Travis Air Force Base
Environmental Restoration Program
Restoration Advisory Board (RAB) Meeting

Meeting Minutes

18 April 2019

I. Welcome and Introduction

Mr. Lonnie Duke, the Restoration Program Manager, called to order the regular meeting of the **Travis AFB RAB** at **7 pm** on **18 April 2019** in the **classroom at the Northern Solano County Association of Realtors office**. General introductions were made. Mr. Duke thanked the USACE Omaha District, the regulatory agency representatives, RAB members, and the public participants for attending. Mr. Duke introduced Mr. Brian Boccellato, the new project geologist from the United States Army Corps of Engineers (USACE); Mr. Alejandro Vivas from the California Department of Toxic Substances Control; Mr. Andrew Nelson, the new civilian deputy Mission Support Group commander; and Mr. Brian Sassaman, formerly of the Mission Support Group, and now with the Air Force Civil Engineer Center.

Roll Call

The following RAB members were present:

Name	Affiliation	Present
Col Victor Beeler	USAF, Travis AFB (Air Force Co-Chair)	
Lt Col Robert C. Baird	USAF, Travis AFB (Air Force Co-Chair)	✓
John 'Tom" Dunn	Suisun City Resident (Air Force Representative)	
David Marianno	Suisun City Resident (Community Co-Chair)	✓
Nadia Hollan Burke	U.S. Environmental Protection Agency (EPA)	✓
Adriana Constantinescu	SF Bay Regional Water Quality Control Board	✓
John Foster	City of Fairfield Representative	
Mike Reagan	Travis Regional Armed Forces Committee	✓
Ben Fries	Dept. of Toxic Substances Control (DTSC)	✓
Dominique Forrester	Dept. of Toxic Substances Control (DTSC)	
Jim Dunbar	City of Fairfield Representative	
David M. Feinstein	Principal Planner, City of Fairfield	
Gale Spears	Communications Director, City of Fairfield	✓
Thomas Randall	Air Mobility Command Civic Leader	✓
Mark Pennington	Principal, Scandia Elementary School	
Pat Shamansky	Travis AFB Honorary Commander	✓
George Hicks	Dept. of Public Works City Hall	

W.T. Jeanpierre	American Legion	✓
Debi Tavey	President, FF-SS Chamber of Commerce	

Public Members present:

- Bill Cumberland — Citizen

Agencies and Contractors present:

- Glenn Anderson — Travis AFB AFCEC/CZOW
- Lonnie Duke — Travis AFB AFCEC/CZOW
- Milton 'Gene' Clare — Travis AFB AFCEC/CZOW
- Angel Santiago — Travis AFB AFCEC/CZOW
- Merrie Schilter-Lowe — Travis AFB AMW/PA
- Mike Riggle — USACE Omaha
- Brian Boccellato — USACE Omaha
- Alejandro Vivas — DTSC
- Andrew Nielsen — Travis AFB/MSG
- Brian Sassaman — AFCEC
- Jill Dunphy — CH2M /Jacobs
- Jeannette Cumberland — CH2M/Jacobs

II. Approval of minutes from last meeting

The 2018 RAB Meeting minutes were approved as written.

III. Additional Agenda Items and Questions

Mr. Duke asked if there are any questions about the agenda or if anyone had any additional items not already on the agenda. He stated that there will be opportunity at the end of the meeting to add agenda items or ask questions.

IV. Discussion Topics

a) **2018/2019 Field Activities**

Mr. Duke introduced Mr. Gene Clare, the Environmental Restoration Program's Field Team Manager and Safety Manager. Mr. Clare noted that he is part of the team that helps the program keep track of, and protect, assets in the field. He introduced Mr. Angel Santiago as his mentor and partner in this effort.

There have been two cleanup actions (Sites SS046 and SD043) and one investigation (Building 18 at Site SS016) conducted during late 2018 and into early 2019, and one proposed investigation (Building 554) planned for sometime within the next year.

