140	5	0-20	
4-Methyl-2-Pentanone	50.00	44.16	88	44.06	88	45-145	0	0-20	
Styrene	50.00	49.76	100	49.80	100	75-125	0	0-20	
1,1,2,2-Tetrachloroethane	50.00	47.45	95	46.79	94	55-130	1	0-20	
Tetrachloroethene	50.00	50.47	101	49.48	99	65-140	2	0-20	
Toluene	50.00	47.94	96	48.64	97	70-125	1	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

OTIE	Date Received: 10/07/17
1777 N. California Blvd., Suite 310	Work Order: 17-10-0568
Walnut Creek, CA 94596-4159	Preparation: EPA 5035
	Method: EPA 8260B
Project: Travis AFB 2015341-10-1004	Page 18 of 18

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
1,2,4-Trichlorobenzene	50.00	53.61	107	53.40	107	65-130	0	0-20	
1,1,1-Trichloroethane	50.00	47.58	95	47.10	94	70-135	1	0-20	
1,1,2-Trichloroethane	50.00	48.70	97	47.01	94	75-125	4	0-20	
1,1,2-Trichloro-1,2,2-Trifluoroethane	50.00	48.17	96	47.74	95	60-125	1	0-20	
Trichloroethene	50.00	46.94	94	47.33	95	75-125	1	0-20	
Trichlorofluoromethane	50.00	47.90	96	48.07	96	25-185	0	0-20	
Vinyl Chloride	50.00	48.25	97	48.83	98	60-125	1	0-20	
p/m-Xylene	100.0	98.82	99	98.36	98	80-125	0	0-20	
o-Xylene	50.00	48.24	96	48.30	97	75-125	0	0-20	
Methyl-t-Butyl Ether (MTBE)	50.00	47.81	96	49.38	99	75-129	3	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 17-10-0568 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
ASTM D-2216 (M)	N/A	1136	N/A	1
EPA 1010	N/A	691	FP 4	1
EPA 6010B	EPA 3010A Total	935	ICP 7300	1
EPA 6010B	EPA 3050B	935	ICP 7300	1
EPA 7470A	EPA 7470A Total	868	Mercury 07	1
EPA 7471A	EPA 7471A Total	868	Mercury 07	1
EPA 8015B (M)	EPA 3510C	682	GC 45	1
EPA 8015B (M)	EPA 3550B	972	GC 46	1
EPA 8015B (M)	EPA 5030C	715	GC 4	2
EPA 8260B	EPA 5035	849	GC/MS OO	2
EPA 8260B	EPA 5030C	849	GC/MS Z	2
SM 4500 H+ B	N/A	1086	PH 1	1

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Glossary of Terms and Qualifiers

Work Order: 17-10-0568 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
{	Analyte is a suspected lab contaminant. Analyte presence was not confirmed during reanalysis. See narrative.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
DL	The Detection Limit (DL) is the smallest analyte concentration that can be demonstrated to be different from zero or a blank concentration at the 99% level of confidence.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
ICH	Initial calibration verification recovery is above the control limit for this analyte.
ICJ	Initial calibration verification recovery is below the control limit for this analyte.
IH	Calibration verification recovery is above the control limit for this analyte.
IJ	Calibration verification recovery is below the control limit for this analyte.
J	Analyte was detected at a concentration below the LOQ and above the DL. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
LOD	The Limit of Detection (LOD) is the smallest amount or concentration of a substance that must be present in a sample in order to be detected at 99% confidence level.
LOQ	The Limit of Quantitation (LOQ) is the lowest concentration of a substance that produces a quantitative result within specified limits of precision and bias.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
U	Undetected at Detection Limit (DL) and is reported as less than the Limit of Detection (LOD).
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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OTIE
An Oneida Nation Company

Eurofins Lancaster Laboratories Environmental

CHAIN OF CUSTODY RECORD

DATE: 10/05/17
PAGE: 1 OF 1

LABORATORY CLIENT: OTIE	CLIENT PROJECT NAME / NUMBER: Travis AFB 2015341-10-1004
ADDRESS: 1777 N. California Blvd., Suite 310	P.O. NO.: 10976
CITY: Walnut Creek STATE: CA ZIP: 94596	PROJECT CONTACT: Oscar Martinez
E-MAIL: Omartinez@otie.com	LAB CONTACT / QUOTE NO.: Angela Miller/37016
TEL: 925-906-9698 FAX: 925-906-9678	SAMPLER(S): (SIGNATURE) Patsy Condley
E-MAIL: MQuillin@otie.com	SDG #:

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
-OTIE specific EDDs
- level III data package unless otherwise noted.

REQUESTED ANALYSIS

Relinquished by commercial carrier: **17-10-0568**

Preservation Codes:
H = HCl NA = Not Applicable
N = HNO_3 T = Trizma
S = H_2SO_4 B = NaOH

Lab Use	SAMPLE ID	SAMPLING DATE	TIME	MATRIX	GRAB	COMP.	No. of containers	Grain Size	pH	Moisture	TOC Solids/Sludges	SW8260B	SW8015-GRO	SW8015-DRO/MO	CAM 17 metals	SM5500 or SW9040A	SW1010A	<-- Preservative / Remarks
1	TRIP BLANK 100517	10/05/17	0900	W			2					X	X	X	X	X	X	NOT FIELD FILTERED
2	IDW - Decon A		1000	W		X	11									X	X	
3	IDW - Decon B		1010	W			11									X	X	
4	IDW - DRUM A		1021	S			6											
5	IDW - DRUM B		1032				6											
6	IDW - DRUM C		1041				6											
7	IDW - DRUM D		1050				6											
8	IDW - DRUM E		1108				6											
9	IDW - DRUM F		1119				6											

Relinquished by: (Signature) P. Cu	Received by: (Signature) Tom Malloy ECI	Date: 10/6/17	Time: 0905
Relinquished by: (Signature) Tom Malloy ECI 650 10/6/17 1730	Received by: (Signature)	Date: 10/7/17	Time: 1030
Relinquished by: (Signature) -	Received by: (Signature)	Date:	Time:

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GSO

800-322-5555
www.gso.com

0f68

Ship From
CAL SCIENCE- CONCORD
ALAN KEMP
5063 COMMERCIAL CIRCLE
#H
CONCORD, CA 94520

Ship To
CEL
SAMPLE RECEIVING
7440 LINCOLN WAY
GARDEN GROVE, CA 92841

COD: $0.00
Weight: 0 lb(s)
Reference:
OTIE
Delivery Instructions:

Signature Type: REQUIRED

Tracking #: 537893191

SDS

ORC **A**
GARDEN GROVE

D92845A

73305104

Print Date: 10/6/2017 12:43 PM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.
Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.
Step 2: Fold this page in half.
Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.

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WORK ORDER NUMBER: 17-10-0768

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: OTIE

DATE: 10/07/2017

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: -0.4°C); Temperature (w/o CF): 2.4 °C (w/ CF): 2.0 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: BR

CUSTODY SEAL:

Cooler ☑ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A Checked by: BR

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1050

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☑	☐
Samples received within holding time 10077	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☑ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☑	☐
Proper preservation chemical(s) noted on COC and/or sample container	☑	☐	☐
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	☑	☐	☐
Container(s) for certain analysis free of headspace	☑	☐	☐
☑ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (6) (Trip Blank Lot Number: 170927B)

Aqueous: ☐ VOA ☑ VOAh ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB ☐ 125PB**znna** (pH__9)

☐ 250AGB ☐ 250CGB ☐ 250CGB**s** (pH__2) ☑ (2) 250PB ☑ 250PB**n** (pH≤2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s** (pH__2) ☐ 500PB

☑ (2) 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** (pH__2) ☐ 1AGB**s** (O&G) ☐ 1PB ☐ 1PB**na** (pH__12) ☐ _____ ☐ _____ ☐ _____

Solid: ☑ (2) 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (___) ☐ EnCores® (___) ☑ TerraCores® (3) ☑ 2ozPJ ☐ _____ ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, Labeled/Checked by: 1050

s = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH Reviewed by: ZM

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WORK ORDER NUMBER: 17-10-0568

SAMPLE ANOMALY REPORT

DATE: 10 / 07 / 2017

SAMPLES, CONTAINERS, AND LABELS:

- ☐ Sample(s) NOT RECEIVED but listed on COC
- ☐ Sample(s) received but NOT LISTED on COC
- ☐ Holding time expired (list client or ECI sample ID and analysis)
- ☑ Insufficient sample amount for requested analysis (list analysis)
- ☐ Improper container(s) used (list analysis)
- ☐ Improper preservative used (list analysis)
- ☐ pH outside acceptable range (list analysis)
- ☐ No preservative noted on COC or label (list analysis and notify lab)
- ☐ Sample container(s) not labeled
- ☐ Client sample label(s) illegible (list container type and analysis)
- ☐ Client sample label(s) do not match COC (comment)
  - ☐ Project information
  - ☐ Client sample ID
  - ☐ Sampling date and/or time
  - ☐ Number of container(s)
  - ☐ Requested analysis
- ☐ Sample container(s) compromised (comment)
  - ☐ Broken
  - ☐ Water present in sample container
- ☐ Air sample container(s) compromised (comment)
  - ☐ Flat
  - ☐ Very low in volume
  - ☐ Leaking (not transferred; duplicate bag submitted)
  - ☐ Leaking (transferred into ECI Tedlar™ bags*)
  - ☐ Leaking (transferred into client's Tedlar™ bags*)

* Transferred at client's request.

Comments

(4) received 2 vials for all tests

MISCELLANEOUS: (Describe)

Comments

HEADSPACE:

(Containers with bubble > 6 mm or ¼ inch for volatile organic or dissolved gas analysis)

ECI Sample ID	ECI Container ID	Total Number**	ECI Sample ID	ECI Container ID	Total Number**

(Containers with bubble for other analysis)

ECI Sample ID	ECI Container ID	Total Number**	Requested Analysis

Comments: _____

Reported by: ZY

Reviewed by: 1017

** Record the total number of containers (i.e., vials or bottles) for the affected sample.

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APPENDIX C

Data Validation Report

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APPENDIX C ATTACHMENTS

Quality Assurance Review Data Validation Checklists

C-1 through C-21 Data Validation Checklists

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name Travis AFB

Analytical Laboratory Maxxam Analytics International – Ontario, Canada

Sample Delivery Group Numbers B7I9014

Date(s) of Sample Collection 08/25/17, 08/28/17,

Date(s) of Sample Receipt (Laboratory) 06/28/17

Date of Report 09/26/17

Field Sample ID	Lab ID	Type of Sample	Matrix
CFTA-GW-1	FAT190	N	WG
WWTP GW-1	FAT191	N	WG
WWTP-1-GW	FAT198	N	WG
FT005-1-GW	FAT192	N	WG
FT005-2-GW	FAT193	N	WG
FT005-3-GW	FAT194	N	WG
CFTA-1-GW	FAT195	N	WG
CFTA-2-GW	FAT196	N	WG
CFTA-3-GW	FAT197	N	WG

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)

☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)

☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)

☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/11/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Documentation Problems:

Sample "WWTP-2-GW" was listed on the CoC but was not received. Client consented to proceed without this sample.

Holding Time:
Due to low recoveries for the extracted internal standard analyte 13C2-PFTeDA in the LCS spikes, all samples were re –extracted and analyzed for PFTrDA and PFTeDA past the hold time. Samples "CTFA-GW-1" and "FT005-3-GW" were also re-analyzed for PFOSA past the hold time. These samples have been J flagged for detects and UJ flagged for non-detects

Due to insufficient sample volume, Matrix Spike and Matrix Spike Duplicate (MS/MSD) were not analyzed for this job. A Matrix Duplicate (MD) was analyzed instead on sample FAT198 (WWTP-1-GW) on QC batch 5150764 (2017/09/13).

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☐	☒	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag
CFTA-GW-1	FAT190	WG	08/25/2017	10:45	09/18/2017	09/20/2017	UJ (PFTrDA and PFTeDA)
WWTP GW-1	FAT191	WG	08/25/2017	13:20	09/18/2017	09/20/2017	UJ (PFTrDA and PFTeDA)
WWTP-1-GW	FAT198	WG	08/28/2017	12:00	09/18/2017	09/20/2017	UJ (PFTrDA and PFTeDA)
FT005-1-GW	FAT192	WG	08/25/2017	08:20	09/18/2017	09/20/2017	UJ (PFTrDA and PFTeDA)
FT005-2-GW	FAT193	WG	08/25/2017	13:15	09/18/2017	09/20/2017	UJ (PFTrDA and PFTeDA)
FT005-3-GW	FAT194	WG	08/25/2017	11:25	09/18/2017	09/20/2017	UJ (PFTrDA, PFTeDA) J (PFOSA)
CFTA-1-GW	FAT195	WG	08/28/2017	09:05	09/18/2017	09/20/2017	UJ (PFTrDA, PFTeDA) and J(PFOSA)
CFTA-2-GW	FAT196	WG	08/25/2017	15:30	09/18/2017	09/20/2017	UJ (PFTrDA and PFTeDA)
CFTA-3-GW	FAT197	WG	08/28/2017	11:23	09/18/2017	09/20/2017	UJ (PFTrDA and PFTeDA)

Remarks:
Cooler temperature upon arrival was 3.6˚C. No discrepancies were noted.
Samples were extracted 9-12 days after sampling and analyzed 16-19 days after sampling. No discrepancies were noted.
Documentation Problems: Sample "WWTP-2-GW" was listed on the CoC but was not received. Client consented to proceed without this sample.
Due to low recoveries for the extracted internal standard analyte 13C2-PFTeDA in the LCS spikes, all samples were re –extracted and analyzed for PFTrDA and PFTeDA past the hold time. Samples "CTFA-GW-1" and "FT005-3-GW" were also re-analyzed for PFOSA past the hold time. These samples have been J flagged for detects and UJ flagged for non-detects.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogates	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
The samples above all had isotope dilution recoveries that were below the limit. The associated parent sample analytes were UJ flagged for non-detects and J flagged for detects.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☐	☒	Was an MS/MSD pair run on a project sample?
☐	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
			0 outside limits	0 outside limits

Remarks:
Due to insufficient sample volume, Matrix Spike and Matrix Spike Duplicate (MS/MSD) were not analyzed for this job. A Matrix Duplicate (MD) was analyzed instead on sample FAT198 (WWTP-1-GW) on QC batch 5150764 (2017/09/13).

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No field duplicate samples were included with this SDG.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name Travis AFB

Analytical Laboratory Maxxam Analytics International – Ontario, Canada

Sample Delivery Group Numbers B7I9016

Date(s) of Sample Collection 08/24/17, 08/25/17, 08/28/17

Date(s) of Sample Receipt (Laboratory) 08/30/17

Date of Report 09/25/17

Field Sample ID	Lab ID	Type of Sample	Matrix
CFTA-1-1.0	FAT207	N	SO
CFTA-2-1.0	FAT208	N	SO
CFTA-2-11.5	FAT209	N	SO
CFTA-2-23.5	FAT210	N	SO
CFTA-3-1.0	FAT211	N	SO
CFTA-3-11	FAT212	N	SO
CFTA-3-18	FAT213	N	SO
FS1-1-1.0	FAT216	N	SO
FS1-1-12	FAT214	N	SO
FS1-1-18	FAT215	N	SO
FT005-1-1.0	FAT217	N	SO
FT005-1-12	FAT218	N	SO
FT005-1-19.5	FAT219	N	SO
FT005-2-1.0	FAT220	N	SO
FT005-2-12	FAT221	N	SO
FT005-2-21	FAT222	N	SO
FT005-3-1.0	FAT223	N	SO
FT005-3-11.5	FAT224	N	SO
FT005-3-23	FAT225	N	SO

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)

☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)

☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)

☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/12/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 2.7˚C. No discrepancies were noted.

