# Travis Air Force Base Environmental Management Building 570, Travis AFB, California Environmental Restoration Program Remedial Program Managers Meeting Minutes

### 15 August 2007, 0930 Hours

Mr. Mark Smith, Travis Air Force Base (AFB), conducted the Remedial Program Managers (RPM) meeting on 15 August 2007 at 0930 in the Environmental Flight Conference Room, Building 570, Travis AFB, California. Attendees included:

•	Mark Smith	Travis AFB
•	Lonnie Duke	Travis AFB
•	Wilford Day	Travis AFB
•	Glenn Anderson	Travis AFB
•	Glenn Kistner	U.S. Environmental Protection Agency (USEPA)
•	Jose Salcedo	Department of Toxic Substances Control (DTSC)
•	Tom Barry	Shaw Engineering and Infrastructure (Shaw E&I)
•	Bob Hulet	Shaw Engineering and Infrastructure (Shaw E&I)
•	Alan Friedman	California Regional Water Quality Control Board (CRWQCB)
•	Allen Mason	EQM
•	Mike Wray	CH2M Hill
•	Kerry Settle	Air Mobility Command/A7VR
•	Fred Zaragoza	Solano County District 5 Rep for Supervisor Mike Reagan
•	Dianne Kautz	Solano County District 5 Rep for Supervisor Mike Reagan
•	Carrie Scarlata	Solano County District 5 Rep for Supervisor Mike Reagan
•	Chris Wiehl	U.S. Army Corps of Engineers, Omaha District
•	Linda White	U.S. Army Corps of Engineers, Omaha District

### Handouts distributed throughout the meeting included:

•	Attachment 1	Meeting Agenda
•	Attachment 2	Master Meeting, Teleconference, and Document Schedules
•	Attachment 3	SBBGWTP Monthly Data Sheet (August 2007)
•	Attachment 4	CGWTP Monthly Data Sheet (August 2007)
•	Attachment 5	NGWTP Monthly Data Sheet ( August 2007)
•	Attachment 6	Presentation: Performance Based Acquisitions Through
		Performance Based Contracting

### 1. ADMINISTRATIVE

### A. Previous Meeting Minutes

The July 2007 RPM meeting minutes were approved and finalized.

#### B. Action Item Review

All action items from June 2007 have been closed.

### C. Master Meeting and Document Schedule

The Travis AFB Master Meeting, Teleconference, and Document Schedules were not changed during this meeting (see Attachment 2).

### **Travis AFB Annual Meeting and Teleconference Schedule**

Page 1, Mr. Smith reviewed the Meeting Schedule, explaining that the 17 October 2007 RPM meeting will be a Senior Partnering Meeting. The Air Mobility Command (AMC) from headquarters (HQ) will be discussing the transition of the Environmental Restoration Program to a centralized program management office. The meeting will be a time to address concerns anyone has about the transition. Mr. Kistner asked for agency notification about the Senior Partnering Meeting. Mr. Smith agreed to send out an invitational email.

**Note:** Mr. Kistner announced that he will be leaving the Travis AFB program. He will be going to a new program within the USEPA. He is not sure who his replacement will be, but he will participate in the 29 August 2007 teleconference and will keep the group informed on changes.

### **Travis AFB Master Document Schedule**

- Page 3, Mr. Wray confirmed delivery of the Predraft 2007 GSAP Annual Report on time.
- Page 6, Remedial Designs have all been moved to History.
- October quarterly newsletter will be available for agency review on 27
   September, comments due on 11 October for issue on 18 October.

### 2. OPERABLE UNIT UPDATE

### A. Travis AFB Soil Cleanup Status Report

Mr. Anderson stated that field work has gone well, and the remedial action at SD045 has achieved residential cleanup levels (RCLs). Shaw E&I is backfilling the excavation void at SD045 and collecting confirmation samples at FT004. Digging is still ongoing at FT003, and confirmation samples still need to be

collected. Clean soil is being used to fill the excavation areas. The CAMU is ready and has been receiving contaminated soil. Work is on schedule; Travis has been experiencing good weather (though windy) which has helped. There will be a regulatory review of the RAWPs for SD001/SD033 and LF007/CAMU after the RPM meeting.

To give an idea of the team working on this project, Mr. Anderson said there have been 22 Shaw employees, six AeroTech employees, one surveyor, one utility locator, two wildlife biologists and seven truck drivers. Dust suppression (due to high winds) has been a priority. Travis has used about 750,000 gallons of water so far – of which 40% was treated water. Mr. Anderson stated as it takes longer to fill the tank with the treated water versus from the high pressure pump, so the decision to not use treated water was dependent on how quickly the water was needed. Mr. Kistner asked about the equipment being used on site – are they new, or been retrofitted for low emissions? Mr. Duke answered that the equipment being used is all new. Mr. Smith asked if the need for new or retrofitted equipment could cause a work stoppage. Mr. Kistner didn't think so, as all vehicles in California are required to be cleaner burning.

### B. Soil Remedial Action Report

Mr. Anderson proposed to the group to submit one Remedial Action Report for all seven soil remediation sites. Mr. Anderson reasoned there are several advantages to this proposal: 1) it saves money; 2) it saves time in review; and 3) it saves paper. Mr. Kistner, Mr. Friedman and Mr. Salcedo all concur. Mr. Smith asked how the reports will be combined. Mr. Anderson said sections will be combined as needed. Individual sites will still have own sections.

Mr. Anderson stated the time frame depends on the completion of field work, but most likely after the holidays (January or February 2008).

#### 3. CURRENT PROJECTS

### A. Treatment Plant Operation and Maintenance Update

### 1. South Base Boundary Groundwater Treatment Plant

Mr. Duke reported that the South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 78.6% uptime, and 2.8 million gallons of groundwater were extracted and treated during the month of December 2006. The average flow rate for the SBBGWTP was 81.6 gallons per minute (gpm). Approximately 1.3 pound of volatile organic compounds (VOCs) was removed during July 2007. The total mass of VOCs removed since the startup of the system is 313 pounds (see Attachment 3).

The plant experienced several shutdowns in the month of July. On the 6<sup>th</sup> of July the plant was shut down due to a high level alarm from the air stripper sump. There was an electrical power outage on July 9. From July 9 through 16 the plant

was shut down to perform maintenance on the transfer pump; the pump shaft seal was replaced. On July 21, the check valve at extraction well EW734x05 failed in the open position, allowing the groundwater from the wells to backflow through the pump discharge pipe, which caused the vault to flood. The Water Board was notified at the time. The check valve was removed and cleaned. The system was restarted on 23 July. Mr. Smith estimated the amount of water to be about 500 gallons. It appeared the water soaked into the ground; it didn't pond and it wasn't deep enough for the cows to drink.

A total of 68,000 gallons of treated water was collected from the South Base Boundary Plant to be used for dust suppression at the soil remedial action sites.

No optimization activities were planned or performed at this plant during July 2007.