Site SS046 is the Railhead Munitions Staging Area that served as a weapons handling facility from 1953 through 1962. Surface soil at the site is contaminated with metals (lead and arsenic) and polycyclic aromatic hydrocarbons (found in asphalt). The Record of Decision for this site selected Land Use Controls as the remedy at this location, but a 2016 Data Gap Investigation identified only five small locations that required cleanup. Four of the locations were deemed acceptably cleaned up and one required resampling after a surface scrape of soil. One location required a 10 foot by 10 foot by 7 foot deep excavation. This work was done in the rainy season, and the mud and wet conditions created challenges. All excavated soil was deposited into roll-off bins and shipped offsite for disposal at an approved facility. The final report for this site is being prepared, after which, upon approval, the site will be considered closed.

Building 916 at Site SD043 is the Emergency Power Facility. A leaking transformer next to the building contaminated the nearby soil with polychlorinated biphenyls (PCBs). The Record of Decision for this site selected Land Use Controls as the remedy at this location, but a 2016 Data Gap Investigation identified a small area that required excavation. The high voltage electrical line connecting the building to a hangar was depowered and an underground gas line was shut off prior to any work. Two rounds of excavation were necessary in order to achieve the cleanup levels. All excavated soil was placed in roll-off soil bins for disposal. The final report for this site is being prepared after which, upon approval, the site will be considered closed.

Finally, Mr. Clare discussed some vapor intrusion research being conducted at Travis AFB by the Environmental Security Technology Certification Program (ESTCP). This program is a joint venture between the Department of Defense, the Environmental Protection Agency, and the Department of Energy. They, in conjunction with Arizona State University, will be conducting a vapor intrusion research study at Travis AFB, in order to gain a better understanding of the relationship between building parameters and the potential for vapor intrusion. The research was conducted at Building 18 near the proposed new 3-bay KC-46 Hangar. Building 18 is an old jet engine cleaning plant where chlorinated solvents were used for degreasing activities. The building is now used for storage. There is a plume of chlorinated solvents in the groundwater beneath a portion of the building. These dissolved solvents are released from groundwater to the air in between soil particles by a process known as offgassing, and can find their way into the building above. This is called vapor intrusion.

Land use controls are in place at Building 18; there is a sign on the door saying that no occupancy is allowed, with a phone number for more information.

The Controlled Pressure Monitoring Program analyzed vapor intrusion issues at both Travis AFB and Beale AFB. Battery-operated passive sampling appliances were left at

predetermined locations throughout the building. Over the course of 24 days, a suction device controlled by a timer pulls in a set amount of air into a thermal desorption tube every 90 minutes for a full representative sample. A second sampling appliance pulls in discrete samples into individual thermal desorption tubes once every day. The tubes are then sent off to the laboratory for volatile organic compound (VOC) analysis.

Active sampling was also conducted. This involved depressurizing and repressurizing the building over the course of two days. On the first day, the building was depressurized by sucking all the air out of it with a fan to pull in contaminated vapors from the underlying groundwater plume through cracks, underground utility corridors, and other vulnerabilities in the foundation and walls. VOC concentrations in the air were analyzed using a portable gas chromatogram (GC). The portable GC was also able to record concentrations of contaminants in ambient air. The researcher also collected discreet samples from locations around the building into air sampling bags. On the second day, the building was repressurized by pulling air into the building and stifling those vapor intrusion pathways.

Draft results were received and are still being evaluated. Overall results from the active sampling indicate that the VOC concentrations in the ambient air around the building are low. When the building was depressurized, high concentrations of VOCs were detected inside, indicating that there is a source of indoor air contamination, either from what is coming in from the outside through cracks and fissures in the building (in particular, along utility trenches and pipes, where the backfill may be less tightly packed than in surrounding native soil), or what is already inside the building. When the building is repressurized, the concentrations drop, confirming that the source of vapor intrusion is from outside.

Results from the passive sampling show midrange concentrations of VOCs, which exceed the allowable concentrations for humans occupying the building for 8 hours per day. The LUCs that are in place are appropriate and will remain. The building is safe for use as a storage facility, and the concentrations are not dangerous for the short amount of time that anyone will be inside to retrieve stored items. This building will likely be demolished once construction on the KC-46 hangar starts.

The research organization proposed returning to perform similar tests on building 554 at Site SS015, to quantify how the passive venting system is performing.