Samples were extracted 11-15 days after sampling and analyzed 24-28 days after sampling. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☐	☒	No deficiencies were found.
☐	☒	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☒	☐	Was an MS/MSD pair run on a project sample?
☒	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
FS1-1-18	FAT215	SO	0 outside limits	0 outside limits

Remarks:
No discrepancies were noted.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No field duplicate samples were included with this SDG.

QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name	Travis AFB
Analytical Laboratory	Maxxam Analytics International – Ontario, Canada
Sample Delivery Group Numbers	B7I9019
Date(s) of Sample Collection	08/28/17
Date(s) of Sample Receipt (Laboratory)	08/30/17
Date of Report	09/25/17

Field Sample ID	Lab ID	Type of Sample	Matrix
WWTP-1-1.0	FAT289	N	SO
WWTP-1-10	FAT290	N	SO
WWTP-1-16	FAT291	N	SO
WWTP-2-1.0	FAT292	N	SO
WWTP-2-10	FAT293	N	SO
WWTP-2-16	FAT294	N	SO

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)

☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)

☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)

☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/12/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 3.8˚C. No discrepancies were noted.

Samples were extracted 11 days after sampling and analyzed 18 days after sampling. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☐	☒	No deficiencies were found.
☐	☒	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☒	☐	Was an MS/MSD pair run on a project sample?
☒	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
WWTP-1-10	FAT290	SO	0 outside limits	0 outside limits

Remarks:
No discrepancies were noted.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No field duplicate samples were included with this SDG.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name Travis AFB

Analytical Laboratory Maxxam Analytics International – Ontario, Canada

Sample Delivery Group Numbers B7J4892

Date(s) of Sample Collection 09/05/17

Date(s) of Sample Receipt (Laboratory) 09/07/17

Date of Report 10/02/17

Field Sample ID	Lab ID	Type of Sample	Matrix
NOZ-1-0.5	FBU948	N	SO
NOZ-1-08	FBU949	N	SO
NOZ-1-11.5	FBU950	N	SO
NOZ-1-FD	FBU951	N	SO
NOZ-2-0.5	FBU952	N	SO
NOZ-2-07	FBU953	N	SO
NOZ-2-11.5	FBU954	N	SO
NOZ-3-0.5	FBU955	N	SO
NOZ-3-7.5	FBU956	N	SO
NOZ-3-13.5	FBU957	N	SO
NOZ-1-W14	FBU960	N	WG
NOZ-2-W16	FBU959	N	WG
NOZ-3-W15	FBU958	N	WG
EQB3-090517	FBU947	EB	WQ
EQB4-090517	FBU961	EB	WQ

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)

☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)

☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)

☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/12/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

MS/MSD:

Matrix Spike and Matrix Spike Duplicate (MS/MSD) was performed on sample FBU952 (NOZ-2-0.5) but not analyzed due to high concentrations of target analytes in the native sample.

Field Duplicates:

The RPD between samples NOZ-1-11.5 and NOZ-1-FD was above the limit for the following analytes: PFOS. These samples were J flagged.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7-2.9˚C. No discrepancies were noted.

Samples were extracted 8 days after sampling and analyzed 14 days after sampling. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes **No**

☒ ☐ No deficiencies were found.

☒ ☐ No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	**Soil**
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☒	☐	Was an MS/MSD pair run on a project sample?
☐	☒	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
			0 outside limits	0 outside limits

Remarks:

Matrix Spike and Matrix Spike Duplicate (MS/MSD) was performed on sample FBU952 (NOZ-2-0.5) but not analyzed due to high concentrations of target analytes in the native sample.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☒	☐	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**
	EQB3-090517
	EQB3-090517

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No analytes were found in field blank samples.

VI. FIELD PRECISION RESULTS

Yes **No**

☒ ☐ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix
NOZ-1-11.5	NOZ-1-FD	SO

☒ ☐ Qualification of field duplicate data was attempted.

☐ ☒ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action
PFOS			6.7	4.8	33.04	J (PFOS)

Remarks:
The RPD between samples NOZ-1-11.5 and NOZ-1-FD was above the limit for the following analytes: PFOS. These samples were J flagged.

QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name	Travis AFB
Analytical Laboratory	Maxxam Analytics International – Ontario, Canada
Sample Delivery Group Numbers	B7J4895
Date(s) of Sample Collection	09/04/17
Date(s) of Sample Receipt (Laboratory)	09/07/17
Date of Report	10/03/17

Field Sample ID	Lab ID	Type of Sample	Matrix
88C5-1-0.5	FBU967	N	SO
88C5-1-5.5	FBU968	N	SO
88C5-1-8.5	FBU969	N	SO
88C5-3-0.5	FBU964	N	SO
88C5-3-05	FBU965	N	SO
88C5-3-09	FBU966	N	SO
88C5-1-W06	FBU972	N	WG
88C5-3-W06	FBU971	N	WG
EQB2-090417	FBU970	EB	WQ

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)
☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)
☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)
☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9
☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7-2.9˚C. No discrepancies were noted.

Samples were extracted 8 days after sampling and analyzed 10 days after sampling. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogates	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☒	☐	Was an MS/MSD pair run on a project sample?
☐	☒	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit
88C5-3-0.5	FBU964	PFTrDA	**154**	**139**	70-130	9.8	30
		PFOS	104	**133**	70-130	25	30

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
88C5-3-0.5	FBU964	SO	0 outside limits	2 outside limits

Remarks:
The MS/MSD for sample 88C5-3-0.5 (FBU964) had a biased high for PFTrDA and PFOS. The associated parent sample results were not impacted. No flags were added.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☒	☐	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**
	EQB2-090417

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No analytes were found in field blank samples.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No field duplicate samples were included with this SDG.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name Travis AFB

Analytical Laboratory Maxxam Analytics International – Ontario, Canada

Sample Delivery Group Numbers B7J4898

Date(s) of Sample Collection 09/04/17

Date(s) of Sample Receipt (Laboratory) 09/07/17

Date of Report 10/03/17

Field Sample ID	Lab ID	Type of Sample	Matrix
LATE80S-1-W09	FBU988	N	WG
LATE80S-3-W11	FBU989	N	WG
LATE80S-1-0.5	FBU984	N	SO
LATE80S-1-FD	FBU987	FD	SO
LATE80S-1-07	FBU985	N	SO
LATE80S-1-14	FBU986	N	SO
LATE80S-3-0.5	FBU981	N	SO
LATE80S-3-06	FBU982	N	SO
LATE80S-3-12	FBU983	N	SO

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)

☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)

☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)

☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7- 2.9˚C. No discrepancies were noted.

Samples were extracted 8 days after sampling and analyzed 14 days after sampling. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☒	☐	Was an MS/MSD pair run on a project sample?
☒	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
LATE80S-3-06	FBU982	SO	0 outside limits	0 outside limits

Remarks:
No discrepancies were noted.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☒ ☐ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix
LATE80S-1-0.5	LATE80S-1-FD	SO

☒ ☐ Qualification of field duplicate data was attempted.

☒ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No discrepancies were noted.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name Travis AFB

Analytical Laboratory Maxxam Analytics International – Ontario, Canada

Sample Delivery Group Numbers B7J4905

Date(s) of Sample Collection 09/03/17

Date(s) of Sample Receipt (Laboratory) 09/07/17

Date of Report 10/04/17

Field Sample ID	Lab ID	Type of Sample	Matrix
2001CRASH-1-0.5	FBV010	N	SO
2001CRASH-1-7.5	FBV011	N	SO
2001CRASH-1-25	FBV012	N	SO
2001CRASH-2-0.5	FBV020	N	SO
2001CRASH-2-7.5	FBV021	N	SO
2001CRASH-2-25	FBV022	N	SO
2001CRASH-3-0.5	FBV013	N	SO
2001CRASH-3-FD	FBV014	FD	SO
2001CRASH-3-06	FBV015	N	SO
2001CRASH-3-09	FBV016	N	SO
2001CRASH-4-0.5	FBV017	N	SO
2001CRASH-4-7.5	FBV018	N	SO
2001CRASH-4-11.5	FBV019	N	SO
2001CRASH-3-W08	FBV025	N	WG
2001CRASH-4-W12	FBV023	N	WG
2001CRASH-4-WFD	FBV024	FD	WG

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)

☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)

☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)

☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7-2.9˚C. No discrepancies were noted.

Samples were extracted 8-10 days after sampling and analyzed 19-21 days after sampling. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☒	☐	Was an MS/MSD pair run on a project sample?
☒	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
2001CRASH-3-W08	FBV025	WG	0 outside limits	0 outside limits
2001CRASH-4-0.5	FBV017	SO	0 outside limits	0 outside limits

Remarks:
No discrepancies were noted.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☒ ☐ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix
2001CRASH-3-0.5	2001CRASH-3-FD	SO
2001CRASH-4-W12	2001CRASH-4-WFD	WG

☒ ☐ Qualification of field duplicate data was attempted.

☒ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No discrepancies were noted.

QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name	Travis AFB
Analytical Laboratory	Maxxam Analytics International – Ontario, Canada
Sample Delivery Group Numbers	B7J4910
Date(s) of Sample Collection	08/28/17
Date(s) of Sample Receipt (Laboratory)	09/07/17
Date of Report	10/03/17

Field Sample ID	Lab ID	Type of Sample	Matrix
WWTP-2-W10	FBV035	N	WG

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)
☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)
☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)
☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9
☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☐	☐	All samples were handled and preserved according to requirements.
☐	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7-2.9˚C. No discrepancies were noted.

Samples were extracted 14 days after sampling and analyzed 27 days after sampling. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☐	☒	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☐	☒	Was an MS/MSD pair run on a project sample?
☐	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
			0 outside limits	0 outside limits

Remarks:
No discrepancies were noted.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No field duplicate samples were included with this SDG.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name Travis AFB

Analytical Laboratory Maxxam Analytics International – Ontario, Canada

Sample Delivery Group Numbers B7J4915

Date(s) of Sample Collection 09/26/17

Date(s) of Sample Receipt (Laboratory) 09/28/17

Date of Report 09/28/17

Field Sample ID	Lab ID	Type of Sample	Matrix
2014E75-1-W12	FBV051	N	WG
2014E75-2-W11	FBV050	N	WG
2014E75-1-0.5	FBV043	N	SO
2014E75-1-06	FBV044	N	SO
2014E75-1-13	FBV045	N	SO
2014E75-2-0.5	FBV046	N	SO
2014E75-2-5.5	FBV047	N	SO
2014E75-2-FD	FBV049	FD	SO
2014E75-2-10.5	FBV048	N	SO

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)

☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)

☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)

☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Manual Integration:

Due to co-eluting matrix interference, manual integration was performed for Perfluorobutanoic acid (PFBA) in the following sample:

FBV051 2014E75-1-W12

Isotope Dilution Recoveries:

The isotope dilution recoveries for sample 2014E75-1-W12 were biased low for PFDoA, and PFOSA. This sample was UJ flagged for the corresponding analytes.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7-2.9˚C. No discrepancies were noted.

Samples were extracted 8 days after sampling and analyzed 10 days after sampling. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☐	☒	No deficiencies were found.
☐	☒	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Action
2014E75-1-W12	13C2PFDoA 13C8-PFOSA	UJ (PFDoA, PFOSA)

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
The isotope dilution recoveries for sample 2014E75-1-W12 were biased low for PFDoA, and PFOSA. This sample was UJ flagged for the corresponding analytes.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☒	☐	Was an MS/MSD pair run on a project sample?
☒	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
2014E75-1-0.5	FBV043	SO	0 outside limits	0 outside limits

Remarks:
No discrepancies were noted.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☒ ☐ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix
2014E75-2-5.5	2014E75-2-FD	SO

☒ ☐ Qualification of field duplicate data was attempted.

☒ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No discrepancies were noted.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name Travis AFB

Analytical Laboratory Maxxam Analytics International – Ontario, Canada

Sample Delivery Group Numbers B7J4920

Date(s) of Sample Collection 08/28/17, 08/30/17, 08/31/17

Date(s) of Sample Receipt (Laboratory) 09/07/17

Date of Report 10/04/17

Field Sample ID	Lab ID	Type of Sample	Matrix
FS1-2-0.5	FBV059	N	SO
FS1-2-08	FBV060	N	SO
FS1-2-17	FBV061	N	SO
FS1-3-0.5	FBV056	N	SO
FS1-3-08	FBV057	N	SO
FS1-3-17	FBV058	N	SO
FS1-1-W11	FBV062	N	WG
FS1-2-W10	FBV063	N	WG
FS1-3-W10	FBV064	N	WG

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)

☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)

☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)

☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Documentation Problems:
Sample FBV062 was labeled as "FS1-1-W11" however ID on the CoC was "FS1-1-W10". Client confirmed to proceed with ID on the bottle "FS1-1-W11".

Qualifiers:

U - Not detected.	J - Approximate data due to other quality control criteria.
R - Unusable.	UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7-2.9˚C. No discrepancies were noted.

Samples were extracted 12-14 days after sampling and analyzed 23-27 days after sampling. No discrepancies were noted.

Documentation Problems:
Sample FBV062 was labeled as "FS1-1-W11" however ID on the CoC was "FS1-1-W10". Client confirmed to proceed with ID on the bottle "FS1-1-W11".

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☐	☒	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☐	☒	Was an MS/MSD pair run on a project sample?
☐	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
			0 outside limits	0 outside limits

Remarks:
No discrepancies were noted.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No field duplicate samples were included with this SDG.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name Travis AFB

Analytical Laboratory Maxxam Analytics International – Ontario, Canada

Sample Delivery Group Numbers B7J4922

Date(s) of Sample Collection 09/01/17

Date(s) of Sample Receipt (Laboratory) 09/07/17

Date of Report 09/28/17

Field Sample ID	Lab ID	Type of Sample	Matrix
FS4-1-W09	FBV086	N	WG
FS4-2-W11	FBV088	N	WG
FS4-2-WFD	FBV089	FD	WG
FS4-3-W12	FBV087	N	WG
FS4-1-0.5	FBV079	N	SO
FS4-1-06	FBV080	N	SO
FS4-1-11	FBV081	N	SO
FS4-2-0.5	FBV082	N	SO
FS4-2-FD	FBV085	FD	SO
FS4-2-06	FBV083	N	SO
FS4-2-11	FBV084	N	SO
FS4-3-0.5	FBV076	N	SO
FS4-3-06	FBV077	N	SO
FS4-3-11	FBV078	N	SO
FS4-SED-1	FBV090	N	SE

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)

☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)

☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)

☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7-2.9˚C. No discrepancies were noted.

Samples were extracted 11 days after sampling and analyzed 15-26 days after sampling. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes **No**

☒ ☐ No deficiencies were found.

☒ ☐ No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	**Soil**
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☒	☐	Was an MS/MSD pair run on a project sample?
☒	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
FS4-3-0.5	FBV076	SO	0 outside limits	0 outside limits
FS4-SED-1	FBV090	SE	0 outside limits	0 outside limits

Remarks:
No discrepancies were noted.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☒ ☐ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix
FS4-2-W11	FS4-2-WFD	WG
FS4-2-0.5	FS4-2-FD	SO

☒ ☐ Qualification of field duplicate data was attempted.