#### 2. Central Groundwater Treatment Plant

Mr. Duke reported that the Central Groundwater Treatment Plant (CGWTP) performed at 97.2% uptime with approximately 2.8 million gallons of groundwater extracted and treated during the month of July 2007. The average flow rate for the CGWTP was 64.5 gpm. Approximately 7.5 pounds of VOCs were removed during July 2007, which was from groundwater and vapor. The total mass of VOCs removed since the startup of the system is 10,523 pounds. (see Attachment 4).

The plant was down infrequently during the month of July 2007 for routine maintenance activities. The CGWTP and WTTP systems were down on two occasions (9 and 22 July) due to a power outage.

The high vapor temperature alarm malfunctioned four times in July 2007 due to high ambient temperatures (>100 deg F). A shade has been installed over the sensor and adjustments to the intake air were made in an effort to keep the sensor cool.

The thermal oxidation (Th/Ox) system has been turned off for a 3-month rebound study. The system will be re-started and sampled for rebound in September 2007.

A total of 24,000 gallons of treated water was collected from the Central Plant to be used for dust suppression at the soil remedial action sites.

The Remedial Process Optimization Technical Memo is almost ready for review.

#### 3. North Groundwater Treatment Plant

Mr. Duke reported that the North Groundwater Treatment Plant (NGWTP) performed at 96.6% uptime with approximately 660,000 gallons of groundwater extracted and treated during the month of July 2007. The average flow for the NGWTP was 15.38 gpm. Less than a pound of VOCs was removed during July

2007, which was from groundwater and vapor. The total mass of VOCs removed since the startup of the system is 5,413 pounds (see Attachment 5).

The high vapor temperature alarm malfunctioned on 5 July due to high ambient temperature (>100 deg F).

A total of 114,000 gallons of the treated groundwater from the plant was used for dust suppression at Travis AFB.

### B. Petroleum Only Contamination (POCO) Status

Mr. Day gave an update on the Petroleum Only Contamination (POCO) status. Mr. Day had received the Water Boards comments on the Draft Remedial Design Report and had sent out his response. Mr. Day wondered if there were any other comments on his responses. Mr. Friedman did not think so;

We are currently in the second quarter of the Monitored Natural Attenuation program. Ten of the 33 wells have been sampled, and samples have been sent to the lab. New construction near MW210 may be raising the pH at that site. As a result, we decided to sample at MW 211 instead. Mr. Friedman wanted to know how close the two wells are to each other. He was also concerned whether there was communication between the construction crews and the base. Mr. Day answered the construction crews are aware of the monitoring wells, and care has been taken when sampling has been done. Mr. Day stated that Mr. Wray will address this problem in final report. Mr. Smith stated that sampling of MW210 may still take place. Communication will be kept open.

### 4. Program/Issues/Update

### A. Performance Based Contracting (ACOE)

(see Attachment 6)

### B. General Discussion

Mr. Kistner thanked everyone for their help on the Congressional Inquiry the EPA received on how Travis AFB handled radiation issues. Mr. Kistner also announced he will be moving on to a new program within the EPA. He doesn't know who his replacement will be at this time.

Mr. Smith commented that if we have to have a personnel change, this is a good time, as the new person will get in on the ground floor for the new PBC.

Mr. Settle commented on the Senior Partnering Meeting for the October RPM. The Air Force Environmental Restoration Program is transferring to San Antonio. The Program Mgt Office (PMO) is to be fully staffed by 01 April 2008. Structure will have the MAJCOMs be more of a liaison role and will handle the manpower

and certain types of funding. The execution of the program will be managed out of PMO and working directly with the installation. Not much change in how the Air Force does partnering, etc. Initially not much change, the plan is to still handle issues at the installation level. Attempt is to centralize project management with regards to the installations and agencies.

5. No Action Items were identified at this time

### **Discussion during Army Corps Presentation**

Mr. Settle: Structure the milestones so payments aren't too big of a chunk up front. Consider distribution of payments when developing milestones.

Mr. Smith: Where disincentives might apply – we have remediation goals that the Air Force has set to reach RIP. Use disincentives for adherence to schedule.

Mr. Kistner: How long do contracts typically last?

Answer: No more than five years – could be shorter.

Mr. Smith: Reason for this is the cost of doing business changes.

Mr. Kistner: What about situations, disputes, etc, where work is stopped? Is the schedule reworked?

Answer: Communication. May have to revisit the contract to meet the schedule.

Mr. Smith: Can a PBC be modified?

Answer: Yes, but this is not a standard procedure. If there is progress towards the milestone why should there be modifications?

Mr. Smith: If the scope didn't change, and suddenly there is a dispute, progress will slow...

One of the milestones is negotiating with the agencies. If contractor is assuming all the risk, then they are accepting the risk of negotiating with the agencies.

Mr. Wiehl: Depending on the severity of the problem, you can go back to the bargaining table.

Mr. Settle: If there is dispute resolution between agencies and the Air Force, we can't hold a contractor to milestones in that situation.

Answer: Try to outline policies, etc, in contract negotiation. If work stops, the contractor can still submit a claim.

Mr. Kistner: You may not know what your actions will be as you don't yet have a ROD.

Mr. Smith: Yes, the regulatory agencies want to know what we plan to do. What our remedial actions will be so they can comment. It doesn't seem to work to give them supporting information for a plan and ask for their input. It is hard to ask for their input early in the process.

Answer: If work is on an established site, that's a different situation than at a brand new site without that kind of knowledge.

Mr. Kistner: Even at a mature site, you may not know the final remedy.

Answer: Not at that level of detail at this point.

- Mr. Wiehl: Contractors need to know for what they are signing up. They decide if the risk is too great. Milestones might be too big.
- Mr. Settle: Have to make PBC milestones smaller and incremental, until have the end goals in sight.
- Mr. Kistner: What about changes?

Answer: It is the contractor's responsibility to fulfill contractual obligations to meet the goals stated.

- Mr. Smith: Could be potential gridlock, where contractors bid on an assumption that no longer is valid.
- Mr. Kistner: ARARs can change; that can start a whole new ball game.
- Mr. Wiehl: Yes. This can happen. Can put insurance on project, put a warranty to cover these type of situations.
- Mr. Smith: Clarification that performance work objectives are the same as statement of objectives.
- Mr. Settle: In cases of dispute resolution, contractor can continue work on other sites.
- Mr. Smith: In our case, we will be bringing 19 remaining GW sites that don't have RIP to RIP. That is the major objective. As you've shown, government takes a step back and contractor assumes the risk. The contractor is going to propose solutions based on everything we know about the sites. Assumptions will be made right or wrong. May be a different remedy once get on to a site.
- Mr. Kistner: Are the regulatory agencies to direct the contractors? Puts a lot of burden onto the agencies if directing the contractors...

Answer: No, direction should never be given from agencies to contractors.

- Mr. Kistner: A statement we make about work being done, may be perceived as being direction. We state opinions all the time.
- Mr. Settle: That's where the monthly RPMs come into play. Need to address problems in a forum environment, not directly talking to other parties (contractors, agencies).
- Mr. Wiehl: Any conversation with a contractor should have the government monitor the conversation.