The risk for vapor intrusion was considered in the design of the new hangar. No office spaces will be built over where there is high likelihood of a vapor intrusion issue, it will mostly be open bay aircraft space. Utility piping backfill will utilize a tighter clay to prevent vapor intrusion along these typical pathways. A vapor barrier will be utilized under the concrete slab, and sampling ports will allow the Air Force to collect gas from underneath the hangar to determine if there may be a potential

for vapors to migrate into the workspace. Although the office spaces will be further upgradient from the source, the buildings will be built with a vapor barrier as well as a convertible passive venting system, which can be activated if vapor intrusion threatens the office spaces.

Ms. Shamansky asked if any nearby buildings have been affected by the vapor intrusion. Mr. Duke replied that Building 16 is nearby, and similar but different tests were completed several years ago, and no vapor intrusion issue was noted. The groundwater plume is traveling away from this area, and the bioreactor and emulsified vegetable oil is treating the source.

Mr. Clare concluded by reminding the attendees that he and Mr. Santiago are available for site tours if anyone would like to see any of the ongoing or completed field work.

b) **Perfluorinated Compounds Program**. Mr. Duke presented information on the Air Force's Perfluorinated Compounds (PFCs) program.

- Perfluorooctane sulfonate and Perfluorooctanoic acid (PFOS/PFOA) are synthetic perfluorinated compounds (PFCs) used in many industrial and consumer products, including non-stick cookware, waterproof fabric, food packaging, and the firefighting agent Aqueous Film Forming Foam (AFFF, or "A-triple-F"). AFFF is very effective at extinguishing petroleum fires resulting from aircraft crashes.
- PFOS/PFOA and other PFCs are known as the "forever chemicals" because they don't readily break down in the subsurface due to strong chemical bonds. They are considered an emerging contaminant of concern because they have reasonable pathways to reach drinking water sources, present an unacceptable risk to human health, and the regulatory standards are still evolving. EPA issued provisional health advisories for PFOS/PFOA in 2009, followed by a lifetime health advisory (LHA) of 70 parts per trillion for drinking water.
- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process is a thorough process that will govern the investigation and cleanup of these sites. It is a step by step process that provides accountability and allows for community involvement in the decision-making process.
- The Air Force is using a three-step approach for dealing with PFOS/PFOA contamination: identifying potential areas of PFC contamination, responding appropriately, and preventing future contamination.

- Drinking water sources where PFC concentrations exceed the LHA are receiving bottled water. Areas where it has been detected, but do not exceed the LHA, are being monitored to ensure that concentrations don't increase.
- Drinking water for Travis AFB comes from Lake Berryessa and the Sacramento River Delta; it is treated at the Vallejo Treatment Plant before being delivered to homes at Travis AFB. AFFF was not used near these areas. Occasionally during short times of maintenance, the base receives well water, but it comes from approximately 5 miles upgradient. These wells are approximately 1,000 feet deep, are tested every year, and have always been non-detect for PFCs.
- The Water Board and EPA have requested that the Air Force look into potential impacts in any downgradient agricultural wells and off-base residences.
- Water can be treated for PFCs using granulated activated carbon, but it is expensive. Additional treatment methods are being studied to identify a less expensive, better, and faster treatment method than GAC.
- A Preliminary Assessment (historic records search, interviews, and records of air craft incidents where AFFF was used) was conducted at Travis AFB in 2015.
- Groundwater, soil, and sediment sampling for a Site Inspection (SI) took place during Summer 2017. Results showed that while PFOS and PFOA are present at Travis AFB, drinking water is NOT impacted, and impacted groundwater is not used for irrigation. The results of the SI also determined that a Remedial Investigation is warranted; this is the next step in the CERCLA process. The worst cases will receive funding first, and there are other bases where drinking water was impacted.
- Only two hangars at Travis AFB used AFFF; it was stored in tanks and was present in the pumps used to extinguish fires. Those hangars have been retrofitted and are now using high expansion foam. The fire trucks now have a recovery system for when the trucks and equipment are tested.
- There is no regulated standard for PFOS/PFOA cleanup yet. Once a process is defined, the Air Force will follow that process. There is no promulgated cleanup standard yet, and cleanup can't be planned until the extent is defined in the forthcoming Remedial Investigation. Sites where drinking water has been impacted will be given a higher priority for cleanup funds than Travis AFB, where it has not been detected in drinking water.
- An entire new branch of AFCEC has been established for concerns related to AFFF and other PFCs.
- The State of California has asked 31 commercial airports and over 100 landfills to sample for PFCs.