☒ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No discrepancies were noted.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name	Travis AFB
Analytical Laboratory	Maxxam Analytics International – Ontario, Canada
Sample Delivery Group Numbers	B7J4924
Date(s) of Sample Collection	08/30/17, 08/31/17, 09/01/17
Date(s) of Sample Receipt (Laboratory)	09/07/17
Date of Report	10/04/17

Field Sample ID	Lab ID	Type of Sample	Matrix
FS2-1-W16	FBV096	N	WG
FS2-2-W10	FBV095	N	WG
FS2-3-W11	FBV094	N	WG
FS2-1-0.5	FBV100	N	SO
FS2-1-07	FBV101	N	SO
FS2-1-12	FBV102	N	SO
FS2-2-0.5	FBV103	N	SO
FS2-2-07	FBV104	N	SO
FS2-2-11	FBV105	N	SO
FS2-3-01	FBV097	N	SO
FS2-3-11	FBV098	N	SO
FS2-3-14.5	FBV099	N	SO

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)
☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)
☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)
☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9
☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Holding Time:

SamplesFS2-1-12, FS2-2-0.5, FS2-2-07, and FS2-2-11 were extracted and analyzed out of holding time. These samples were J flagged for detects and UJ flagged for non-detects. No discrepancies were noted on the other samples.

MS/MSD:

Matrix Spike and Matrix Spike Duplicate (MS/MSD) was required for Sample FBV095 (FS2-2-W10). Due to high concentrations of target analytes in the native sample, a Matrix Duplicate (MD) was analyzed instead on QC batches 5159252 (2017/09/25) and 5160314 (2017/09/15).

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☐	☒	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag
FS2-1-12	FBV102	SO	08/31/17	1230	09/14/17	09/29	J (detects) UJ (non-detects)
FS2-2-0.5	FBV103	SO	08/31/17	1030	09/14/17	09/29	J (detects) UJ (non-detects)
FS2-2-07	FBV104	SO	08/31/17	1040	09/14/17	09/29	J (detects) UJ (non-detects)
FS2-2-11	FBV105	SO	08/31/17	1047	09/14/17	09/29	J (detects) UJ (non-detects)

Remarks:

Cooler temperature upon arrival was 1.7-2.9˚C. No discrepancies were noted.

SamplesFS2-1-12, FS2-2-0.5, FS2-2-07, and FS2-2-11 were extracted and analyzed out of holding time. These samples were J flagged for detects and UJ flagged for non-detects. No discrepancies were noted on the other samples.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☐	☒	Was an MS/MSD pair run on a project sample?
☐	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
			0 outside limits	0 outside limits

Remarks:

Matrix Spike and Matrix Spike Duplicate (MS/MSD) was required for Sample FBV095 (FS2-2-W10). Due to high concentrations of target analytes in the native sample, a Matrix Duplicate (MD) was analyzed instead on QC batches 5159252 (2017/09/25) and 5160314 (2017/09/15).

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No field duplicate samples were included with this SDG.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name	Travis AFB
Analytical Laboratory	Maxxam Analytics International – Ontario, Canada
Sample Delivery Group Numbers	B7J4941
Date(s) of Sample Collection	08/31/17, 09/01/17
Date(s) of Sample Receipt (Laboratory)	09/07/17
Date of Report	10/12/17

Field Sample ID	Lab ID	Type of Sample	Matrix
1986C141B-1-W10	FBV240	N	WG
86C141B-1-0.5	FBV243	N	SO
86C141B-1-09	FBV241	N	SO
86C141B-1-12	FBV242	N	SO
EQB1-090117	FBV244	EB	WQ

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)
☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)
☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)
☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9
☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Holding Time:

Samples 86C141B-1-0.5, 86C141B-1-09, and 86C141B-1-12 were extracted and analyzed out of holding time (29 and 35 days after sampling respectively). These samples were J flagged.

LCS:
The LCS recovery of PFBA was biased high for the following samples: 86C141B-1-0.5, 86C141B-1-09, and 86C141B-1-12. These samples were UJ flagged for non-detects and J flagged for detects.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☐	☒	All samples were handled and preserved according to requirements.
☐	☒	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag
86C141B-1-0.5	FBV243	SO	08/31/17	1435	09/28/17	10/03/17	J flagged detects UJ flagged non-detects
86C141B-1-09	FBV241	SO	08/31/17	1453	09/28/17	10/03/17	J flagged detects
86C141B-1-12	FBV242	SO	08/31/17	1455	09/28/17	10/04/17	UJ flagged non-detects

Remarks:

Cooler temperature upon arrival was 1.7-2.9˚C. No discrepancies were noted.

Samples were extracted 11-29 days after sampling and analyzed 22-35 days after sampling.

Samples 86C141B-1-0.5, 86C141B-1-09, and 86C141B-1-12 were extracted and analyzed out of holding time (29 and 35 days after sampling respectively). These samples were J flagged.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☐	☒	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☐	☒	Was an MS/MSD pair run on a project sample?
☐	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
			0 outside limits	0 outside limits

Remarks:
No discrepancies were noted.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☐	☒	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID (BATCH)	Compound	%R	Control Limits	Qualifier Flags
5186997 samples: 86C141B-1-0.5 86C141B-1-09 86C141B-1-12	PFBA	**133**	70-133	UJ – non-detects J- detects

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	Batch	Matrix	Recovery
86C141B-1-0.5	5186997	SO	1 outside limits
86C141B-1-09	5186997	SO	1 outside limits
86C141B-1-12	5186997	SO	1 outside limits

Remarks:
The LCS recovery of PFBA was biased high for the following samples: 86C141B-1-0.5, 86C141B-1-09, and 86C141B-1-12. These samples were UJ flagged for non-detects and J flagged for detects.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☒	☐	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**
	EQB1-090117

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No analytes were found in field blank samples.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No field duplicate samples were included with this SDG.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name Travis AFB

Analytical Laboratory Maxxam Analytics International – Ontario, Canada

Sample Delivery Group Numbers B7J4943

Date(s) of Sample Collection 09/03/17

Date(s) of Sample Receipt (Laboratory) 09/07/17

Date of Report 10/05/17

Field Sample ID	Lab ID	Type of Sample	Matrix
82/83 C5-1-W13	FBV256	N	WG
82/83 C5-1-WFD	FBV257	FD	WG
82/83 C5-2-W12	FBV258	N	WG
82/83 C5-3-W13	FBV259	N	WG
82/83 C5-1-0.5	FBV246	N	SO
82/83 C5-1-07	FBV247	N	SO
82/83 C5-1-12	FBV248	N	SO
82/83 C5-2-0.5	FBV249	N	SO
82/83 C5-2-07	FBV250	N	SO
82/83 C5-2-18	FBV251	N	SO
82/83 C5-2-FD	FBV252	FD	SO
82/83 C5-3-0.5	FBV253	N	SO
82/83 C5-3-8	FBV254	N	SO
82/83 C5-3-14	FBV260	N	SO
FRB-1	FBV255	FB	WQ

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)

☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)

☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)

☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.\

Isotope dilution recoveries:

Isotope dilution recoveries for sample 82/83 C5-1-WFD was biased high for 13C2-8:2FTS, 13C2PFDA, 13C2PFUnA, and 13C4PFBA. The associated sample analyte PFBA was J flagged and 8:2FTS was already flagged by the lab. The associated sample analytes PFDA and PFUnA were not impacted and no flags were added.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7-2.9˚C. No discrepancies were noted.

Samples were extracted 10 days after sampling and analyzed 27 days after sampling. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☐	☐	No deficiencies were found.
☐	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate	Action
82/83 C5-1-WFD	13C2-8:2FTS 13C2PFDA 13C2PFUnA 13C4PFBA	J (8:2FTS -already J flagged by lab) J (PFBA) PFDA and PFUnA– no flag

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
Isotope dilution recoveries for sample 82/83 C5-1-WFD was biased high for 13C2-8:2FTS, 13C2PFDA, 13C2PFUnA, and 13C4PFBA. The associated sample analyte PFBA was J flagged and 8:2FTS was already flagged by the lab. The associated sample analytes PFDA and PFUnA were not impacted and no flags were added.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☒	☐	Was an MS/MSD pair run on a project sample?
☒	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
82/83 C5-3-W13	FBV259	WG	0 outside limits	0 outside limits
82/83 C5-3-0.5	FBV253	SO	0 outside limits	0 outside limits

Remarks:
No discrepancies were noted.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☒	☐	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**
FRB-1	

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No analytes were found in field blank samples.

VI. FIELD PRECISION RESULTS

Yes **No**

☒ ☐ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix
82/83 C5-1-W13	82/83 C5-1-WFD	WG
82/83 C5-2-18	82/83 C5-2-FD	SO

☒ ☐ Qualification of field duplicate data was attempted.

☒ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet:

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No discrepancies were noted.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name Travis AFB

Analytical Laboratory Maxxam Analytics International – Ontario, Canada

Sample Delivery Group Numbers B7J4949

Date(s) of Sample Collection 08/30/17

Date(s) of Sample Receipt (Laboratory) 09/07/17

Date of Report 10/03/17

Field Sample ID	Lab ID	Type of Sample	Matrix
B811-1-W10	FBV278	N	WG
B811-2-W10	FBV279	N	WG
B811-1-0.5	FBV268	N	SO
B811-1-08	FBV269	N	SO
B811-1-22	FBV270	N	SO
B811-2-0.5	FBV271	N	SO
B811-2-FD	FBV276	FD	SO
B811-2-07	FBV272	N	SO
B811-2-23	FBV273	N	SO
B811-2-FD2	FBV277	FD	SO
B811-SED-1	FBV274	N	SO
B811-SED-FD	FBV275	FD	SO

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)

☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)

☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)

☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Holding time:

Soil samples were extracted 14 days after sampling and analyzed 31 days after sampling. These samples are out of holding time and they were J flagged for detects and UJ flagged for non-detects.

Field Duplicates:

The RPD between samples B811-SED-1 and B811-SED-FD was outside the limit for PFOS. These samples were J flagged.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☐	☒	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag
B811-1-0.5	FBV268	SO	08/30/17	1245	09/13/17	09/30/17	J detects UJ non-detects
B811-1-08	FBV269	SO	08/30/17	1330	09/13/17	09/30/17	J detects UJ non-detects
B811-1-22	FBV270	SO	08/30/17	1345	09/13/17	09/30/17	UJ non-detects
B811-2-0.5	FBV271	SO	08/30/17	1330	09/13/17	09/30/17	J detects UJ non-detects
B811-2-FD	FBV276	SO	08/30/17	1330	09/13/17	09/30/17	UJ non-detects
B811-2-07	FBV272	SO	08/30/17	1200	09/13/17	09/30/17	J detects UJ non-detects
B811-2-23	FBV273	SO	08/30/17	1215	09/13/17	09/30/17	UJ non-detects
B811-2-FD2	FBV277	SO	08/30/17	1215	09/13/17	09/30/17	J detects UJ non-detects
B811-SED-1	FBV274	SE	08/30/17	1420	09/13/17	09/30/17	UJ non-detects
B811-SED-FD	FBV275	SE	08/30/17	1420	09/13/17	09/30/17	J detects UJ non-detects

Remarks:

Cooler temperature upon arrival was 1.7-2.9˚C. No discrepancies were noted.

Groundwater samples were extracted 12 days after sampling and analyzed 25 days after sampling. No discrepancies were noted.

Soil samples were extracted 14 days after sampling and analyzed 31 days after sampling. These samples are out of holding time and they were J flagged for detects and UJ flagged for non-detects.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☐	☒	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☐	☒	Was an MS/MSD pair run on a project sample?
☐	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
			0 outside limits	0 outside limits

Remarks:
No discrepancies were noted.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☒ ☐ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix
B811-2-0.5	B811-2-FD	SO
B811-2-23	B811-2-FD2	SO
B811-SED-1	B811-SED-FD	SE

☒ ☐ Qualification of field duplicate data was attempted.

☐ ☒ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet: B811-SED-1 and B811-SED-FD

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action
PFOS			4.3	8.7	67.7	J

Remarks:
The RPD between samples B811-SED-1 and B811-SED-FD was outside the limit for PFOS. These samples were J flagged.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name	Travis AFB
Analytical Laboratory	Maxxam Analytics International – Ontario, Canada
Sample Delivery Group Numbers	B7J6133
Date(s) of Sample Collection	08/30/17
Date(s) of Sample Receipt (Laboratory)	09/07/17
Date of Report	10/10/17

Field Sample ID	Lab ID	Type of Sample	Matrix
WWTP -SED-1	FCA711	N	SE
SBBGWTP-SED-1	FCA712	N	SE
OUTFALL2-SED-1	FCA713	N	SE
OUTFALL1-SED-1	FCA714	N	SE

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)
☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)
☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)
☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9
☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 10/13/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Sample Analysis:

Samples were initially analyzed on QC batch 5168639 (2017/09/21).

The extracted internal standard analyte 13C2-Perfluorotetradecanoic acid (13C2-PFTeDA) is used to quantify native PFTrDA & PFTeDA. The recovery observed for this extracted internal standard analyte was below the defined lower control limit (LCL) for the following samples:

FCA711 WWTP-SED-1

FCA713 OUTFALL2-SED-1

These samples were re-extracted for Perfluorotridecanoic acid (PFTrDA) and Perfluorotetradecanoic acid (PFTeDA) on QC batch 5178149 (2017/10/02). Acceptable extracted internal standard analyte recoveries were obtained.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 2.1˚C. No discrepancies were noted.

Samples were extracted 13 days after sampling and analyzed 15 days after sampling. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☒	☐	Was an MS/MSD pair run on a project sample?
☐	☒	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit
SBBGWTP-SED-1	FCA712	PFTrDA	120	**135**	70-130	30	12

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
SBBGWTP-SED-1	FCA712	SE	0 outside limits	1 outside limits

Remarks:

The Matrix Spike Recovery of PFTrDA in sample SBBGWTP-SED-1was biased high. However, the parent sample was not impacted. No flags were added.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet: B811-SED-1 and B811-SED-FD

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No discrepancies were noted.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name	Travis AFB
Analytical Laboratory	Maxxam Analytics International – Ontario, Canada
Sample Delivery Group Numbers	B7N7570
Date(s) of Sample Collection	10/24/17
Date(s) of Sample Receipt (Laboratory)	10/25/17
Date of Report	11/15/17

Field Sample ID	Lab ID	Type of Sample	Matrix
CFTA-1-10.5	FKH827	N	SO
CFTA-1-16.5	FKH828	N	SO

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)
☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)
☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)
☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9
☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 11/16/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7˚C. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☐	☒	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☐	☒	Was an MS/MSD pair run on a project sample?
☐	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
			0 outside limits	0 outside limits

Remarks:
No MS/MSD were requested in this this SDG.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet: B811-SED-1 and B811-SED-FD

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No discrepancies were noted.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name Travis AFB

Analytical Laboratory Maxxam Analytics International – Ontario, Canada

Sample Delivery Group Numbers B7N7579

Date(s) of Sample Collection 10/23/17

Date(s) of Sample Receipt (Laboratory) 10/25/17

Date of Report 11/15/17

Field Sample ID	Lab ID	Type of Sample	Matrix
2014 E75-3-0.5	FKH856	N	SO
2014 E75-DUP-0.5	FKH858	FD	SO
2014 E75-3-5.5	FKH857	N	SO
2014 E75-3-13.5	FKH859	N	SO
2014 E75-3-W13	FKH860	N	WG

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)
☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)
☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)
☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9
☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 11/16/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Sample 2014 E75-3-W13 was mislabeled in the field as 2014 E75-3-13.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7˚C. No discrepancies were noted.