- Mr. Kistner: In the past, there has been little contact with a contractor other than someone calling to ask how many copies of a document are needed.
- Mr. Friedman: As it should be.
- Mr. Wiehl: Depends on the situation, the relationship the contractor may have with a regulator.
- Mr. Smith: I would like to do this the way we do it now handling the communication through the Air Force between the agencies and the contractors. In traditional contracting the government has a hand in decisions. PBC encourages the contractor to use their expertise. Not to cut corners, but to offer shortcuts that would save time and money, manpower and resources. Government now gives objectives, and then allows the contractor to propose ideas.
- Mr. Settle: If there are specific issues, have a telecom to resolve issue with all parties involved. Work as a team together, not in a vacuum where other parties don't know what's going on.
- Mr. Anderson: What if an issue occurs where a contractor works outside the scope of work? What happens then? During the investigation, something comes up and the contractor proposes work outside of scope?
- Mr. Wiehl: Again, back to the work up front. Tailor the objectives at that point. If it's a matter of changing a remediation strategy, that's already tied into what the current objective is.
- Ms. White: You're not telling them HOW to get to the end result. The perception at the beginning is that the government just handed a contract out and said, call me in three years when you're done. It is not that way. Still a team approach to make sure all works together.
- Mr. Kistner: Another observation is it efficient to break projects up into pieces? Makes more work for reviewing agencies, more work for the contractor in writing reports, etc.
- Mr. Settle: Again, define objectives up front reporting requirements, etc. Get conceptual work plans up and out early in the process. Not have to deal with the response to the response to the response to comments. Get questions and gray areas dealt with early and out of the report.
- Ms. White: Work on a format for the reports with the agencies and get the questions dealt with early. The first few reports may have more back and forth the rest should be quicker and easier to get through. Reviewer gets to know the format of the reports and can get through them quicker, can find changes quicker.
- Mr. Wiehl: COE is interested in being efficient. Not interested in increasing the administrative burden.

- Mr. Settle: and the contractor is interested in being efficient too! He has to watch administrative costs too.
- Mr. Wiehl: My comment to break sites up is to address the need to fit the funding profile we have. Fit the work in what is available for money. Reality is, you have to take the money you have and work with it.
- Ms. White: As an example, it's not unusual for an installation to have all their underground storage tanks under one unit. Break those up into no further action, needs remediation, etc.
- Mr. Smith: Travis AFB will be writing Statement of Objectives (SOO) for PBC. It will be budgeted by asking for all funding up front. No option years. All 19 sites to Remedy in Place (RIP) milestones would be typical CERCLA process (Feasibility Studies, ARARs, additional site characterization, Proposed Plan, ROD, Remedial Design, Remedial Action, operating properly and successfully, then Remedy in Place). In this case, work could speed up and the agencies and the AF could receive a lot of documents in a short period of time.

I don't want insurance. The only time I would want insurance is if the risk of failure is something I could not live with. Right now, we meet our objectives prior to the Air Force goal by over a year. We have a buffer that doesn't warrant the cost of insurance. However, the contractor may feel different, want insurance, and that would add to the overall cost. We have, for the majority, well characterized sites. We have a PBC already in place for the POCO sites. It is much smaller than this one will be, however, with a Triad approach and a flurry of documentation, the pace will pick up even for the POCO PBC. Don't see any difference in how work flows, or how we work as a team from regular contracts to PBC. We just don't direct the contractor on how to get to the end result.

- Mr. Wiehl: We discourage that kind of talk up front (about modifications). Don't want to give the impression or have the contractor have the mind set, that "we'll try this and if it doesn't work we'll just mod the contract".
- Mr. Smith: Sure. I was surprised it came up. Takes away the power of disincentives.
- Mr. Kerry: Asked John Friscoe from EPA Region 2 (Remedial Action Manager) to help AMC in looking at proposals for remedial actions. We used his experience and knowledge to take a look at proposed remedies, as a supplement to the team. Especially for large companies that have different 'teams' around the country, so we know who we're working with. The 'A' team or the 'C' team.
- Mr. Anderson: Is there a natural bias for contractors to lean towards a less costly remedy, to maximize profit?

Answer: Yes. Need to look at life cycle costs.

- Mr. Friedman: Be very clear up front in the SOO. What are we aiming for? Protection of human health and environment, of course!
- Mr. Anderson: Selection should be based on risk.
- Mr. Settle: Be very clear on the objectives remove contaminants to a certain level in a certain amount of time, etc. That is where working together as a team to build the SOOs is so important.
- Mr. Smith: The ROD can be written such that a phased remedy approach will work. What constitutes a RIP? Describe in the SOO. It can be written so the right performance objective is met, whether inexpensively or expensively.
- Mr. Anderson: Use incentives to implement a more expensive remedy to meet objectives sooner.
- Mr. Settle: True. Give list of sites, ask for their ideas with the goal of taking all the sites of taking them to RIP. Up to contractor to line out the project so they don't eat up all the funding on one area.
- Ms. White: Evaluate the schedule. Part of choosing who is going to get the PBC.
- Mr. Settle: Contractors proposal will include schedule to meet objectives. We have developed a schedule already for the sites. But when this schedule is given to the contractors, things may get moved around. They will be looking at the best strategy for them.
- Mr. Smith: Will need to look into all incentives available.
- Mr. Kistner: This is all new and causes anxiety, raises questions.
- Mr. Smith: We have to go through these steps anyway. Putting all into one project should keep a continuity no break in funding.
- Ms. White: More ownership of project by AE firm. Have a more global aspect, approach to the project.
- Mr. Settle: Not have to go back out and sample, re-mobilize. Very similar to planning in the Triad process.
- Mr. Friedman: Economy scale. Get it done at one time. Greater onus to select the right contractor in the first place.
- Mr. Settle: Hence my statement earlier to use the experts when developing the SOOs.
- Mr. Kistner: What is the schedule?
- Mr. Smith: SOO is in development right now. June 2008 award. Period of performance into 2011. End milestone in FY10.

Mr. Settle: Different from a traditional contract action. Can take 8-10 months to execute a PBA.

Mr. Kistner: Will the regulators look at the proposals?

Mr. Smith: You mean when we go out to bid? We want regulatory input on the SOOs. As much information you feel comfortable in giving me for what acceptable remedies might be. So we can write a comprehensive SOO. Don't want to burden you with the SOO and ask for a review. A sit-down meeting is used to go through the milestones in an outline form.

Ms. White: Get everyone to input what's acceptable and what's not. ARARs, permit process, etc.

Mr. Settle: Dealing with special situations, what's appropriate (ARARs).

Ms. White: This is the time to bring up these issues. Put it in now.

Mr. Settle: And you have the vapor intrusion process is a part of it. Also, the emerging contaminant issues. Those things, when they come up, are when you have to stop and look at the SOOs.

Mr. Friedman: Possiblity of reopening or modifying the contract.

Mr. Settle: Of course, if an emerging contaminant becomes law, you have to go back and modify the contract.

Ms. White: Don't be surprised if the contractor wants to go back and challenge an issue. That is why contractor needs 45 days to prepare proposal. They're basically coming back with a scope of work (SOW). Suggestion to contractors – if you are going to include photographs, be sure to review them carefully!