- More information about PFOS/PFOA is available at the Air Force Civil Engineer Center website (www.afcec.af.mil/WhatWeDo/Environment/Perfluorinated-Compounds), the EPA website (www.epa.gov/), and the Agency for Toxic Substances and Disease Registry website (www.atsdr.cdc.gov/)

V. Cleanup Program Status

Mr. Duke discussed some of the ongoing progress being made in the cleanup program. This isn't an exhaustive list of documents and field work, but highlights what we have been busy with lately.

- The following CERCLA documents are in progress:
  - Community Relations Plan Update: still in progress; there are other higher-priority documents that must be completed in order to facilitate field work, but we will complete this document later in 2019.
  - Amendment to the NEWIOU Soil, Sediment and Surface Water Record of Decision: in progress for some time, had to be reviewed by Air Force attorneys and we are now reaching the finish line. This document will allow us to remove approximately 100 cubic yards of soil near Building 18, as well as a few other small pockets of soil contamination that fall within the footprint of the proposed KC-46 hangar.
  - Addendum to the SS016 Remedial Design Remedial Action Work Plan: a horizontal injection well that feeds the bioreactor must be relocated because it falls within the proposed footprint of the KC-46 hangar. This work is creating the opportunity to increase the yield for the well.
  - Site SD031 Remedial investigation and Feasibility Study (RI/FS): this is for an area by Building 1205, where we did additional investigation to identify soil contamination contributing to groundwater contamination. Those data are being rolled into the RI, and the FS will allow us to determine ways that we can clean up the soil. The actual cleanup will likely take place under the next contract.
  - No Further Action Record of Decision for the old skeet range: This should be complete and out for signature in the next few weeks. This will close two sites (TS060 and TS060A). One site was contaminated with lead, the other with PAHs from the clay pigeon binder.
  - Technical memorandum reporting the results of the data gap investigation at Site SS016; this is to clean up soil where the new hangar is proposed before construction begins.

- Fourth Five-Year Review: The five-year review is a process where an independent contractor looks at the remedial work that's been done and makes statements about how well the remedies are functioning, and if they are still protective of human health and the environment. We are making progress on this document; there is a lot of information contained within. The next five-year review will take place in 2023.
- Annual Groundwater Remediation Implementation Status Report (GRISR): This is the annual two-volume report on groundwater elevations and contaminant concentrations from monitoring wells across the base. This document functions as a report card for the base, includes site by site discussions about trends in the data, and makes recommendations for any work necessary.
- Sites SS043 and SS046 Remedial Action Completion Reports: These will document what soil cleanup work was done and what action levels were met. This formally recognizes that the work has been done.
- Corrective Action Management Unit (CAMU) Annual Inspection Report: There is a repository of soil from various site cleanup actions that has been consolidated and capped. The CAMU is located near the firing range and is fenced off. The cap is inspected every month to ensure that there is no settling or cracks or other issues. It is built on an old landfill, so the site was already restricted in its use

- Documents for several petroleum sites are ongoing:
  - Site SS014 Subsites 2, 4 and 5 Closure Evaluation Report: Petroleum hydrocarbons leaked from the fuel hydrasystem infrastructure. We have cleaned up that contamination at two of these sites and need to document it.
  - FT004 Fire Training Area Work Plan: Petroleum hydrocarbon contamination has been observed in soil in a few isolated areas. This will document how we plan to clean it up.
- The following field work is in progress or planned for the near future:
  - Groundwater Remediation Implementation Program: This is when the data for the annual GRISR are collected from wells across the base. About 350 wells are sampled as part of this effort. Groundwater elevations are also recorded.
  - Well installation at Site SD034: One well will replace one that is not working properly. The other will allow us to increase oxygen circulation in one of our remediation systems in order to encourage increased microbial decomposition of the contaminants. A well collar on an existing

extraction well must also be replaced with a stronger concrete that can withstand flightline activity.