Sample 2014 E75-3-W13 was mislabeled in the field as 2014 E75-3-13.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☒	☐	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☒	☐	Was an MS/MSD pair run on a project sample?
☒	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Batch ID	Matrix	RPD	Recovery
2014 E75-3-5.5	5246627	SO	0 outside limits	0 outside limits

Remarks:
No discrepancies were found.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☒ ☐ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix
2014 E75-3-0.5	2014 E75-DUP-0.5	SO

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet: B811-SED-1 and B811-SED-FD

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action
PFOS			1.6	1.7	6	No flag added.

Remarks:
No discrepancies were noted.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name	Travis AFB
Analytical Laboratory	Maxxam Analytics International – Ontario, Canada
Sample Delivery Group Numbers	B7N7589
Date(s) of Sample Collection	10/23/17
Date(s) of Sample Receipt (Laboratory)	10/25/17
Date of Report	11/15/17

Field Sample ID	Lab ID	Type of Sample	Matrix
LATE80S-2-0.5	FKH901	N	SO
LATE80S-2-7.0	FKH902	N	SO
LATE80S-4-0.5	FKH903	N	SO
LATE80S-4-5.5	FKH904	N	SO
LATE80S-4-13	FKH905	N	SO
LATE80S-2-W09	FKH906	N	WG
LATE80S-4-W13	FKH907	N	WG

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)
☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)
☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)
☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9
☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 11/16/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Water Analysis:

Samples were initially pre-screened and estimated concentrations were obtained so that appropriate sample volumes could be extracted on QC batch 5240542 (2017/11/02). Due to high concentrations, the samples were analyzed for Perfluorohexanesulfonate (PFHxS) and Perfluorooctanesulfonate (PFOS) using reduced sample extraction volumes. Detection limits were adjusted accordingly for these analytes.

The extracted internal standard analytes 13C4-Perfluorobutanoic acid (13C4-PFBA), 13C2-Perfluorotetradecanoic acid (13C2-PFTeDA), 13C2-6:2 Fluorotelomersulfonate (13C2-6:2FTS) and 13C2-8:2 Fluorotelomersulfonate (13C2-8:2FTS) are used to quantify native Perfluorobutanoic acid (PFBA), Perfluorotridecanoic acid (PFTrDA) & Perfluorotetradecanoic acid (PFTeDA), 6:2 Fluorotelomersulfonate (6:2FTS) and 8:2 Fluorotelomersulfonate (8:2FTS) respectively. The recoveries observed for selected extracted internal standard analytes were below the defined lower control limit (LCL) for the following samples:

FKH906 LATE80S-2-W09 (13C4-PFBA, 13C2-PFTeDA, 13C2-6:2FTS, 13C2-8:2FTS)

FKH907 LATE8OS-4-W13 (13C4-PFBA)

Results for the associated native analytes were reported from the reduced volume extracts where acceptable extracted internal standard recoveries were obtained. Detection limits were adjusted accordingly for these analytes.

It was observed during preparation of the data package that detection limits had not been correctly reported for Perfluorobutanoic acid (PFBA) and 8:2 Fluorotelomersulfonate (8:2FTS) in sample FKH906 (LATE80S-2-W09), and for Perfluorohexanesulfonate (PFHxS) in sample FKH907 LATE8OS-4-W13). A revised report was issued with the correct detection limits and appropriate parameter comments.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7˚C. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☐	☒	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☐	☒	Was an MS/MSD pair run on a project sample?
☐	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
			0 outside limits	0 outside limits

Remarks:
No MS/MSD were requested in this this SDG.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet: B811-SED-1 and B811-SED-FD

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No discrepancies were noted.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name	Travis AFB
Analytical Laboratory	Maxxam Analytics International – Ontario, Canada
Sample Delivery Group Numbers	B7N7605
Date(s) of Sample Collection	10/23/17
Date(s) of Sample Receipt (Laboratory)	10/25/17
Date of Report	11/17/17

Field Sample ID	Lab ID	Type of Sample	Matrix
88C5-2-0.5	FKI086	N	SO
88C5-DUP-0.5	FKI087	FD	SO
88C5-2-5.5	FKI088	N	SO
88C5-2-W6.0	FKI089	N	WG
88C5-2-WFD	FKI090	FD	WG

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)
☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)
☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)
☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9
☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 11/17/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Water Analysis:

Due to high concentrations, both samples were analyzed for all analytes using reduced sample extraction volumes. Detection limits were adjusted accordingly.
The extracted internal standard analyte 13C4-Perfluorobutanoic acid (13C4-PFBA) is used to quantify native Perfluorobutanoic acid (PFBA). The recovery observed for this extracted internal standard analyte was below the defined lower control limit (LCL) for the following sample:

FKI089 88C5-2-W6.0

The sample was re-extracted and re-analyzed for the associated native analyte on QC batch 5247457 (2017/11/07). Acceptable recovery was obtained for 13C4-Perfluorobutanoic acid (13C4-PFBA).

The RPD between samples 88C5-2-W6.0 and 88C5-2-WFD was above the limit for the following analytes: PFBA. Both samples were J flagged for this analyte.
.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 1.7˚C. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☐	☒	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☐	☒	Was an MS/MSD pair run on a project sample?
☐	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
			0 outside limits	0 outside limits

Remarks:
No MS/MSD were requested in this this SDG.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☒ ☐ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix
88C5-2-0.5	88C5-DUP-0.5	SO
88C5-2-W6.0	88C5-2-WFD	WG

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet: 88C5-2-0.5 and 88C5-DUP-0.5

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action
PFOS			7.1	8.0	11.9	No flags

Remarks:
No discrepancies were noted.

Field Precision Evaluation Deficiency Worksheet: 88C5-2-W6.0 and 88C5-2-WFD

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action
6:2 FTS			0.061	0.053	14	No flags
PFBA			0.59	1.25	71.7	J
PFBS			2.8	2.8	0	No flags
PFHxA			1.4	1.6	13.3	No flags
PFHxS			15	17	12.5	No flags
PFPeA			2.9	2.9	0	No flags
PFOA			3.0	3.0	0	No flags
PFOS			0.76	0.80	5.1	No flags

Remarks:
The RPD between samples 88C5-2-W6.0 and 88C5-2-WFD was above the limit for the following analytes: PFBA. Both samples were J flagged for this analyte.

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QUALITY ASSURANCE REVIEW
DATA VALIDATION CHECKLIST
PFAAs by LC/MS/MS

Project Name	Travis AFB
Analytical Laboratory	Maxxam Analytics International – Ontario, Canada
Sample Delivery Group Numbers	B7S4873
Date(s) of Sample Collection	08/30/17
Date(s) of Sample Receipt (Laboratory)	09/07/17
Date of Report	01/23/17

Field Sample ID	Lab ID	Type of Sample	Matrix
SGTP-INFLUENT	FTS473	N	EF
SGTP-EFFLUENT	FTS474	N	EF

N = Normal; FB = Field Blank; EB = Rinsate Blank; FD = Field Duplicate; TB = Trip Blank

The general criteria used to determine the data performance and quality assurance were based on:

☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Organic Data Review (EPA-540-R-2016-002, September 2016)
☒ DoD Quality Systems Manual, Version 5.0, July 2013 (EPA-540/R-00/006, June 2001)
☒ USEPA Drinking Water (DW) Method 537 (EPA/600/R-08/092)
☒ Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)
UFP-QAPP, Site Inspections of Aqueous Film Forming Foam Usage at Multiple United States Air Force Installations in EPA Regions 6 & 9

☐ Other: Project and Laboratory established accuracy and precision control limits.

The following QA/QC criteria were examined:

- Holding time
- MS/MSD recoveries
- Field/Rinsate blank results
- Initial calibration
- Compound quantification
- Sample preservation
- LCS recoveries
- Field duplicate results
- Continuing calibration
- Detection limits
- Surrogate spike recoveries
- Method blank results
- Instrument performance
- Compound identification
- Analytical performance

Reviewed by: Catalina Restrepo Date: 01/24/17

QA Concurrence by: _____ Date: _____

Validation Summary

OTIE did not change flagging between MDL and MQL.

All samples were received in good condition within temperature requirements.

Qualifiers:

U - Not detected.
R - Unusable.
J - Approximate data due to other quality control criteria.
UJ - Not detected, limit of detection approximate.

I. HOLDING TIME AND SAMPLE PRESERVATION

Yes	No	
☒	☐	All samples were handled and preserved according to requirements.
☒	☐	All samples were extracted and analyzed within holding time criteria.

The following deficiencies were found:

Sample ID	Lab ID	Matrix	Collection Date	Collection Time	Extraction Date	Analysis Date	Qualifier Flag

Remarks:

Cooler temperature upon arrival was 4.6˚C. No discrepancies were noted.

II. SURROGATE SPIKE RECOVERIES

Yes	No	
☒	☐	No deficiencies were found.
☒	☐	No deficient surrogate recoveries were outside control limits due to dilutions.

Sample ID	Surrogate 1	Surrogate 2	Surrogate 3	Action

		QC Limits	
		Water	Soil
Surrogate 1	$^{13}C_2$-6:2 Fluorotelomersulfonate (13C2-6:2FTS)	50 – 130	50 – 130
Surrogate 2	$^{13}C_2$-8:2 Fluorotelomersulfonate (13C2-8:2FTS)	50 – 130	50 – 130
Surrogate 3	$^{13}C_2$-Perfluorodecanoic acid (13C2PFDA)	50 – 130	50 – 130
Surrogate 4	$^{13}C_2$-Perfluorododecanoic acid (13C2PFDoA)	50 – 130	50 – 130
Surrogate 5	$^{13}C_2$- Perfluorohexanoic acid (13C2PFHxA)	50 – 130	50 – 130
Surrogate 6	$^{13}C_2$- Perfluorotetradecanoic acid (13C2PFTeDA)	50 – 130	50 – 130
Surrogate 7	$^{13}C_2$-Perfluoroundecanoic acid (13C2PFUnA)	50 – 130	50 – 130
Surrogate 8	$^{13}C_4$- Perfluorobutanoic acid (13C4PFBA)	50 – 130	50 – 130
Surrogate 9	$^{13}C_4$-Perfluoroheptanoic acid (13C4PFHpA)	50 – 130	50 – 130
Surrogate 10	$^{13}C_4$-Perfluorooctanoic acid (13C4-PFOS)	50 – 130	50 – 130
Surrogate 11	$^{13}C_4$-Perfluorooctanesulfonate (13C4-PFOA)	50 – 130	50 – 130
Surrogate 12	$^{13}C_5$-Perfluorononanoic acid (13C5PFNA)	50 – 130	50 – 130
Surrogate 13	$^{13}C_5$- Perfluoropentanoic acid (13C5PFPeA)	50 - 130	50 -130
Surrogate 14	$^{13}C_8$-Perfluorooctanesulfonamide (13C8-PFOSA)	50 – 130	50 – 130
Surrogate 15	$^{18}O_2$-Perfluorohexanesulfonate (18O2PFHxS)	50 – 130	50 – 130

Remarks:
No discrepancies were noted.

III. MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS

Yes	No	
☐	☒	Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis was requested for this SDG.
☐	☒	Was an MS/MSD pair run on a project sample?
☐	☐	All recoveries and relative percent differences (RPDs) were within control limits.

The following deficiencies were found:

Sample ID	Lab ID	Analyte	MS Recovery	MSD Recovery	MS/MSD QC Limits	RPD	RPD Limit

MS/MSD Summary: Recoveries per the total number of matrix spike recoveries in the fraction.

Sample ID	Lab ID	Matrix	RPD	Recovery
			0 outside limits	0 outside limits

Remarks:
No MS/MSD were requested in this this SDG.

Note: No action will be taken based on MS/MSD data alone. Sample results may be affected by either a positive or negative bias due to deficient recoveries.

IV. LABORATORY CONTROL SAMPLE

Yes	No	
☒	☐	At least one LCS analysis was performed per batch of samples.
☒	☐	LCS recoveries were within criteria.

The following compounds fell outside the specified QC limits:

LCS ID	Compound	%R	Control Limits	Qualifier Flags

LCS Summary: Recoveries per the total number of spike recoveries in the fraction.

Sample ID	SDG	Matrix	Recovery
			0 outside limits

Remarks:
No discrepancies were noted.

V. BLANK ANALYSIS RESULTS

Yes	No	
☒	☐	Was a blank analysis performed?
☒	☐	Was the blank analysis free of detects?

Laboratory Blanks (Deficiencies for method blanks, instrument blanks, etc.):

Blank ID	Matrix	Compound	Conc (ug/L)	Action Level	Associated Samples

Remarks:
No method blank detects were reported. No discrepancies were noted.

Field QC (Blanks):

Yes	**No**	
☐	☒	Field QC samples were associated with this SDG.

Field QC associated with this SDG were:

Field Blanks	**Equipment Rinsate Blanks**

The following contaminants were detected in the field QC:

Matrix	**Blank ID**	**Compound**	**Conc**	**Action Level**	**Associated Samples**

Remarks:
No field blank samples were included with this SDG.

VI. FIELD PRECISION RESULTS

Yes **No**

☐ ☒ Field duplicate data were included in this data package.

Field Sample ID	Duplicate Sample ID	Matrix

☐ ☐ Qualification of field duplicate data was attempted.

☐ ☐ Relative percent differences (RPDs) between duplicate sample results was less than **30%** for liquid (**30%** for solid samples) when both sample values were ≥5 x MDL or the RL.

Note: In the absence of project specified criteria the following guidelines are recommended:

☐ ☐ For sample results >5 x MDL or the RL, the RPD between field duplicate samples was **<40%** for water samples (**70%** for soil samples).

☐ ☐ For sample results <5 x MDL or the RL, the RPD between field duplicate samples was less than the MDL or the RL for water samples (less than 2x the MDA or the RL for soil samples).

The relative percent difference (RPD) is calculated for each positive result identified in either the sample or field duplicate. RPD is calculated using the following equation:

$$RPD = \frac{|A - B|}{(A + B)/2} \times 100$$

Where: A = Sample Result
B = Duplicate Sample Result

Field Precision Evaluation Deficiency Worksheet: B811-SED-1 and B811-SED-FD

Analyte	MDL/ RL	5 x MDL/ 5 x RL	Sample Result	Duplicate Result	RPD	Action

Remarks:
No discrepancies were noted.

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APPENDIX D

Survey Report

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SOIL BORING REPORT

TRAVIS AIR FORCE BASE

Prepared by:
Fullen Surveying Mapping, Inc.