Mr. Smith: A good time to bring up review of proposals.

Mr. Settle: Yes, in a locked room. Nothing leaves the room. It's a legal process – must maintain integrity in the process.

Ms. White: Define what is being evaluated. Have a check sheet. Rate and rank them.

Mr. Settle: A week long process.

Mr. Smith: (to the regulators) We will let you know who is competing, get your input on them.

(end of presentation)

Mr. Smith: To the regulators, I don't have confirmation, but the Indoor Air Quality Evaluations project may have been awarded. Hoping to be further along so we could discuss criteria. We can plan on meeting in September and have a planning session.

Want input to do as much as we can and give us as much information as possible. We can apply that information as a Technical Memo to the groundwater ROD, to support it.

Mr. Kistner: Key to find background, see levels in buildings not contaminated to compare.

Mr. Smith: We will be looking at lines of evidence. Lots of ways indoor air quality can become degraded. We'll check ambient air, look for sources of contamination in the building and eliminate them from consideration.

### TRAVIS AIR FORCE BASE ENVIRONMENTAL RESTORATION PROGRAM REMEDIAL PROGRAM MANAGER'S

### PARTNERING MEETING

15 August 2007, 9:30 A.M.

### **AGENDA**

### 1. ADMINISTRATIVE

- A. PREVIOUS MEETING MINUTES (ALL)
- B. ACTION ITEM REVIEW (ALL)
- C. MEETING DATES AND MASTER DOCUMENT SCHEDULE REVIEW (ALL)

### 2. OPERABLE UNIT UPDATE

- A. TRAVIS AFB SOIL CLEANUP STATUS REPORT (GLENN A)
- B. SOIL REMEDIAL ACTION REPORT (GLENN A)

### 3. CURRENT PROJECTS

- A. TREATMENT PLANT OPERATION AND MAINTENANCE UPDATE (LONNIE)
- B. PETROLEUM ONLY CONTAMINATION (POCO) STATUS (WILFORD)

#### 4. PROGRAM/ISSUES/UPDATE

- A. PERFORMANCE BASED CONTRACTING (ACOE)
- 5. NEW ACTION ITEM REVIEW
- 6. REGULATORY REVIEW PERIOD FOR SD001/SD033 (JOSE, ALAN) AND LF007/CAMU (ALL) REMEDIAL ACTION WORK PLANS

TOUR OF ERP CLEANUP SITES WILL BE OFFERED FOLLOWING THE MEETING.

**2007**Travis AFB Annual Meeting and Teleconference Schedule

Suppliers Teleconference (8:30 a.m 10:00 a.m.)	Monthly RPM Meeting (Begins at 9:30 a.m.)	Monthly RPM Teleconference (Begins at 9:30 a.m.)	Restoration Advisory Board Meeting (Begins at 6:30 p.m.)
1-23-07	1-24-07 <sup>1</sup>	1-10-07	_
2-6-07	2-7-07	2-21-07	_
3-13-07	3-14-07	3-28-07	_
4-10-07 (Cancelled)	4-4-07	4-25-07 (Mark out)	4-19-07
5-8-07	5-9-07	5-23-07	_
6-12-07	6-13-07	6-27-07 (EPA out)	_
7-10-07	7-11-07 (Jose out)	7-25-07 (Alan out)	Base Tour
8-14-07	8-15-07	8-29-07	_
9-11-07	9-12-07	9-26-07	_
10-16-07	10-17-07 <sup>2</sup>	<u> </u>	10-25-07
_	_	11-7-07	_
12-11-07	12-12-07	_	_

<sup>&</sup>lt;sup>1</sup>– RPM meeting on the 24<sup>th</sup> of Jan will be followed by a Groundwater ROD scoping meeting from 1pm to 4pm with the regulatory agencies.

as of 15 Aug 2007

<sup>&</sup>lt;sup>2</sup> – Senior Partnering Meeting

	PRIMARY DOCUMENTS				
	Basewide Travis, Glenn Anderson	Potrero Hills Annex Travis, Glenn Anderson			
Life Cycle	Groundwater ROD	Potrero Hills ROD			
Scoping Meeting	1-24-07	180 days after Water Board Order Rescinded			
Predraft to AF/Service Center	2-01-09	+ 360 days			
AF/Service Center Comments Due	4-01-09	+ 420 days			
Draft to Agencies	6-15-09	+ 480 days			
Draft to RAB	6-15-09	+ 480 days			
Agency Comments Due	8-15-09	+ 540 days			
Response to Comments Meeting	9-01-09	+ 555 days			
Agency Concurrence with Remedy	9-15-09	+ 570 days			
Draft Proposed Plan to Agencies	12-01-09	+ 600 days			
Issue Proposed Plan	1-15-10	+ 615 days			
Public Comment Period	1-15-10 to 2-15-10	+ 615 to 645 days			
Public Meeting	1-28-10	+ 625 days			
Response to Comments Due	3-01-10	+ 640 days			
Draft Final Due	3-01-10	+ 640 days			
Final Due	5-01-10	+ 700 days			

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SECONDARY DOCUMENTS					
2007 GSAP Annual Report Travis, Lonnie Duke; Life Cycle CH2M Hill, Mike Wray					
Scoping Meeting	NA				
Predraft to AF/Service Center	10-19-07				
AF/Service Center Comments Due	11-02-07				
Draft to Agencies	11-16-07				
Draft to RAB	11-16-07				
Agency Comments Due	01-18-08				
Response to Comments Meeting	02-20-08				
Response to Comments Due	03-05-08				
Draft Final Due	03-05-08				
Final Due	03-05-08				
Public Comment Period	NA				
Public Meeting	NA				

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INFORMATIONAL DOCUMENTS				
	Quarterly Newsletters (Oct 2007)			
Life Cycle	Travis, Mark Smith			
Scoping Meeting	NA			
Predraft to AF/Service Center	NA			
AF/Service Center Comments Due	NA			
Draft to Agencies	9-27-07			
Draft to RAB	NA			
Agency Comments Due	10-11-07			
Response to Comments Meeting	TBD			
Response to Comments Due	10-17-07			
Draft Final Due	TBD			
Final Due	10-18-07			
Public Meeting	NA			

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INFORMATIONAL DOCUMENTS							
	Groundwater Treatment Plant O&M Reports  Travis, Lonnie Duke;  CH2M Hill, Mike Wray						
Life Cycle	Groundwater Treatment Plants Annual Reports Fiscal Year 2007	Groundwater Treatment Plants Second Quarter Report Fiscal Year 2007	Groundwater Treatment Plants Third Quarter Report Fiscal Year 2007				
Scoping Meeting	NA	NA.	NA	NA			
Predraft to AF/Service Center	1-21-08	4 13 07	7 13 07	10-12-07			
AF/Service Center Comments Due	1-25-08	4 20 07	<del>7 20 07</del>	<del>10 19 07</del>			
Draft to Agencies	NA	NA	NA	NA			
Draft to RAB	NA	NA	NA	NA			
Agency Comments Due	NA	NA	NA	NA			
Response to Comments Meeting	NA	NA.	NA.	NA.			
Response to Comments Due	NA	NA	NA	NA			
Draft Final Due	NA	NA	NA	NA			
Final Due	1-31-08	4 27 07	7 27 07	10 26 07			
Public Comment Period	NA	NA	NA	NA			
Public Meeting	NA	NA	NA.	NA.			