- Site SS016: We will be excavating contaminated soil in the area that falls within the proposed footprint of the KC-46 hangar

- Once we confirm the field schedule, we will let the RAB know. If you would like a tour of ongoing fieldwork at the base, please contact me, or Glenn Anderson, Gene Clare, or Angel Santiago, and we can arrange individual tours as requested.

Glenn Anderson noted that the Guardian newsletter will only be produced twice next year (April 2020 and October 2020) while the Performance Based Contract (PBC) ramps down, and the Optimized Remediation Contract (ORC) ramps up. Due to the transition, there won't be much to report on during that time, so it doesn't make sense to produce four newsletters. The April newsletter will announce the 2020 RAB Meeting, and the October newsletter will focus on any field work that is accomplished during the 2020 field season. Again, there won't be much work due to the transition between the PBC and ORC. We anticipate that once the ORC is in place, there will be more to talk about as well as a new newsletter editor. We will work to ensure that the quality of the newsletters is maintained.

VI. Regulatory Agency Reports

Mr. Alejandro Vivas, a Public Participation Specialist from DTSC, introduced himself. He announced that DTSC regulates several permits for environmental work throughout Travis AFB, and that two of these permits will be up for renewal in the next month or so. These are hazardous waste facility permits for Building 2 and Storage Facility 1365. These permits allow substances such as spent fuel, oil, lubricants, and sealants to be stored on-base for up to a year, but then must be transported to off-base hazardous waste facilities. DTSC will announce a public comment period to involve on- and off-base residents in the decision-making process. A Community Update will be sent out in late May or early June, and a notice will be put in the local newspapers, announcing the public comment period and public meeting. We will also be conducting community interviews in the next month or so.

Ms. Nadia Burke with the United States Environmental Protection Agency introduced herself. She noted that the Five-Year Review, mentioned earlier, was an exhaustive review of all remedies in place at Travis AFB, and looked at risk numbers to ensure that they are still protective of public health and the environment. She said that the EPA was required to issue a protectiveness statement. The findings of the review indicated that all remedies maintain their protectiveness in the short term, but the EPA requested that the Air Force look into two issues that may be problematic in the long term. One is the PFC issue discussed earlier, where the data needed to determine risk and protectiveness have not yet been collected because the investigation is still in its early phase. The other is a potential vapor intrusion issue at a building where a passive vapor barrier has already been installed. The EPA needs assurance that this vapor barrier is working since

it was installed several years ago, and there have been significant advances in the amount of information we have about vapor intrusion during that time.

Ms. Adriana Constantinescu introduced herself as an engineering geologist with the San Francisco Bay Water Board, which oversees cleanup of groundwater plumes. She gave a briefing on the state-wide efforts dealing with the PFC issue. On March 6, The State Water Resources Control Board held a public meeting, presenting the State of California's action plan for dealing with PFCs. It proposes a phased investigation approach. The first phase includes groundwater testing at 31 commercial airports and more than 100 landfills. Water Board Orders went out to these facilities on March 20; work plans are due within 60 days and reports are due within 90 days. The second phase includes facilities that manufactured PFCs, and areas where PFC fire-fighting foam may have been used to fight wildfires. The third phase will include more than 100 sources of drinking water. All data are to be collected within 2019 and will be evaluated in 2020 so that the State Water Board can develop appropriate standards and revise notification levels. Interim statewide notification levels are lower than the federal standard. Additional information can be found at www.waterboards.ca.gov/PFAS.

VII. Focus Group Reports

Mr. Duke thanked John Foster and the technical focus group for their continued support in reviewing documents, noting that Mr. Foster reads every document we send out, and often provides thoughtful comments from the public's perspective.

VIII. RAB/Public Questions

There were no RAB or public comments or questions.

IX. Set Date and Place for Next RAB Meeting

The next RAB Meeting is scheduled for **16 April 2020** at the office of the Northern Solano County Association of Realtors in Fairfield.

X. Adjournment

Mr. Duke adjourned the meeting at **9:05 pm**.

Minutes submitted by: Jill Dunphy, CH2M