October 12, 2017
FSM Project: OTI0001

SOIL BORING	NORTHING	EASTING	ELEVATION	FSM #
2001CRASH-1	1860398.44	6586722.85	62.05	20004
2001CRASH-2	1860447.07	6586277.85	62.30	20003
2001CRASH-3	1860014.11	6586217.82	63.31	20005
2001CRASH-4	1859986.46	6585774.68	61.87	20006
2014E75-1	1856951.28	6581454.34	50.36	20026
2014E75-2	1856976.05	6581511.29	50.00	20025
811-1	1857486.76	6575416.42	52.90	20024
811-2	1857438.52	6575316.79	52.39	20021
811-SED-1	1857477.70	6575287.81	49.34	20022
8283C5-1	1858554.90	6584671.64	58.13	20000
8283C5-2	1858751.93	6584887.66	58.61	20001
8283C5-3	1859030.91	6585212.97	59.66	20002
86C141B-1	1855048.50	6576322.74	45.52	20012
88C5-1	1859217.50	6583162.01	54.30	20007
88C5-3	1859083.75	6583304.62	54.16	20008
CFTA-1	1853104.39	6579065.68	39.54	20041
CFTA-2	1853055.26	6579158.62	41.54	20040
CFTA-3	1852950.14	6579112.82	39.47	20042
FS1-1	1860798.19	6578724.91	64.50	20049
FS1-2	1860669.38	6578749.23	62.44	20050
FS1-3	1860625.40	6578878.91	63.50	20051
FS2-1	1858521.25	6577775.23	58.21	20010
FS2-2	1858567.75	6577777.94	59.06	20011
FS2-3	1858483.27	6577937.77	58.87	20009
FS4-1	1853612.88	6575820.15	36.66	20014
FS4-2	1853486.98	6575786.22	37.34	20015
FS4-3	1853650.26	6575761.22	39.48	20013
FS4-SED-1	1853467.86	6575810.09	35.24	20016
FT005-1	1854373.97	6581818.55	45.59	20030
FT005-2	1854344.33	6582125.04	41.98	20029
FT005-3	1854578.70	6581641.94	45.00	20031
HDWALL	1857476.93	6575286.25	51.56	20023
LATE80S-1	1854221.15	6577792.14	40.00	20028
LATE80S-3	1853537.72	6577713.58	40.13	20027
NOZ-1	1851856.46	6574230.89	35.17	20019
NOZ-2	1852034.52	6574153.76	37.24	20018
NOZ-3	1852127.89	6574069.46	38.30	20020
OUTFALL1-SED-1	1848650.25	6573666.45	16.70	20048
OUTFALL2-SED-1	1851591.76	6576865.85	22.08	20045
SBBGWTP-SED-1	1852823.31	6579670.04	27.04	20039
TP 15IN CMP	1853460.63	6575810.38	36.12	20017
WWTP-1	1854943.02	6583302.26	40.36	20036
WWTP-2	1855374.71	6583040.99	42.49	20035
WWTP-SED-1	1855259.81	6582277.28	36.93	20034

Coordinates shown heroen are based on California Coordinate System, Zone 2(Nad83)
Elevations shown hereon are based on NAVD88 Vertical Datum

SOIL BORING REPORT

TRAVIS AIR FORCE BASE

Prepared by:
Fullen Surveying Mapping, Inc.

November 17, 2017
FSM Project: OTI0001

SOIL BORING	NORTHING	EASTING	ELEVATION	FSM #
LATE80S-2	1854005.96	6577540.08	39.04	20053
LATE80S-4	1853996.45	6578218.01	41.97	20054
2014E75-3	1856874.62	6581503.12	48.83	20055
88C5-2	1858991.81	6583248.06	53.03	20056
CFTA-1R	1853096.33	6579070.04	39.90	20057

Coordinates shown heroen are based on California Coordinate System, Zone 2(Nad83)
Elevations shown hereon are based on NAVD88 Vertical Datum

APPENDIX E

Waste Disposal

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NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: N/A

2. Page 1 of: 1

3. Emergency Response Phone: 866-675-1066

4. Waste Tracking Number: 12112017CAM-3

5. Generator's Name and Mailing Address
US AIRFORCE
550 HICKAM AVE. , BUILDING 248
TRAVIS AFB, CA 94535 USA
707-424-3062
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: DILLARD ENVIRONMENTAL SERVICES #1715
U.S. EPA ID Number: CAD982523433

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
US ECOLOGY NEVADA
HIGHWAY 95, 11 MILES S. OF BEATTY
BEATTY, NV 89003
Facility's Phone: 800-239-3943-7557
U.S. EPA ID Number: NVT330010000

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON-HAZARDOUS WASTE SOLID	65	DM	38,400	P	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
NON-HAZRDOUS WASTE SOILD
PF#070128043-13558

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: MILTON CLARE
Signature:
Month: 12 Day: 20 Year: 17

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: KEN MOSS
Signature: Ken Moss
Month: 12 Day: 20 Year: 17

Transporter 2 Printed/Typed Name
Signature
Month: Day: Year:

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month: Day: Year:

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	N/A	866-575-1066	12112017CAM-4

GENERATOR

5. Generator's Name and Mailing Address

US AIRFORCE
550 HICKAM AVE. , BUILDING 248
TRAVIS AFB, CA 94535 USA

Generator's Phone: 707-424-3062

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: DILLARD ENVIRONMENTAL SERVICES #1715 — U.S. EPA ID Number: CAD982523433

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address

US ECOLOGY NEVADA
HIGHWAY 95, 11 MILES S. OF BEATTY
BEATTY, NV 89003

Facility's Phone: 800-239-3943-7557

U.S. EPA ID Number: NVT330010000

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON-HAZARDOUS WASTE LIQUID	20	DM	1155 ~~12,000~~	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

NON-HAZARDOUS WASTE LIQUID
PF#070137747-13581

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: MICON CLARE — Signature: [signature] — Month: 12 — Day: 20 — Year: 17

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: TERRY CLARK — Signature: [signature] — Month: 12 — Day: 20 — Year: 17

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

RECEIVED
DEC 20 2017
By

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name — Signature — Month — Day — Year

169-BLC-O 6 10498 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

Mark Wanek

From: Lin, Sharon <Lin.Sharon@epa.gov>
Sent: Wednesday, December 20, 2017 11:52 AM
To: Mark Wanek
Cc: Monika O'Sullivan; Gene Clare
Subject: RE: Waste Disposal Facility Approval

Yes. it is on the approved list.

sharon

From: Mark Wanek [mailto:MWanek@otie.com]
Sent: Wednesday, December 20, 2017 11:22 AM
To: Lin, Sharon <Lin.Sharon@epa.gov>
Cc: Monika O'Sullivan <monika.osullivan@us.af.mil>; Gene Clare <milton.clare@us.af.mil>
Subject: Waste Disposal Facility Approval

Good morning Ms. Lin,

We are planning to transport and dispose of investigative-derived soil and water waste generated from CERCLA sites at Travis Air Force Base, California at the US Ecology facility in Beatty, Nevada under Disposal Code H131. Can you please verify that this facility is currently approved for accepting the waste as specified?

Thank you,
Mark Wanek, PG
Oneida Total Integrated Enterprises (OTIE)
805.883.3980 ext. 2226
805.705.8017 (Cell)

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APPENDIX F

PFAS Analytical Results Tables

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Appendix F-1
Summary of PFAS Soil Analytical Results
Site Inspection of AFFF Usage
Travis Air Force Base, California

					Analyte	Perfluorobutanoic acid (PFBA)	Perfluorobutanesulfonic acid (PFBS)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluorohexanesulfonic acid (PFHxS)	6:2 Fluorotelomer sulfonate (6:2 FTS)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctane sulfonamide (PFOSA)	8:2 Fluorotelomer sulfonate (8:2 FTS)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonate (PFDS)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic acid (PFDoA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
					PAL:	na	130,000	na	na	na	na	na	126	126	na	na	na	na	na	na	na	na	na
Location ID	**Sample ID**	**Lab Sample ID**	**Sample Date**	**Sample Depth (ft bgs)**	**Sample Type**	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
AFFF AREA 1 FT005 (Former FTA 4)																							
FT005-1	FT005-1-1.0	FAT217	8/24/2017	1.0	N	4.9 U	3.7 J	4.9 U	16.0	140	5.1 J	11.0	**140**	**690**	2900	12.0	4.9 U	3.3 U	7.1 J	4.9 U	4.9 U	3.3 U	3.3 U
	FT005-1-12	FAT218	8/24/2017	12.0	N	4.6	7.3	12.0	28.0	51.0	16.0	6.7	40.0	7.2	1.5	0.58 U	0.58 U	0.38 U	0.58 U	0.58 U	0.58 U	0.38 U	0.38 U
	FT005-1-19.5	FAT219	8/25/2017	19.5	N	0.90 J	1.4	3.2	7.1	13.0	1.2	1.6	9.4	8.4	0.95 J	0.89 J	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.23 J
FT005-2	FT005-2-1.0	FAT220	8/24/2017	1.0	N	1.5	0.48 J	2.3	3.4	15.0	0.41 J	1.9	8.9	**340**	0.66 J	1.1	9.4	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	FT005-2-12	FAT221	8/25/2017	12.0	N	0.66 J	1.6	2.8	5.7	8.4	1.5	1.2	3.7	1.5	0.53 U	0.53 U	0.53 U	0.35 U	0.53 U	0.53 U	0.53 U	0.35 U	0.35 U
	FT005-2-21	FAT222	8/25/2017	21.0	N	0.69 J	1.4	2.5	4.8	9.4	1.3	1.2 J	3.3	0.97 J	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
FT005-3	FT005-3-1.0	FAT223	8/24/2017	1.0	N	0.52 U	0.52 U	0.52 U	0.80 J	0.57 J	0.52 U	0.52 U	0.52 U	1.2	0.52 U	0.52 U	0.52 U	0.35 U	0.52 U	0.52 U	0.52 U	0.35 U	0.35 U
	FT005-3-11.5	FAT224	8/25/2017	11.5	N	0.79 J	0.60 J	0.80 J	2.8	8.5	0.52 U	0.69 J	5.9	0.39 J	0.52 U	0.52 U	0.52 U	0.35 U	0.52 U	0.52 U	0.52 U	0.35 U	0.35 U
	FT005-3-23	FAT225	8/25/2017	23.0	N	0.58 U	0.58 U	0.58 U	0.43 J	0.59 J	0.58 U	0.58 U	0.47 J	0.58 U	0.27 J	0.58 U	0.58 U	0.38 U	0.58 U	0.58 U	0.58 U	0.38 U	0.38 U
AFFF AREA 2 Current FTA																							
CFTA-1	CFTA-1-1.0	FAT207	8/25/2017	1.0	N	0.60 U	0.53 J	0.87 J	1.1	8.1	0.60 U	0.55 J	1.3	**180**	0.35 J	0.60 U	0.71 J	0.40 U	0.53 J	0.60 U	0.60 U	0.40 U	0.40 U
	CFTA-1-10.5	FKH827	10/24/2017	10.5	N	0.59 U	0.59 U	0.73 J	0.63 J	2.4	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.40 U	0.59 U	0.59 U	0.59 U	0.40 U	0.40 U
	CFTA-1-16.5	FKH828	10/24/2017	16.5	N	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
CFTA-2	CFTA-2-1.0	FAT208	8/25/2017	1.0	N	0.64 J	1.0	3.2	3.6	12.0	2.9	0.55 J	1.2	14	0.55 U	0.55 U	0.55 U	0.36 U	0.55 U	0.55 U	0.55 U	0.36 U	0.36 U
	CFTA-2-11.5	FAT209	8/25/2017	11.5	N	0.51 U	0.39 J	0.51 U	0.72 J	1.7	0.99	0.51 U	0.51 U	2.8	0.51 U	0.51 U	0.51 U	0.34 U	0.51 U	0.51 U	0.51 U	0.34 U	0.34 U
	CFTA-2-23.5	FAT210	8/25/2017	23.5	N	0.54 U	0.33 J	0.54 U	0.74 J	1.4	0.85 J	0.54 U	0.54 U	0.97	0.24 J	0.54 U	0.54 U	0.36 U	0.54 U	0.54 U	0.54 U	0.36 U	0.36 U
CFTA-3	CFTA-3-1.0	FAT211	8/25/2017	1.0	N	0.52 U	0.52 U	0.52 U	0.54 J	3.9	0.52 U	0.52 U	0.54 J	35.0	0.52 U	0.52 U	0.52 U	0.34 U	0.52 U	0.52 U	0.52 U	0.34 U	0.34 U
	CFTA-3-11	FAT212	8/25/2017	11.0	N	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.33 J	0.58 U	0.58 U	0.58 U	0.39 U	0.58 U	0.58 U	0.58 U	0.39 U	0.39 U
	CFTA-3-18	FAT213	8/25/2017	18.0	N	0.60 U	0.60 U	0.60 U	0.43 J	0.92 J	0.60 U	0.60 U	0.60 U	1.2	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
AFFF AREA 3 Hangar Building 811																							
B811-1	B811-1-0.5	FBV268	8/30/2017	0.5	N	0.66 UJ	0.66 UJ	1.6 J	1.0 J	0.88 J	0.66 UJ	0.51 J	0.85 J	19 J	0.66 UJ	0.66 UJ	0.66 UJ	0.44 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.44 UJ	0.44 UJ
	B811-1-08	FBV269	8/30/2017	8.0	N	0.66 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.44 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.44 UJ	0.44 UJ
	B811-1-22	FBV270	8/30/2017	22.0	N	0.66 UJ	0.66 UJ	0.38 J	0.96 J	1.3 J	3.0 J	0.66 UJ	0.66 UJ	2.8 J	0.66 UJ	0.66 UJ	0.66 UJ	0.44 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.44 UJ	0.44 UJ
B811-2	B811-2-0.5	FBV271	8/30/2017	0.5	N	0.48 J	0.78 UJ	0.78 J	1.7 J	5.2 J	0.78 UJ	0.78 UJ	0.78 UJ	0.78 UJ	0.78 UJ	0.78 UJ	0.78 UJ	0.52 UJ	0.78 UJ	0.78 UJ	0.78 UJ	0.52 UJ	0.52 UJ
	B811-2-FD	FBV276	8/30/2017	0.5	FD	0.72 UJ	0.72 UJ	0.72 UJ	0.72 UJ	0.63 J	0.72 UJ	0.72 UJ	0.72 UJ	9.9 J	0.72 UJ	0.72 UJ	0.72 UJ	0.48 UJ	0.72 UJ	0.72 UJ	0.72 UJ	0.48 UJ	0.48 UJ
	B811-2-07	FBV272	8/30/2017	7.0	N	0.57 UJ	0.57 UJ	0.57 UJ	0.23 J	0.55 J	0.57 UJ	0.57 UJ	0.57 UJ	0.57 UJ	0.57 UJ	0.57 UJ	0.57 UJ	0.38 UJ	0.57 UJ	0.57 UJ	0.57 UJ	0.38 UJ	0.38 UJ
	B811-2-23	FBV273	8/30/2017	23.0	N	0.84 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.56 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.56 UJ	0.56 UJ
	B811-2-FD2	FBV277	8/30/2017	23.0	FD	0.60 UJ	0.60 UJ	0.60 UJ	0.60 UJ	0.60 UJ	0.60 UJ	0.60 UJ	0.60 UJ	0.60 UJ	0.60 UJ	0.60 UJ	0.60 UJ	0.40 UJ	0.60 UJ	0.60 UJ	0.60 UJ	0.40 UJ	0.40 UJ
AFFF AREA 4 Fire Station 1																							
FS1-1	FS1-1-1.0	FAT216	8/28/2017	1.0	N	0.90	0.53 U	1.2	0.49 J	0.97	0.53 U	0.54 J	1.8	56	0.42 J	0.45 J	2.9	0.54 J	0.53 U	0.35 J	0.53 U	0.36 U	0.36 U
	FS1-1-12	FAT214	8/28/2017	12.0	N	0.56 U	0.56 U	0.56 U	0.37 J	1.2	0.56 U	0.56 U	0.33 J	0.41 J	0.56 U	0.56 U	0.56 U	0.37 U	0.56 U	0.56 U	0.56 U	0.37 U	0.37 U
	FS1-1-18	FAT215	8/28/2017	18.0	N	0.72 U	0.72 U	0.72 U	0.72 U	0.44 J	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U