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	HISTORICAL DOCUMENTS						
	Remedial Design Travis, Glenn Anderson; URS, Adam Harvey	Remedial Design Travis, Glenn Anderson; CH2M Hill, Mike Wray					
Life Cycle	SD001	SD033	FT003	FT004	FT005	LF007	
<b>Scoping Meeting</b>	8-23-06	8-23-06	5-07-04	5-10-06	6-01-06	9-28-06	
Predraft to AF/Service Center	11-15-06	11-15-06	5-28-04	5-31-06	7-03-06	10-30-06	
AF/Service Center Comments Due	12-08-06	12-08-06	6-25-04	6-20-06	7-31-06	11-27-06	
Draft to Agencies	12-22-06	12-22-06	7-16-04	9-29-06	11-24-06	01-30-07	
Draft to RAB	12-22-06	12-22-06	7-16-04	9-29-06	11-24-06	01-30-07	
Agency Comments Due	(2-02-07) 3-1-07	(2-02-07) 3-1-07	8-16-04	10-30-06	12-29-06	3-01-07	
Response to Comments Meeting	2-14-07	2-14-07	8-23-04	11-08-06	1-10-07	3-7-07	
Response to Comments Due	(2-28-07) 3-14-07	(2-28-07) 3-14-07	9-29-04	NA**	NA**	(3-23-07) 4-27-07	
Draft Final Due	(2-28-07) 3-14-07	(2-28-07) 3-14-07	9-29-04	NA**	NA**	(3-23-07) 4-27-07	
Final Due	(3-30-07) 4-13-07	(3-30-07) 4-13-07	9-21-06*	11-13-06	1-16-07	(4-23-07) 6-01-07	
Public Comment Period	NA	NA	NA	NA	NA	NA	
Public Meeting	NA	NA	NA	NA	NA	NA	

<sup>\*</sup> The FT003 Soil Remedial Design Package was produced in 2004 and finalized after the NEWIOU Soil, Sediment and Surface Water ROD was signed.

as of 15 Aug 2007

<sup>\*\*</sup> These design packages were not produced as Draft Final, because their regulatory agency reviews did not result in comments and requested revisions to the Draft version. (Original Date) Actual Date

# **South Base Boundary Groundwater Treatment Plant Monthly Data Sheet**

Report Number: 84 Reporting Period: 1 – 31 July 2007 Date Submitted: 10 August 2007

This data sheet includes the following: results for the operation of the South Base Boundary Groundwater Treatment Plant (SBBGWTP); a summary of flow rates for the individual extraction wells; a brief description of any shutdowns or significant events related to the system: and a summary of analytical results for selected samples collected.

### **Operations Summary – July 2007**

Operating Time: **585 hours** Percent Uptime: 78.6%

Gallons Treated: 2.9 million gallons Gallons Treated Since July 1998: 571.1 million gallons

Volume Discharged to Union Creek: **2.8 million gallons**Volume Used for Dust Suppression: **0.1 million gallons**Percentage of Treated Water to Beneficial Use: **0.0002%** 

VOC Mass Removed: 1.3 pounds VOC Mass Removed Since July 1998: 313 pounds

Rolling 12-Month Cost per Pound of Mass Removed: \$4,397<sup>b</sup>

Monthly Cost per Pound of Mass Removed: \$8.181b

- <sup>a</sup> Calculated using July 2007 EPA Method SW8260B analytical results.
- <sup>b</sup> Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the system. High costs are due to low influent concentrations

#### Flow Rates

Average Groundwater Total Flow Rate: 81.6<sup>a</sup>

Average Flow Rate from SCADA (gpm) <sup>b</sup>							
	FT	T005		SS02	9	SS03	30
EW01x05	1.4	EW736x05	3.3	EW01x29	9.0	EW01x30	5.3
EW02x05	1.2	EW737x05	3.3	EW02x29	10.4	EW02x30	1.4
EW03x05	2.6	EW742x05	4.7	EW03x29	Off line <sup>d</sup>	EW03x30	Off line <sup>d</sup>
EW731x05	0.5	EW743x05	Off line <sup>c</sup>	EW04x29	9.9	EW04x30	16.1
EW732x05	3.7	EW744x05	2.0	EW05x29	9.1	EW05x30	Off line <sup>c</sup>
EW733x05	0.6	EW745x05	5.8	EW06x29	10.2	EW06x30	3.7
EW734x05	3.4	EW746x05	4.1	EW07x29	Off line <sup>d</sup>	EW711x30	4.3
EW735x05	4.1						
F	T005 Total:	40.7		SS029 Total:	48.6	SS030 Total:	30.8

<sup>&</sup>lt;sup>a</sup> The average groundwater flow rate was calculated using the Union Creek Discharge Totalizer and dividing it by the operating time of the plant.

gpm-gallons per minute

<sup>&</sup>lt;sup>b</sup> Average extraction well flow rates measured by each extraction well totalizer divided by the operating time.

<sup>&</sup>lt;sup>c</sup> Extraction well was off line during July 2007.

<sup>&</sup>lt;sup>d</sup> Extraction well was off line due to low VOC concentrations.

### **Shutdown/Restart Summary**

Location	Shutdown		Restart		Cause		
	Date	Time	Date	Time			
SBBGWTP	06 July 2007	18:30	07 July 2007	15:30	Shutdown plant due to high level alarm from the air stripper sump.		
SBBGWTP	09 July 2007	02:30	09 July 2007	14:30	Electrical power outage occurred.		
SBBGWTP	13 July 2007	09:30	16 July 2007	14:00	Shutdown plant to perform maintenance of transfer pump. The pump shaft seal was replaced.		
SBBGWTP	21 July 2007	11:00	23 July 2007	12:00	The check valve at EW734x05 failed, allowing groundwater from wells to backflow through the pump discharge pipe causing EW734x05 vault to flood.		
SBBGWTP =	SBBGWTP = South Base Boundary Groundwater Treatment Plant						

### **Summary of O&M Activities**

Monthly groundwater sampling at the SBBGWTP was performed on 5 July 2007. Sample results are presented in Table 1. The total VOC concentration (52.8  $\mu$ g/L) in the influent sample has decreased slightly since the June 2007 sample (59.6  $\mu$ g/L). There were no VOCs detected in the effluent sample in July 2007.

The SBBGWTP was shut down on four occasions during July. On July 9 the plant was shut down due to the high level alarm from the air stripper sump; from July 13 through July16 the plant was shut down to replace a leaking transfer pump shaft seal; and on July 9 the plant was shut down due to a power outage. On July 21, the check valve at extraction well EW734x05 failed in the open position causing the vault to flood with groundwater. The check valve was removed and cleaned. The system was re-started on 23 July, 2007.