Appendix F-1
Summary of PFAS Soil Analytical Results
Site Inspection of AFFF Usage
Travis Air Force Base, California

					Analyte	Perfluorobutanoic acid (PFBA)	Perfluorobutanesulfonic acid (PFBS)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluorohexanesulfonic acid (PFHxS)	6:2 Fluorotelomer sulfonate (6:2 FTS)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctane sulfonamide (PFOSA)	8:2 Fluorotelomer sulfonate (8:2 FTS)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonate (PFDS)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic acid (PFDoA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
					PAL:	na	130,000	na	na	na	na	na	126	126	na	na	na	na	na	na	na	na	na
Location ID	**Sample ID**	**Lab Sample ID**	**Sample Date**	**Sample Depth (ft bgs)**	**Sample Type**	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
FS1-2	FS1-2-0.5	FBV059	8/30/2017	0.5	N	0.59 U	0.40 J	0.59 U	0.53 J	10	0.59 U	0.59 U	2.0	26	0.59 U	0.59 U	1.2	0.40 U	0.59 U	0.59 U	0.59 U	0.40 U	0.40 U
	FS1-2-08	FBV060	8/30/2017	8.0	N	0.60 U	0.60 U	0.60 U	0.74 J	3.8	0.60 U	0.41 J	1.4	1.2	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
	FS1-2-17	FBV061	8/30/2017	17.0	N	0.72 U	0.72 U	0.72 U	0.38 J	1.2 J	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
FS1-3	FS1-3-0.5	FBV056	8/30/2017	0.5	N	6.6 U	8.4 J	19	70	250	98	9.5 J	44	**780**	6.6 U	4.0 J	6.6 U	4.4 U	6.6 U	6.6 U	6.6 U	4.4 U	4.4 U
	FS1-3-08	FBV057	8/30/2017	8.0	N	0.43 J	0.82 J	1.8	4.5	12	0.79 J	0.98 J	0.81 J	0.69 J	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	FS1-3-17	FBV058	8/30/2017	17.0	N	0.58 U	0.58 U	0.58 U	0.49 J	1.4	0.46 J	0.58 U	0.58 U	6.4	0.58 U	0.58 U	0.58 U	0.38 U	0.58 U	0.58 U	0.58 U	0.38 U	0.38 U
AFFF AREA 5 Fire Station 2																							
FS2-1	FS2-1-0.5	FBV100	8/31/2017	0.5	N	4.0 J	6.1 J	16	26	160	53	7.1 J	32	**2100**	90	310	6.8 U	4.5 U	6.8 U	6.8 U	6.8 U	4.5 U	4.5 U
	FS2-1-07	FBV101	8/31/2017	7.0	N	9.5	6.5	14	19	30	46	2.3	5.3	**410**	1.6	14	0.58 U	0.12 J	0.62 J	0.58 U	0.58 U	0.38 U	0.38 U
	FS2-1-12	FBV102	8/31/2017	12.0	N	6.0 UJ	6.0 UJ	6.0 UJ	3.0 J	5.1 J	5.8 J	6.0 UJ	6.0 UJ	85 J	6.0 UJ	6.7 J	6.0 UJ	4.0 UJ	6.0 UJ	6.0 UJ	6.0 UJ	4.0 UJ	4.0 UJ
FS2-2	FS2-2-0.5	FBV103	8/31/2017	0.5	N	5.2 UJ	7.9 J	3.9 J	19 J	180 J	2.8 J	5.6 J	**170 J**	**550 J**	88 J	6.2 J	5.2 UJ	3.5 UJ	5.2 UJ	5.2 UJ	5.2 UJ	3.5 UJ	3.5 UJ
	FS2-2-07	FBV104	8/31/2017	7.0	N	7.2 J	10 J	11 J	27 J	130 J	130 J	3.5 J	24 J	**380 J**	15 J	24 J	5.5 UJ	3.7 UJ	5.5 UJ	5.5 UJ	5.5 UJ	3.7 UJ	3.7 UJ
	FS2-2-11	FBV105	8/31/2017	11.0	N	6.6 UJ	6.6 UJ	6.6 UJ	3.2 J	6.8 J	6.0 J	6.6 UJ	6.6 UJ	47 J	6.6 UJ	7.4 J	6.6 UJ	4.4 UJ	6.6 UJ	6.6 UJ	6.6 UJ	4.4 UJ	4.4 UJ
FS2-3	FS2-3-01	FBV097	8/30/2017	1.0	N	0.42 J	0.60 U	0.81 J	3.6	11	0.60 U	0.59 J	2.6	75	9.5	0.52 J	0.45 J	0.53 J	4.3	0.71 J	0.31 J	0.40 U	0.40 U
	FS2-3-11	FBV098	8/30/2017	11.0	N	0.26 J	0.48 J	1.2	3.0	6.7	1.7	0.51 J	1.4	59	15	3.8	0.55 U	0.36 U	0.32 J	0.55 U	0.55 U	0.36 U	0.36 U
	FS2-3-14.5	FBV099	8/30/2017	14.5	N	0.65 J	0.96 J	2.1	5.3	10	5.1	0.77 J	3.8	100	6.1	5.2	0.65 U	0.44 U	0.65 U	0.65 U	0.65 U	0.44 U	0.44 U
AFFF AREA 6 Fire Station 4																							
FS4-1	FS4-1-0.5	FBV079	9/1/2017	0.5	N	0.59 J	0.53 U	0.58 J	0.50 J	3.8	0.53 U	0.53 U	0.26 J	75	0.53 U	0.53 U	0.24 J	0.36 U	0.53 U	0.53 U	0.53 U	0.36 U	0.36 U
	FS4-1-06	FBV080	9/1/2017	6.0	N	0.65 U	2.2	0.65 U	0.83 J	4.2	0.65 U	0.65 U	0.65 U	3.0	0.65 U	0.65 U	0.65 U	0.43 U	0.65 U	0.65 U	0.65 U	0.43 U	0.43 U
	FS4-1-11	FBV081	9/1/2017	11.0	N	0.51 J	1.9	0.64 J	2.7	7.8	0.67 U	0.24 J	0.67 U	11	0.67 U	0.67 U	0.67 U	0.44 U	0.67 U	0.67 U	0.67 U	0.44 U	0.44 U
FS4-2	FS4-2-0.5	FBV082	9/1/2017	0.5	N	0.66 U	0.66 U	0.66 U	0.21 J	0.78 J	0.66 U	0.66 U	0.66 U	14	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	FS4-2-FD	FBV085	9/1/2017	0.5	FD	0.56 U	0.56 U	0.56 U	0.56 U	0.60 J	0.56 U	0.56 U	0.56 U	13	0.56 U	0.56 U	0.56 U	0.37 U	0.56 U	0.56 U	0.56 U	0.37 U	0.37 U
	FS4-2-06	FBV083	9/1/2017	6.0	N	0.55 U	0.18 J	0.55 U	0.55 U	3.9	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.37 U	0.55 U	0.55 U	0.55 U	0.37 U	0.37 U
	FS4-2-11	FBV084	9/1/2017	11.0	N	0.67 U	0.64 J	0.67 U	0.62 J	6.3	0.31 J	0.67 U	0.67 U	15	0.67 U	0.67 U	0.67 U	0.45 U	0.67 U	0.67 U	0.67 U	0.45 U	0.45 U
FS4-3	FS4-3-0.5	FBV076	9/1/2017	0.5	N	0.53 U	0.53 U	0.53 U	0.20 J	2.1	0.53 U	0.53 U	0.27 J	38	0.53 U	0.53 U	0.35 J	0.16 J	0.53 U	0.53 U	0.53 U	0.36 U	0.36 U
	FS4-3-06	FBV077	9/1/2017	6.0	N	0.55 U	1.1	0.55 U	0.20 J	0.92	0.55 U	0.55 U	0.55 U	1.9	0.55 U	0.55 U	0.55 U	0.37 U	0.55 U	0.55 U	0.55 U	0.37 U	0.37 U
	FS4-3-11	FBV078	9/1/2017	11.0	N	0.65 U	0.65 U	0.65 U	0.26 J	1.3	0.65 U	0.65 U	0.65 U	8.2	0.65 U	0.65 U	0.65 U	0.44 U	0.65 U	0.65 U	0.65 U	0.44 U	0.44 U
AFFF AREA 7 1982/1983 C-5 Crash																							
82/83 C5-1	82/83 C5-1-0.5	FBV246	9/3/2017	0.5	N	0.55 U	0.55 U	0.65 J	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	3.2	0.55 U	0.55 U	0.55 U	0.37 U	0.55 U	0.55 U	0.55 U	0.37 U	0.37 U
	82/83 C5-1-07	FBV247	9/3/2017	7.0	N	0.60 U	0.60 U	0.22 J	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
	82/83 C5-1-12	FBV248	9/3/2017	12.0	N	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U

Appendix F-1
Summary of PFAS Soil Analytical Results
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					Analyte	Perfluorobutanoic acid (PFBA)	Perfluorobutanesulfonic acid (PFBS)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluorohexanesulfonic acid (PFHxS)	6:2 Fluorotelomer sulfonate (6:2 FTS)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctane sulfonamide (PFOSA)	8:2 Fluorotelomer sulfonate (8:2 FTS)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonate (PFDS)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic acid (PFDoA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
					PAL:	na	130,000	na	na	na	na	na	126	126	na	na	na	na	na	na	na	na	na
Location ID	**Sample ID**	**Lab Sample ID**	**Sample Date**	**Sample Depth (ft bgs)**	**Sample Type**	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
82/83 C5-2	82/83 C5-2-0.5	FBV249	9/3/2017	0.5	N	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	3.5	0.51 U	0.51 U	0.51 U	0.34 U	0.51 U	0.51 U	0.51 U	0.34 U	0.34 U
	82/83 C5-2-07	FBV250	9/3/2017	7.0	N	0.53 U	0.53 U	0.53 U	0.40 J	1.5	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.36 U	0.53 U	0.53 U	0.53 U	0.36 U	0.36 U
	82/83 C5-2-18	FBV251	9/3/2017	18.0	N	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.52 U	0.78 U	0.78 U	0.78 U	0.52 U	0.52 U
	82/83 C5-2-FD	FBV252	9/3/2017	18.0	FD	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
82/83 C5-3	82/83 C5-3-0.5	FBV253	9/3/2017	0.5	N	0.66 U	0.66 U	0.66 U	0.66 U	0.50 J	0.66 U	0.66 U	0.66 U	3.6	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	82/83 C5-3-8	FBV254	9/3/2017	8.0	N	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
	82/83 C5-3-14	FBV260	9/3/2017	14.0	N	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
AFFF AREA 8 1986 C-141B Accident																							
86C141B-1	86C141B-1-0.5	FBV243	8/31/2017	0.5	N	0.38 J	0.52 UJ	0.31 J	0.52 UJ	0.87 J	0.52 UJ	0.52 UJ	0.47 J	24 J	0.52 UJ	0.52 UJ	0.49 J	0.35 UJ	0.52 UJ	0.52 UJ	0.52 UJ	0.35 UJ	0.35 UJ
	86C141B-1-09	FBV241	8/31/2017	9.0	N	0.66 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.62 J	0.66 UJ	0.66 UJ	0.78 J	0.46 J	0.66 UJ	0.66 UJ	0.66 UJ	0.44 UJ	0.66 UJ	0.66 UJ	0.66 UJ	0.44 UJ	0.44 UJ
	86C141B-1-12	FBV242	8/31/2017	12.0	N	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ	0.67 J	0.59 UJ	0.59 UJ	0.59 UJ	2.0 J	0.59 UJ	0.59 UJ	0.59 UJ	0.39 UJ	0.59 UJ	0.59 UJ	0.59 UJ	0.39 UJ	0.39 UJ
AFFF AREA 9 1988 C-5 Fire																							
88C5-1	88C5-1-0.5	FBU967	9/4/2017	0.5	N	0.58 U	0.58 U	0.52 J	0.58 U	0.31 J	0.58 U	0.58 U	0.58 U	24	0.58 U	0.58 U	0.58 U	0.38 U	0.46 J	0.58 U	0.58 U	0.38 U	0.38 U
	88C5-1-5.5	FBU968	9/4/2017	5.5	N	1.1 J	4.7	2.8	6.4	26	3.1	1.3	2.7	11	1.7	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
	88C5-1-8.5	FBU969	9/4/2017	8.5	N	0.53 J	2.4	1.1 J	3.1	12	1.7	0.36 J	1.3	4.1	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
88C5-2	88C5-2-0.5	FKI086	10/23/2017	0.5	N	0.60 U	0.60 U	0.60 J	0.60 U	0.45 J	0.60 U	0.60 U	0.60 U	7.1	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
	88C5-DUP-0.5	FKI087	10/23/2017	0.5	FD	0.60 U	0.60 U	0.70 J	0.60 U	0.40 J	0.60 U	0.60 U	0.60 U	8.0	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
	88C5-2-5.5	FKI088	10/23/2017	5.5	N	0.66 U	0.41 J	0.92 J	2.3	4.4	0.66 U	0.50 J	0.95 J	0.66 U	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
88C5-3	88C5-3-0.5	FBU964	9/4/2017	0.5	N	0.56 U	0.56 U	0.56 U	0.56 U	0.63 J	0.56 U	0.56 U	0.40 J	22	0.56 U	0.56 U	1.2	0.38 U	0.56 U	0.56 U	0.56 U	0.38 U	0.38 U
	88C5-3-05	FBU965	9/4/2017	5.0	N	0.72 U	0.29 J	0.72 U	0.87 J	1.7	0.72 U	0.72 U	0.45 J	0.31 J	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
	88C5-3-09	FBU966	9/4/2017	9.0	N	0.66 U	0.36 J	0.66 U	0.48 J	1.2	0.66 U	0.66 U	0.66 U	0.78 J	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
AFFF AREA 10 Late 1980s C-141B Crash																							
Late80s-1	Late80s-1-0.5	FBU984	9/4/2017	0.5	N	0.60 U	0.60 U	0.60 U	0.60 U	1.7	0.60 U	0.60 U	0.60 U	28	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
	Late80s-1-FD	FBU987	9/4/2017	0.5	FD	0.66 U	0.66 U	0.66 U	0.66 U	2.0	0.66 U	0.66 U	0.66 U	32	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	Late80s-1-07	FBU985	9/4/2017	7.0	N	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
	Late80s-1-14	FBU986	9/4/2017	14.0	N	0.66 U	0.66 U	0.66 U	0.66 U	0.39 J	0.66 U	0.66 U	0.66 U	0.50 J	1.1	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
Late80s-2	Late80s-2-0.5	FKH901	10/23/2017	0.5	N	0.49 U	0.49 U	0.49 U	0.49 U	1.1	0.49 U	0.49 U	0.49 U	11	0.49 U	0.49 U	0.49 U	0.33 U	0.49 U	0.49 U	0.49 U	0.33 U	0.33 U
	Late80s-2-7.0	FKH902	10/23/2017	7.0	N	0.66 U	0.66 U	0.66 U	0.66 U	0.58 J	0.66 U	0.66 U	0.66 U	3.2	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
Late80s-3	Late80s-3-0.5	FBU981	9/4/2017	0.5	N	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	3.4	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
	Late80s-3-06	FBU982	9/4/2017	6.0	N	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
	Late80s-3-12	FBU983	9/4/2017	12.0	N	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.57 J	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U