Through 31 July, 2007, a total of 68,000 gallons of reclaimed water was collected from the South Plant. Reclaimed water is used for dust suppression at Travis AFB.

### **Optimization Activities**

A Remedial Process Optimization Work Plan is currently being developed that will present shut down and optimization recommendations for nine groundwater extraction wells at Site FT005.

Table 1 Summary of Groundwater Analytical Data for July 2007 - South Base Boundary Groundwater Treatment Plant

	Instantaneous Maximum <sup>a</sup>				ly 2007 g/L)
Constituent	(μg/L)	(μg/L)	N/C	Influent	Effluent
Halogenated Volatile Organics					
Bromodichloromethane	0.5	0.17	0	ND	ND
Carbon Tetrachloride	0.5	0.19	0	ND	ND
Chloroform	5	0.16	0	ND	ND
Dibromochloromethane	0.5	0.17	0	ND	ND
1,1-Dichloroethane	5	0.16	0	ND	ND
1,2-Dichloroethane	0.5	0.13	0	0.53	ND
1,1-Dichloroethene	5	0.14	0	ND	ND
cis-1,2-Dichloroethene	5	0.15	0	3.3	ND
trans-1,2-Dichloroethene	5	0.15	0	ND	ND
Methylene Chloride	5	0.32	0	ND	ND
Tetrachloroethene	5	0.20	0	ND	ND
1,1,1-Trichloroethane	5	0.16	0	ND	ND
1,1,2-Trichloroethane	5	0.32	0	ND	ND
Trichloroethene	5	0.16	1	49	ND
Vinyl Chloride	0.5	0.38	0	ND	ND
Non-Halogenated Volatile Organic	s				
Benzene	1.0	0.16	0	ND	ND
Ethylbenzene	5.0	0.16	0	ND	ND
Toluene	5.0	0.17	0	ND	ND
Xylenes	5.0	0.34	0	ND	ND
Other					
Total Petroleum Hydrocarbons – Gasoline	50	4.9	0	NM	ND
Total Petroleum Hydrocarbons –					
Diesel	50	32	0	NM	ND (50 UJ)
Total Suspended Solids (mg/L)	NE	1.1	0	8.0	NM

<sup>&</sup>lt;sup>a</sup> In accordance with Appendix B of the *Travis AFB South Base Boundary Groundwater Treatment Plant Operations and Maintenance* Manual (CH2M HILL, 2004).

U not detected

J analyte concentration is considered an estimated value

mg/L N/C =

milligrams per liter number of samples out of compliance with discharge limits =

ND = not detected not established NE NM = not measured micrograms per liter μg/L

### **Central Groundwater Treatment Plant Monthly Data Sheet**

Report Number: 97 Reporting Period: 1 – 31 July 2007 Date Submitted: 10 August 2007

This data sheet includes the following: results for the operation of the Central Groundwater Treatment Plant (CGWTP), West Treatment and Transfer Plant (WTTP), and thermal oxidation (ThOx) system (previously referred to as the two-phase extraction [TPE] system); a summary of flow rates for the CGWTP, WTTP, ThOx, and extraction wells EW01x16, EW02x16, EW03x16, EW605x16, and EW610x16; a brief description of any shutdowns or significant events related to the systems: and a summary of analytical results for selected samples collected.

### **Operations Summary – July 2007**

Operating Time: Percent Uptime:

**CGWTP:** 723.4 hours **CGWTP:** 97.2%

WTTP: Water: 562.1 Vapor: 518.6 hours WTTP: Water: 75.6% Vapor: 69.7%

hours

**ThOx:** 0 hours **ThOx:** Currently shutdown

Gallons Treated: 2.8 million gallons Gallons Treated Since January 1996: 353 million gallons

Volume Used for Dust Suppression: 0.024 million gallons

VOC Mass Removed: VOC Mass Removed Since January 1996:

6.4 lbs (groundwater only)<sup>a</sup> 2,203 lbs from groundwater

1.1 lbs (vapor only)<sup>b</sup> 8,320 lbs from vapor

UV/Ox DRE: 100% ThOx DRE: NA<sup>c</sup>

Rolling 12-Month Cost per Pound of Mass Removed \$1,482d

Monthly Cost per Pound of Mass Removed: \$2,717<sup>d</sup>

#### Flow Rates

Average Groundwater Flow Rate: 64.5 gpm<sup>a</sup>

Location	Average	Average Flow Rate				
Location	Groundwater (gpm)	Soil Vapor (scfm)				
EW01x16	26.5 <sup>b</sup>	NA				
EW02x16	4.89 <sup>c</sup>	NA				
EW03x16	Off line <sup>d</sup>	NA				
EW605x16	17.5 <sup>b</sup>	NA				
EW610x16	6.79 <sup>be</sup>	NA				
WTTP	32.8	148				
ThOx	NA	NA <sup>g</sup>				

a as measured by the effluent discharge to the storm drain divided by the operating time.

<sup>&</sup>lt;sup>a</sup> Calculated using July 2007 EPA Method SW8260B analytical results.

<sup>&</sup>lt;sup>b</sup> Total VOC vapor mass removed was calculated using June 2007 EPA Method TO-14 analytical results for the DP039 extraction wells. The next quarterly sampling event is scheduled in September 2007.

<sup>&</sup>lt;sup>c</sup> Due to the very low influent VOC concentrations, the destruction removal efficiency was not calculated.

<sup>&</sup>lt;sup>d</sup> Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the system. High monthly costs are due to low vapor influent concentrations.

<sup>&</sup>lt;sup>b</sup> as measured by extraction well totalizer divided by the operating time.

<sup>&</sup>lt;sup>c</sup> EW02x16 (water) was turned on 21 June 2007.

<sup>&</sup>lt;sup>d</sup> EW03x16 (water) was taken off line in September 2002 due to a significant decrease in flow rates.

<sup>&</sup>lt;sup>e</sup> extraction well pump was replaced on 15 March 2007

f as measured by the effluent groundwater pumped to the CGWTP divided by the operating time.

<sup>&</sup>lt;sup>9</sup> flow rate not measured; ThOx is currently offline for rebound study.