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					Analyte	Perfluorobutanoic acid (PFBA)	Perfluorobutanesulfonic acid (PFBS)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluorohexanesulfonic acid (PFHxS)	6:2 Fluorotelomer sulfonate (6:2 FTS)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctane sulfonamide (PFOSA)	8:2 Fluorotelomer sulfonate (8:2 FTS)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonate (PFDS)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic acid (PFDoA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
					PAL:	na	130,000	na	na	na	na	na	126	126	na	na	na	na	na	na	na	na	na
Location ID	**Sample ID**	**Lab Sample ID**	**Sample Date**	**Sample Depth (ft bgs)**	**Sample Type**	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Late80s-4	Late80s-4-0.5	FKH903	10/23/2017	0.5	N	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	4.1	0.58 U	0.58 U	0.58 U	0.39 U	0.58 U	0.58 U	0.58 U	0.39 U	0.39 U
	Late80s-4-5.5	FKH904	10/23/2017	5.5	N	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	Late80s-4-13	FKH905	10/23/2017	13.0	N	0.72 U	0.72 U	0.72 U	0.72 U	0.40 J	0.72 U	0.72 U	0.72 U	0.78 J	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
AFFF AREA 11 2001 Aircraft Crash																							
2001Crash-1	2001Crash-1-0.5	FBV010	9/3/2017	0.5	N	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	1.7	0.58 U	0.58 U	0.58 U	0.38 U	0.58 U	0.58 U	0.58 U	0.38 U	0.38 U
	2001Crash-1-7.5	FBV011	9/3/2017	7.5	N	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
	2001Crash-1-25	FBV012	9/3/2017	25.0	N	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.40 U	0.59 U	0.59 U	0.59 U	0.40 U	0.40 U
2001Crash-2	2001Crash-2-0.5	FBV020	9/3/2017	0.5	N	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	1.3	0.52 U	0.52 U	0.52 U	0.35 U	0.52 U	0.52 U	0.52 U	0.35 U	0.35 U
	2001Crash-2-7.5	FBV021	9/3/2017	7.5	N	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	8.0	0.56 U	0.56 U	0.56 U	0.37 U	0.56 U	0.56 U	0.56 U	0.37 U	0.37 U
	2001Crash-2-25	FBV022	9/3/2017	25.0	N	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
2001Crash-3	2001Crash-3-0.5	FBV013	9/3/2017	0.5	N	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.33 J	0.72 U	0.72 U	0.36 J	0.60 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
	2001Crash-3-FD	FBV014	9/3/2017	0.5	FD	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.40 J	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
	2001Crash-3-06	FBV015	9/3/2017	6.0	N	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
	2001Crash-3-09	FBV016	9/3/2017	9.0	N	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
2001Crash-4	2001Crash-4-0.5	FBV017	9/3/2017	0.5	N	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.36 U	0.53 U	0.53 U	0.53 U	0.36 U	0.36 U
	2001Crash-4-7.5	FBV018	9/3/2017	7.5	N	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	2001Crash-4-11.5	FBV019	9/3/2017	11.5	N	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.56 U	0.84 U	0.84 U	0.84 U	0.40 U	0.40 U
AFFF AREA 12 2014 E75 Air Show Crash																							
2014E75-1	2014E75-1-0.5	FBV043	9/4/2017	0.5	N	0.53 U	0.53 U	0.53 U	0.53 U	0.60 J	0.53 U	0.53 U	0.53 U	2.0	0.53 U	0.53 U	0.53 U	0.36 U	0.53 U	0.53 U	0.53 U	0.36 U	0.36 U
	2014E75-1-06	FBV044	9/4/2017	6.0	N	0.66 U	0.66 U	0.66 U	0.66 U	0.39 J	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	2014E75-1-13	FBV045	9/4/2017	13.0	N	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
2014E75-2	2014E75-2-0.5	FBV046	9/4/2017	0.5	N	0.60 U	0.32 J	0.60 U	0.36 J	1.7	0.60 U	0.60 U	2.9	4.3	0.75 J	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
	2014E75-2-5.5	FBV047	9/4/2017	5.5	N	0.60 U	0.60 U	0.60 U	0.60 U	0.26 J	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
	2014E75-2-FD	FBV049	9/4/2017	5.5	FD	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	2014E75-2-10.5	FBV048	9/4/2017	10.5	N	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.26 J	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
2014E75-3	2014E75-3-0.5	FKH856	10/23/2017	0.5	N	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	1.6	0.57 U	0.57 U	0.57 U	0.38 U	0.57 U	0.57 U	0.57 U	0.38 U	0.38 U
	2014E75-DUP-0.5	FKH858	10/23/2017	0.5	FD	0.50 U	0.50 U	0.50 U	0.50 U	0.36 J	0.50 U	0.50 U	0.50 U	1.7	0.50 U	0.50 U	0.50 U	0.33 U	0.50 U	0.50 U	0.50 U	0.33 U	0.33 U
	2014E75-3-5.5	FKH857	10/23/2017	5.5	N	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	2014E75-3-13.5	FKH859	10/23/2017	13.5	N	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U

Appendix F-1
Summary of PFAS Soil Analytical Results
Site Inspection of AFFF Usage
Travis Air Force Base, California

					Analyte	Perfluorobutanoic acid (PFBA)	Perfluorobutanesulfonic acid (PFBS)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluorohexanesulfonic acid (PFHxS)	6:2 Fluorotelomer sulfonate (6:2 FTS)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctane sulfonamide (PFOSA)	8:2 Fluorotelomer sulfonate (8:2 FTS)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonate (PFDS)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic acid (PFDoA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
					PAL:	na	130,000	na	na	na	na	na	126	126	na	na	na	na	na	na	na	na	na
Location ID	**Sample ID**	**Lab Sample ID**	**Sample Date**	**Sample Depth (ft bgs)**	**Sample Type**	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
AFFF AREA 13 Nozzle Spray Test Area (900 Ramp)																							
NOZ-1	NOZ-1-0.5	FBU948	9/5/2017	0.5	N	0.55 U	0.55 U	0.63 J	0.63 J	3.1	0.30 J	0.55 U	0.63 J	110	0.40 J	0.55 U	0.63 J	0.37 U	0.87 J	0.55 U	0.55 U	0.37 U	0.37 U
	NOZ-1-08	FBU949	9/5/2017	8.0	N	0.72 U	2.0	1.4	7.5	37	2.7	1.7	35	7.2	0.60 J	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
	NOZ-1-11.5	FBU950	9/5/2017	11.5	N	0.66 U	0.66 U	0.66 U	0.72 J	2.1	0.48 J	0.66 U	1.3	6.7 J	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	NOZ-1-FD	FBU951	9/5/2017	11.5	FD	0.72 U	0.72 U	0.72 U	0.66 J	1.8	0.72 U	0.72 U	1.3	4.8 J	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.48 U	0.48 U
NOZ-2	NOZ-2-0.5	FBU952	9/5/2017	0.5	N	7.8 U	7.8 U	7.8 U	5.8 J	16	7.8 U	7.8 U	7.8 U	**2000**	21	17	7.8 U	5.2 U	15	7.8 U	7.8 U	5.2 U	5.2 U
	NOZ-2-07	FBU953	9/5/2017	7.0	N	25	190	54	190	890	95	29	51	**910**	4.5 J	10 J	8.7 J	4.4 U	6.6 U	6.6 U	6.6 U	4.4 U	4.4 U
	NOZ-2-11.5	FBU954	9/5/2017	11.5	N	3.7	12	14	26	79	18	5.3	9.1	45	0.66 U	0.53 J	0.61 J	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
NOZ-3	NOZ-3-0.5	FBU955	9/5/2017	0.5	N	7.2 U	7.2 U	7.2 U	7.2 U	11 J	7.2 U	7.2 U	7.2 U	**500**	8.6 J	9.8 J	7.2 U	4.8 U	7.2 J	7.2 U	7.2 U	4.8 U	4.8 U
	NOZ-3-7.5	FBU956	9/5/2017	7.5	N	13	60	30	66	440	230	17	85	**1400**	75	30	8.4 J	3.8 U	5.8 U	5.8 U	5.8 U	3.8 U	3.8 U
	NOZ-3-13.5	FBU957	9/5/2017	13.5	N	3.6	11	9.8	45	130	100	7.8	79	4.4	0.65 J	0.60 U	0.60 U	0.40 U	0.60 U	0.60 U	0.60 U	0.40 U	0.40 U
AFFF AREA 14 Former Sewer Treatment Plant and Sludge Disposal Area																							
FWWTP-1	WWTP-1-1.0	FAT289	8/28/2017	1.0	N	0.24 J	0.60 U	0.53 U	0.41 J	0.40 J	0.53 U	0.30 J	1.8	1.9	0.53 U	0.53 U	0.53 U	0.17 J	0.53 U	0.53 U	0.53 U	0.40 U	0.40 U
	WWTP-1-10	FAT290	8/28/2017	10.0	N	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.44 U	0.66 U	0.66 U	0.66 U	0.44 U	0.44 U
	WWTP-1-16	FAT291	8/28/2017	16.0	N	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.52 U	0.78 U	0.78 U	0.78 U	0.52 U	0.52 U
FWWTP-2	WWTP-2-1.0	FAT292	8/28/2017	1.0	N	0.24 J	0.59 U	0.34 J	0.53 J	1.4	0.59 U	0.59 U	0.56 J	0.99	0.59 U	0.59 U	0.59 U	0.39 U	0.59 U	0.59 U	0.59 U	0.39 U	0.39 U
	WWTP-2-10	FAT293	8/28/2017	10.0	N	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.22 J	0.56 U	0.56 U	0.56 U	0.38 U	0.56 U	0.56 U	0.56 U	0.38 U	0.38 U
	WWTP-2-16	FAT294	8/28/2017	16.0	N	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.39 J	0.72 U	0.72 U	0.72 U	0.48 U	0.72 U	0.72 U	0.72 U	0.38 U	0.38 U

Notes:
Bolded, red font = Exceeds PAL
The PAL for PFOS and PFOA was derived from the U.S. EPA Superfund program's risk-based RSL calculator using a total hazard quotient of 0.1 (See **Section 1.1**).
The PAL for PFBS is the U.S. EPA Residential Soil RSL (U.S. EPA 2017) using a total hazard quotient of 0.1 (See **Section 1.1**)

Reference:
U.S. EPA. 2017. U.S. EPA Regional Screening Level (RSL) Summary Table (TR = 1E-06. HQ =1). June.

Definitions:
J = Estimated detect at concentration shown
N = Normal Field Sample
U = non-detect at reporting limit shown
UJ = Not detected, limit of detection approximate.
FD = Field Duplicate Sample
ft bgs = feet below ground surface
FTA = fire training area
ID = Identification
µg/kg = micrograms per kilogram
na = not applicable
PAL = project action limit
RSL = Regional Screening Level
U.S. EPA = United States Environmental Protection Agency

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Appendix F-2
Summary of PFAS Groundwater Analytical Results
Site Inspection of AFFF Usage
Travis Air Force Base, California

Analyte						Perfluorobutanoic acid (PFBA)	Perfluorobutane Sulfonate (PFBS)	Perfluoropentanoic Acid (PFPeA)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonate (PFHxS)	6:2 Fluorotelomer sulfonate	Perfluoroheptanoic Acid (PFHpA)	Perfluoro-n-Octanoic Acid (PFOA)	Perfluorooctane Sulfonate (PFOS)	Perfluorooctane Sulfonamide (PFOSA)	8:2 Fluorotelomer sulfonate	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonate (PFDS)	Perfluoroundecanoic Acid (PFUnA)	Perfluorododecanoic Acid (PFDoA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic Acid (PFTeDA)	PFOA + PFOS
				PAL:		na	40	na	na	na	na	na	0.07	0.07	na	na	na	na	na	na	na	na	na	0.07
Location ID	Sample ID	Lab Sample ID	Sample Date	Depth to GW (ft)[1,2,3]	Sample Type	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AFFF AREA 1 FT005 (Former FTA 4)																								
FT005-1	FT005-1-GW	FAT192	8/25/2017	12	N	2.6	4.7	11	27	51	2.9	5.5	**32**	**26**	0.78	0.62	0.26	0.10 U	0.10 U	0.10 U	0.10 U	0.10 UJ	0.10 UJ	**58.0**
FT005-2	FT005-2-GW	FAT193	8/25/2017	11.5	N	1.9	5.1	9.7	21	34	3.8	4.1	**11**	**3.3**	0.12 J	0.10 U	0.12 J	0.10 U	0.10 U	0.10 U	0.10 U	0.10 UJ	0.10 UJ	**14.3**
FT005-3	FT005-3-GW	FAT194	8/25/2017	11	N	0.011 J	0.020 J	0.033	0.071	0.17	0.0097 J	0.018 J	**0.093**	**0.072**	0.014 J	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.010 UJ	0.010 UJ	**0.2**
AFFF AREA 2 Current Fire Training Area																								
CFTA-1	CFTA-1-GW	FAT195	8/28/2017	18	N	0.049	0.079	0.058	0.12	0.60	0.054	0.033	0.062	**0.20**	0.0062 J	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 UJ	0.010 UJ	**0.3**
CFTA-2	CFTA-2-GW	FAT196	8/28/2017	17.5	N	0.37	0.89	0.91	2.6	5.5	2.9	0.26	**0.52**	**2.3**	0.041	0.0081 J	0.013 J	0.012 U	0.012 U	0.012 U	0.012 U	0.010 UJ	0.010 UJ	**2.8**
CFTA-3	CFTA-3-GW	FAT197	8/28/2017	19	N	0.31	1.1	1.0	1.3	4.2	0.13	0.25	**0.22**	**1.2**	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.010 UJ	0.010 UJ	**1.4**
CFTA-GW-1	CFTA-GW-1	FAT190	8/25/2017	15.23	N	0.28	0.61	0.56	1.3	2.9	0.89	0.14 J	**0.28**	**0.60**	0.010 UJ	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 UJ	0.010 UJ	**0.88**
AFFF AREA 3 Hangar (Building 811)																								
811-1	B811-1-W10	FBV278	8/31/2017	10	N	0.47	0.43	0.81	2.3	4.1	5.0	0.27	**0.49**	**5.8**	0.019 J	0.060	0.024 J	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	**6.29**
811-2	B811-2-W10	FBV279	8/31/2017	10	N	0.044	0.10	0.096	0.4	1.5	0.012 J	0.055	**0.11**	**0.36**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.47**
AFFF AREA 4 Fire Station 1																								
FS1-1	FS1-1-W10	FBV062	8/28/2017	10	N	0.11	0.084	0.19	0.26	1.3	0.0053 J	0.12	**0.27**	**0.6**	0.010 U	0.010 U	0.087	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.87**
FS1-2	FS1-2-W10	FBV063	8/31/2017	15.0	N	0.32	0.54	1.1	1.7	4.0	0.069	0.49	**0.86**	**0.96**	0.020 U	0.020 U	0.062	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	**1.82**
FS1-3	FS1-3-W10	FBV064	8/31/2017	15.0	N	0.54	1.3	1.7	2.8	8.5	2.6	0.62	**0.87**	**28**	0.010 U	0.58	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**28.9**
AFFF AREA 5 Fire Station 2																								
FS2-1	FS2-1-W16	FBV096	9/1/2017	15.7	N	12	31	24	63	190	76	8.9	**22**	**690**	0.88 J	6.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**712**
FS2-2	FS2-2-W10	FBV095	9/1/2017	10.2	N	5.8	12	16	33	68	55	5.7	**23**	**340**	3.6	31	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**363**
FS2-3	FS2-3-W11	FBV094	9/1/2017	11.3	N	5.5	12	12	40	76	37	4.9	**29**	**410**	9.6	8.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**439**
AFFF AREA 6 Fire Station 4																								
FS4-1	FS4-1-W09	FBV086	9/1/2017	9.0	N	0.44	0.79	1.1	2.1	6.6	1.6	0.60	**0.72**	**17**	0.026 J	0.49	0.096 J	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	**17.72**
FS4-2	FS4-2-W11	FBV088	9/1/2017	10.8	N	0.53	1.1	1.2	2.7	9.3	1.0	0.56	**0.75**	**32**	0.040 J	0.38	0.059 J	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	**32.75**
	FS4-2-WFD	FBV089	9/1/2017	10.8	FD	0.53	0.99	1.1	2.6	9.3	1.1	0.55	**0.80**	**30**	0.030 J	0.34	0.066 J	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	**30.80**
FS4-3	FS4-3-W12	FBV087	9/1/2017	11.5	N	0.35	0.57	0.77	1.3	4.3	0.70	0.38	**0.46**	**9.2**	0.025 J	0.33	0.047	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	**9.66**
AFFF AREA 7 1982/1983 C-5 Crash																								
82/83 C5-1	82/83 C5-1-W13	FBV256	9/3/2017	13	N	0.12	0.17	0.15	0.23	0.97	0.29	0.071	**0.091**	**1.2**	0.010 U	0.0098 J	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**1.29**
	82/83 C5-1-WFD	FBV257	9/3/2017	13	FD	0.11 J	0.14	0.15	0.23	0.87	0.28	0.077	**0.091**	**1.1**	0.010 U	0.011 J	0.014 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**1.19**
82/83 C5-2	82/83 C5-2-W12	FBV258	9/3/2017	12	N	0.036	0.083	0.066	0.11	0.42	0.0054 J	0.019 J	0.038	**0.20**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.24**
82/83 C5-3	82/83 C5-3-W13	FBV259	9/3/2017	13	N	0.052	0.058	0.094	0.17	0.69	0.010 U	0.10	**0.10**	**0.35**	0.010 U	0.010 U	0.014 J	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.45**
AFFF AREA 8 1986 C-141B Accident																								
86C141B-1	86C141B-1-W10	FBV240	9/1/2017	9.8	N	0.35	0.21	0.058	0.078	1.5	0.049	0.043	**0.12**	**3.1**	0.012 J	0.040	0.015 J	0.010 U	0.010 U	0.010 U	0.010 U	0.10 U	0.10 U	**3.22**
AFFF AREA 9 1988 C-5 Fire																								
88C5-1	88C5-1-W06	FBU972	9/4/2017	6.1	N	0.11	0.21	0.26	0.65	1.70	0.24	0.12	**0.25**	**0.23**	0.0044 J	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.48**
88C5-2	88C5-2-W6.0	FKI089	10/23/2017	5.8	N	0.59 J	2.8	2.9	8.2	15	0.061	1.6	**3.0**	**0.76**	0.020 U	0.020 U	0.026 J	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	**3.76**
	88C5-2-WFD	FKI090	10/23/2017	5.8	FD	1.2 J	2.8	2.9	8.5	17	0.053	1.4	**3.0**	**0.80**	0.020 U	0.020 U	0.023 J	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	**3.80**
88C5-3	88C5-3-W06	FBU971	9/4/2017	6.1	N	0.29	0.70	0.78	2.10	4.50	0.088	0.41	**0.88**	**0.71**	0.010 U	0.010 U	0.026	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**1.59**

Appendix F-2
Summary of PFAS Groundwater Analytical Results
Site Inspection of AFFF Usage
Travis Air Force Base, California

Location ID	Sample ID	Lab Sample ID	Sample Date	Depth to GW (ft)[1,2,3]	Sample Type	Analyte	Perfluorobutanoic acid (PFBA)	Perfluorobutane Sulfonate (PFBS)	Perfluoropentanoic Acid (PFPeA)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonate (PFHxS)	6:2 Fluorotelomer sulfonate	Perfluoroheptanoic Acid (PFHpA)	Perfluoro-n-Octanoic Acid (PFOA)	Perfluorooctane Sulfonate (PFOS)	Perfluorooctane Sulfonamide (PFOSA)	8:2 Fluorotelomer sulfonate	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonate (PFDS)	Perfluoroundecanoic Acid (PFUnA)	Perfluorododecanoic Acid (PFDoA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic Acid (PFTeDA)	PFOA + PFOS
						PAL:	na	40	na	na	na	na	na	0.07	0.07	na	na	na	na	na	na	na	na	na	0.07
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AFFF AREA 10 Late 1980s C-141B Crash																									
Late80s-1	Late80s-1-W09	FBU988	9/4/2017	9.4	N		0.34	0.93	0.68	1.1	5.7	0.13	0.29	**0.37**	**8.1**	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	**8.47**
Late80s-2	Late80s-2-W09	FKH906	10/23/2017	8.9	N		0.13	0.25	0.27	0.33	1.7	0.10 U	0.12	**0.17**	**2.4**	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.10 U	0.10 U	**2.57**
Late80s-3	Late80s-3-W11	FBU989	9/4/2017	11.1	N		0.14	0.18	0.12	0.22	1.3	0.010 U	0.063	**0.15**	**2.1**	0.010 U	0.010 U	0.0048 J	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**2.25**
Late80s-4	Late80s-4-W13	FKH907	10/23/2017	12.7	N		0.16 J	0.24	0.18	0.33	1.4	0.010 U	0.083	**0.11**	**1.4**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**1.51**
AFFF AREA 11 2001 Aircraft Crash																									
2001Crash-3	2001Crash-3-W08	FBV025	9/3/2017	9.0	N		0.010 U	0.033	0.015 J	0.032	0.19	0.010 U	0.0075 J	0.021	**0.12**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.14**
2001Crash-4	2001Crash-4-W12	FBV023	9/3/2017	12.0	N		0.043	0.010 J	0.013 J	0.025	0.060	0.0053 J	0.0080 J	0.018 J	**0.088**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.106**
	2001Crash-4-WFD	FBV024	9/3/2017	12.0	FD		0.044	0.0087 J	0.013 J	0.027	0.061	0.0051 J	0.0084 J	0.021	**0.10**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.12**
AFFF AREA 12 2014 E75 Air Show Crash																									
2014E75-1	2014E75-1-W12	FBV051	9/4/2017	12.5	N		0.19	0.047	0.055	0.091	0.63	0.010 U	0.036	**0.12**	**0.83**	0.010 UJ	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 UJ	0.010 U	0.010 U	**0.95**
2014E75-2	2014E75-2-W11	FBV050	9/4/2017	11.5	N		0.010 U	0.12	0.093	0.16	1.2	0.010 U	0.058	**0.20**	**0.82**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**1.02**
2014E75-3	2014E75-3-W13	FKH860	10/23/2017	14.0	N		0.088	0.065	0.045	0.062	0.81	0.0090 U	0.026	**0.12**	**1.0**	0.0090 U	0.0090 U	0.0090 U	0.0090 U	0.0090 U	0.0090 U	0.0090 U	0.0090 U	0.0090 U	**1.12**
AFFF AREA 13 Nozzle Spray Test Area (900 Ramp)																									
NOZ-1	NOZ-1-W14	FBU960	9/5/2017	13.9	N		0.43	1.5	0.98	3.0	6.3	2.4	0.40	**1.4**	**30**	0.23	0.59	0.026 J	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	**31.4**
NOZ-2	NOZ-2-W16	FBU959	9/5/2017	15.6	N		4.1	13	15	29	52	8.2	4.4	**2.4**	**7.4**	0.13 J	0.13 J	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	**9.8**
NOZ-3	NOZ-3-W15	FBU958	9/5/2017	14.8	N		25	**140**	70	150	660	160	23	**88**	**200**	3.0	0.92 J	1.8 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**288**
AFFF AREA 14 Former Sewer Treatment Plant and Sludge Disposal Area																									
FWWTP-1	WWTP-1-GW	FAT198	8/28/2017	18	N		0.012 J	0.0070 J	0.0085 J	0.011 U	0.013 J	0.011 U	0.011 U	0.011 U	0.010 J	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.010 UJ	0.010 UJ	0.010 J
FWWTP-2	WWTP-2-W10	FBV035	8/28/2017	10	N		0.010 J	0.026	0.025	0.025	0.17	0.010 U	0.0064 J	0.017 J	0.058	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.075**
FWWTP-GW-1	WWTP-GW-1	FAT191	8/25/2017	13.27	N		0.024	0.027	0.019 J	0.024	0.17	0.010 U	0.017 J	0.043	**0.15**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 UJ	0.010 UJ	**0.193**

Notes:
1. Depth to water presented for permanent wells was measured during gauging events prior to purging.
2. Depths to water measured in feet below top of casing for permanent wells and in feet below ground surface for temporary wells.
3. Measuring point surveyed to the North American Vertical Datum 1988.

Bolded, red font = Exceeds PAL
The PAL for PFOA, PFOS, and the sum of PFOA and PFOS is the U.S. EPA lifetime drinking water Health Advisory (U.S. EPA 2016a, b, and e)
The PAL for PFBS is the U.S. EPA Tapwater Regional Screening Level (U.S. EPA 2017), using a total hazard quotient of 0.1

Definitions:
µg/L = micrograms per liter
FD = Field Duplicate Sample
FTA = fire training area
ft btoc = feet below top of casing
ID = Identification
J = Estimated detect at concentration shown
N = Normal Field Sample
na = not applicable
PAL = project action limit
U = non-detect at reporting limit shown
UJ = Not detected, limit of detection approximate.
U.S. EPA = United States Environmental Protection Agency

References:
U.S. EPA. 2017. U.S. EPA Regional Screening Level (RSL) Summary Table (TR = 1E-06. HQ =0.1). June.

Appendix F-3
Summary of PFAS Sediment Analytical Results
Site Inspection of AFFF Usage
Travis Air Force Base, California

Analyte						Perfluorobutane Sulfonate (PFBS)	Perfluoro-n-Octanoic Acid (PFOA)	Perfluorooctane Sulfonate (PFOS)
					PAL:	130,000	126	126
Location ID	**Sample ID**	**Lab Sample ID**	**Sample Date**	**Sample Depth (ft bgs)**	**Sample Type**	µg/kg	µg/kg	µg/kg
AFFF AREA 3 Hangar Building 811								
811-SED-1	B811-SED-1	FBV274	8/30/2017	0.5	N	0.66 UJ	0.66 UJ	4.3 J
811-SED-1	B811-SED-FD	FBV275	8/30/2017	0.5	FD	0.58 UJ	0.58 UJ	8.7 J
AFFF AREA 6 Fire Station 4								
FS4-SED-1	FS4-SED-1	FBV090	9/1/2017	0.5	N	0.66 U	0.66 U	8.4
AFFF AREA 14 Former Sewer Treatment Plant and Sludge Disposal Area								
WWTP-SED-1	WWTP-SED-1	FCA711	9/5/2017	0.5	N	2.0 U	1.6 J	62
AFFF AREA 15 Outfall #1								
Outfall1-SED-1	Outfall1-SED-1	FCA714	9/5/2017	0.5	N	1.6 U	3.2	55
AFFF AREA 16 Outfall #2								
Outfall2-SED-1	Outfall2-SED-1	FCA713	9/5/2017	0.5	N	0.96 U	1.1 J	68
AFFF AREA 17 South Groundwater Treatment Plant								
SBBGWTP-SED-1	SBBGWTP-SED-1	FCA712	9/5/2017	0.5	N	1.0 U	1.8	25

Notes:

Bolded, red font = Exceeds PAL

The PAL for PFOS and PFOA was derived from the U.S. EPA Superfund program's risk-based RSL calculator using a total hazard quotient of 0.1 (See **Section 1.1**).

The PAL for PFBS is the U.S. EPA Residential Soil RSL (U.S. EPA 2017) using a total hazard quotient of 0.1

Definitions:

µg/kg = micrograms per kilogram
FD = Field Duplicate Sample
FTA = fire training area
ft bgs = feet below ground surface
ID = Identification
J = Estimated detect at concentration shown
N = Normal Field Sample
na = not applicable
PAL = project action limit
RSL = Regional Screening Level
U = non-detect at reporting limit shown
UJ = Not detected, limit of detection approximate.
U.S. EPA = United States Environmental Protection Agency

Reference:

U.S. EPA. 2017. U.S. EPA Regional Screening Level (RSL) Summary Table (TR = 1E-06. HQ =0.1). June.

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Appendix F-4
Summary of PFAS Influent/Effluent Analytical Results
Site Inspection of AFFF Usage
Travis Air Force Base, California

Analyte					Perfluorobutanoic acid (PFBA)	Perfluorobutane Sulfonate (PFBS)	Perfluoropentanoic Acid (PFPeA)	Perfluorohexanoic Acid (PFHxA)	Perfluorohexane Sulfonate (PFHxS)	6:2 Fluorotelomer sulfonate	Perfluoroheptanoic Acid (PFHpA)	Perfluoro-n-Octanoic Acid (PFOA)	Perfluorooctane Sulfonate (PFOS)	Perfluorooctane Sulfonamide (PFOSA)	8:2 Fluorotelomer sulfonate	Perfluorononanoic Acid (PFNA)	Perfluorodecanoic Acid (PFDA)	Perfluorodecane Sulfonate (PFDS)	Perfluoroundecanoic Acid (PFUnA)	Perfluorododecanoic Acid (PFDoA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic Acid (PFTeDA)	PFOA + PFOS
				PAL:	na	40	na	na	na	na	na	0.07	0.07	na	na	na	na	na	na	na	na	na	0.07
Location ID	Sample ID	Lab Sample ID	Sample Date	Sample Type	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AFFF AREA 17 Southern Groundwater Treatment Plant																							
SBBGWTP-IN-1	SGTP-INFLUENT	FTS473	12/13/2017	N	0.22	0.42	0.59	1.5	3.8	0.27	0.28	**1.6**	**1.2**	0.010 U	0.015 U	0.020	0.015 U	0.015 U	0.010 U	0.010 U	0.010 U	0.010 U	**2.8**
SBBGWTP-EF-1	SGTP-EFFLUENT	FTS474	12/13/2017	N	0.25	0.36	0.54	1.3	2.3	0.15	0.23	**0.86**	**0.52**	0.010 U	0.015 U	0.011 J	0.015 U	0.015 U	0.010 U	0.010 U	0.010 U	0.010 U	**1.38**

Notes:
Bolded, red font = Exceeds PAL
The PAL for PFOA, PFOS, and the sum of PFOA and PFOS is the U.S. EPA lifetime drinking water Health Advisory (U.S. EPA 2016a, b, and e)
The PAL for PFBS is the U.S. EPA Tapwater Regional Screening Level (U.S. EPA 2017)

Reference:
U.S. EPA. 2017. U.S. EPA Regional Screening Level (RSL) Summary Table (TR = 1E-06. HQ =0.1). June.

Definitions:
µg/L = micrograms per liter
ID = Identification
J = Estimated detect at concentration shown
N = Normal Field Sample
na = not applicable
PAL = project action limit
RSL = Regional Screening Level
U = non-detect at reporting limit shown
U.S. EPA = United States Environmental Protection Agency

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