### **Shutdown/Restart Summary**

	Shutdown		Restar	rt .					
Location	Date	Time	Date	Time	Cause				
CGWTP:		•		1					
CGWTP	2 July 2007	11:50	2 July 2007	16:20	UV/Ox maintenance; changed UV Lamp #3 reactor.				
CGWTP	9 July 2007	03:00	9 July 2007	11:00	Plant electrical power outage. Changed UV Lamp #1 prior to restart.				
CGWTP	22 July 2007	07:00	22 July 2007	15:30	Plant electrical power outage; system restarted and operating normally.				
WTTP (GW)	):								
WTTP	1 July 2007	16:00	2 July 2007	16:45	Scheduled electrical power outage to shut system down; filled T-902 (5,000 gallon influent tank) with water. System restarted and operating normally.				
WTTP	9 July 2007	02:30	9 July 2007	12:30	Plant electrical power outage; system restarted and operating normally.				
WTTP	22 July 2007	07:00	27 July 2007	15:00	Eductor supply pump seal leaking; installed new seal. System restarted and operating normally.				
WTTP (Vap	or):								
WTTP (vapor)	1 July 2007	16:00	2 July 2007	16:45	Scheduled electrical power outage to shut system down; filled T-902 (5,000 gallon influent tank) with water. System restarted and operating normally.				
WTTP (vapor)	5 July 2007	14:45	6 July 2007	13:30	High vapor temperature alarm malfunction due to high ambient temperature (> 100 °F); system restarted and operating normally.				
WTTP (vapor)	9 July 2007	02:30	9 July 2007	12:30	Plant electrical power outage; system restarted and operating normally.				
WTTP (vapor)	10 July 2007	03:30	10 July 2007	10:30	High vapor temperature alarm malfunction due to high ambient temperature (> 100 °F); system restarted and operating normally.				
WTTP (vapor)	16 July 2007	15:30	17 July 2007	08:30	High vapor temperature alarm malfunction due to high ambient temperature (> 100 °F); system restarted and operating normally.				
WTTP (vapor)	17 July 2007	17:15	18 July 2007	10:00	High vapor temperature alarm malfunction due to high ambient temperature (> 100 °F); system restarted and operating normally. A shade has been installed over the sensor to keep it cool and adjustments to the intake air were made in an effort to keep the sensor cool.				
ThOx (vapo	or):								
ThOx (vapor)	5 June 2007	12:10			System turned off for 3-month rebound study.				

	Shutdow	Shutdown Restart		rt	
Location	Location Date Time		Date	Time	Cause
ThOx = WTTP =	Thermal Oxid West Treatme				

### **Summary of O&M Activities**

Monthly groundwater sampling at the CGWTP was performed on 5 July 2007. Groundwater sample results are summarized in Table 1. The total VOC concentration (274 µg/L) in the July 2007 influent groundwater sample has decreased since the June 2007 sample (388 µg/L). Chloroform, cis-1,2-dichloroethene (DCE), and trichloroethene (TCE) were present in groundwater samples collected within the liquid carbon treatment system. TCE, chloroform and cis-1,2-DCE were detected in the system effluent, but at trace concentrations, and below the respective effluent limits. The detections in these samples may be attributed to desorption from the granular activated carbon (GAC). The system performance will continue to be monitored in the upcoming months.

In July 2007, routine maintenance activities were performed at the CGWTP, WTTP, and extraction wells. These activities included reconfiguring the 20,000 lb LGAC vessels to bypass vessel number T-502 (the CGWTP system is currently using T-501; T-501 is the first 20,000 lb carbon vessel and T-502 is the second 20,000 lb carbon vessel); replacing the UV lamp #3 and #1 reactor bulbs at the CGWTP; to fill T-902 (5,000 gallon influent tank) with water at the WTTP; replaced eductor pumps in wells EW599x37 and EW510x37; installed a new mechanical seal at the WTTP system; and changed the oil at the SVE blowers. The high vapor temperature alarm malfunctioned four times in July due to high ambient temperatures (> 100 °F). To correct this issue, a shade has been installed over the sensor to keep it cool and adjustments were made to the intake air in an effort to keep the sensor cool. The CGWTP system was down on two occasions (July 9 and 22) due to a power outage. The WTTP system was shut down on one occasion (July 2) due to scheduled power outages to fill T-902 (5,000 gallon influent tank) with water. The systems were restarted and operating normally within a day.

On 1 July, 2007 an electrical shutdown occurred during a transformer removal/replacement by the Base Electric shop that cut power to the OSA area. The shutdown turned off power to the Th/Ox unit (currently off-line) and also to extraction wells EW610X16 and EW605X16. The power could not be restored until a replacement transformer was installed a few weeks later. Power was restored on 18 July 2007. Extraction wells EW610X16 and EW605X16 were brought on-line on 19 July, 2007 and are operating normally.

The WTTP SVE system continued to treat soil vapor from DP039 wells EW563x39 and EW782x39 during July 2007. On July 10, 2007, eight WIOU wells were turned on and the SVE system was re-started. Prior to start-up, groundwater levels were measured in the following DPE extraction wells to confirm that the screens are not submerged.

EW 510 X 37 = 15.20 feet EW 593 x 37 = 11.30 feet EW 594 x 37 = 26.40 feet EW 595 x 37 = 36.72 feet EW 599 x 37 = 14.70 feet EW 700 x 37 = 16.36 feet EW 704 x 37 = 27.20 feet EW 707 x 37 = 17.24 feet

Upon startup the following groundwater extraction flow rates were measured

The SVE system was purged for approximately one hour before the start-up vapor samples were collected from two header valves (V-203 and V-204) located at the WTTP manifold. Vapor results are shown in Table 2. The system is operating normally.

Field measurements were collected in July 2007 at the WIOU, DP039, and WTTP extraction wells to monitor ongoing SVE operations. Field measurements will continue to be collected from all WTTP extraction wells on a monthly basis. The WTTP system readings will continue to be monitored weekly.

Through 31 July, 2007, a total of 24,000 gallons of treated water was collected from the Central Plant for use in dust suppression at the soil remedial action sites.

### **Optimization Activities**

The ThOx system was shutdown on 5 June 2007 for a 3-month rebound study. The system will be re-started and sampled for rebound in September 2007.

**Table 1**Summary of Groundwater Analytical Data for July 2007 – Central Groundwater Treatment Plant

				5 July 2007							
							(	μg/L)			
	Instantaneous	Detection						After	After	After	_
Constituent	Maximum <sup>a</sup>	Limit	N/C	WTTP Effluent <sup>b</sup>	TPE Effluent <sup>c</sup>	Influent	After UV/OX	Carbon 1 Effluent	Carbon 2 Effluent	Carbon 3 Effluent	System Effluent
Halogenated Volatile Organics	(μg/L)	(μg/L)	IN/C	Emuent	Emuent	innuent	UV/UX	Emuent	Emuent	Emuent	Emuent
Bromodichloromethane	5.0	0.17	0	NM	NM	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	0.5	0.19	0	NM	NM	ND	ND	ND	ND	ND	ND
Chloroform	5.0	0.20 - 0.46	0	NM	NM	ND	ND	ND	0.28 J	0.31 J	0.25 J
Dibromochloromethane	5.0	0.17	0	NM	NM	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	5.0	0.13 – 0.26	0	NM	NM	0.25 J	ND	ND	ND	ND	ND
1.3-Dichlorobenzene	5.0	0.16 - 0.22	0	NM	NM	0.18 J	ND	ND	ND	ND	ND
1.4-Dichlorobenzene	5.0	0.16	0	NM	NM	ND	ND	ND	ND	ND	ND
1.1-Dichloroethane	5.0	0.16	0	NM	NM	ND	ND	ND	ND	ND	ND
1.2-Dichloroethane	0.5	0.13	0	NM	NM	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5.0	0.14 - 4.7	0	NM	NM	1.5	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.0	0.15 – 1.5	0	NM	NM	58	ND	0.66	1.3	1.4	1.1
trans-1,2-Dichloroethene	5.0	0.15	0	NM	NM	2.5	ND	ND	ND	ND	ND
Methylene Chloride	5.0	0.32	0	NM	NM	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5.0	0.20	0	NM	NM	0.52	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5.0	0.16	0	NM	NM	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5.0	0.32	0	NM	NM	ND	ND	ND	ND	ND	ND
Trichloroethene	5.0	0.16 - 1.6	0	NM	NM	210	ND	2.7	1.5	0.25 J	0.18 J
Vinyl Chloride	0.5	0.17	0	NM	NM	0.45	ND	ND	ND	ND	ND
Non-Halogenated Volatile Organic	s										
Benzene	1.0	0.16	0	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.0	0.16	0	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5.0	0.17	0	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5.0	0.19 - 0.34	0	ND	ND	ND	ND	ND	ND	ND	ND
Other				*							
Total Dissolved Solids (mg/L)	NE	4.7	0	NM	NM	NM	NM	NM	NM	NM	NM

<sup>&</sup>lt;sup>a</sup> In accordance with Appendix G of the *Travis AFB Central Groundwater Treatment Plant Operations and Maintenance Manual* (URS Group, Inc., 2002).

<sup>&</sup>lt;sup>c</sup> Th/Ox unit is currently offline for a 3-month rebound study; therefore, TPE Effluent samples were not collected in July 2007.

J	=	analyte concentration is considered an estimated value	NE	=	not established
mg/L	=	milligrams per liter	NM	=	not measured
N/C	=	number of samples out of compliance with discharge limits	μg/l	=	micrograms per liter
ND	=	not detected			

5 of 6

<sup>&</sup>lt;sup>b</sup> WTTP effluent data collected quarterly.

Table 2 Summary of Soil Vapor Analytical Data for July 2007 – WTTP Manifold Valves, Start-up Results

Summary of Soil Vapor Analytical Data for St	10 July 2007 (ppbv)				
Constituent	V-203	V-204			
Volatile Organics					
Benzene	1.2 J	ND			
Bromodichloromethane	ND	ND			
Chloroform	1.7 J	9.3			
Chloromethane	ND	ND			
cis-1,2-Dichloroethene	13	630			
1,1-Dichloroethane	ND	ND			
1,1-Dichloroethene	ND	ND			
Ethylbenzene	ND	ND			
Methylene Chloride	1.5 UJ	3.7 UJ			
Methyl Ethyl Ketone (2-Butanone)	ND	ND			
Tetrachloroethene	4.8	4.4 J			
Toluene	2.5 J	ND			
1,1,1-Trichloroethane	ND	ND			
1,1,2-Trichloroethane	ND	ND			
Trichloroethene	260	1,400			
Vinyl Chloride	ND	ND			
Xylenes, m,p-	ND	ND			
Xylene, o-	ND	ND			

analyte concentration is considered an estimated value

Ū not detected = ND = = not detected

parts per billion by volume ppbv

### **North Groundwater Treatment Plant Monthly Data Sheet**

**Report Number: 86** Reporting Period: 1 - 31 July 2007 Date Submitted: 10 August 2007

This data sheet includes the following: results for the operation of the groundwater extraction and soil vapor extraction (SVE) systems; a summary of flow rates for the individual extraction wells; a brief description of any shutdowns or significant events related to the systems: and a summary of analytical results for selected samples collected.

Operations Summary – July 2007

Operating Time: Water: 718.7 hours Percent Uptime: Water: 96.6%

> Vapor: 0<sup>a</sup> Vapor: 0%<sup>a</sup>

Gallons Treated: 0.66 million gallons Gallons Treated Since March 2000: 75.9 million gallons

Volume Discharged to Storm Drain: 0 gallons

Volume Discharged to Duck Pond: 0.55 million gallons Volume Used for Dust Suppression: 0.11 million gallons Percentage of Treated Water to Beneficial Use: 96.2%

VOC Mass Removed: VOC Mass Removed Since March 2000:

0.09 lbs (groundwater only)<sup>b</sup> 173.16 lbs from groundwater

0 lbs (vapor only)<sup>a</sup> 5,240 lbs from vapor<sup>c</sup>

VGAC Removal Efficiency: NA

Rolling 12-Month Cost per Pound of Mass Removed: \$27,683<sup>de</sup>

Monthly Cost per Pound of Mass Removed: \$95.749<sup>d</sup>

### **Flow Rates**

Average Groundwater Total Flow Rate: 15.38 gpm<sup>a</sup>

Location	Flow Rate on 27 July 2007					
Location	Groundwater (gpm)	Soil Vapor (scfm) <sup>b</sup>				
EW565x31	1.6	Off line				
EW566x31	0.5	Off line				
EW567x31	1.6	NA				
EW576x04	1.9	Off line				
EW577x04	1.7	Off line				
EW578x04	0.8	Off line				
EW579x04	0.4	NA				
EW580x04	1.5	NA				
EW621x04	1.3	NA				
EW622x04	1.9	NA				
EW623x04	1.3	NA				
EW614x07	1.2 <sup>c</sup>	NA				
EW615x07	1.1°	NA				
SVE System	NA	Off line				

<sup>&</sup>lt;sup>a</sup> The flow rate was calculated using the effluent discharge totalizer divided by the operating time of the plant.

gpm = gallons per minute

<sup>&</sup>lt;sup>a</sup> The SVE system was shut down on 12 October 2006 due to low vapor VOC concentrations.

<sup>&</sup>lt;sup>b</sup> Calculated using July 2007 EPA Method SW8260B analytical results.

<sup>&</sup>lt;sup>c</sup> Cumulative total VOC vapor mass removed includes 4.860 pounds of petroleum hydrocarbon VOC mass removed and treated by a portable catalytic oxidizer system between 15 July and 17 September 2003.

d Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to

operation of the system. High costs are due to low influent groundwater concentrations and low flow rates.

e The rolling 12-month cost per pound of mass removed is calculated by the sum of the monthly cost over the past 12 months divided by the sum of pounds removed during the same period.

<sup>&</sup>lt;sup>b</sup> The SVE system was shut down on 12 October 2006 due to low vapor VOC concentrations.

<sup>&</sup>lt;sup>c</sup> LF007 wells were turned on for the dry season on 5 April 2007. During the dry season, these submersible pumps are solar powered, and only operate during day light hours.

### **Shutdown/Restart Summary**

	Shutdown		Restart	1			
Location	Date	Time	Date	Time	Cause		
NGWTP (water)	5 July 2007	14:00	6 July 2007	15:30	High vapor temperature alarm malfunction due to high ambient temperature (> 100 °F); system restarted and operating normally.		
NGWTP = North Groundwater Treatment Plant							

### **Summary of O&M Activities**

Monthly groundwater sampling at the NGWTP was performed on 5 July 2007. Sample results are presented in Table 1. The total VOC concentration (14.72  $\mu$ g/L) in the influent sample has decreased since the May 2007 sample (18.15  $\mu$ g/L). Note that the total influent concentration for 1,1-dichlororethene (1,1-DCE) was only 1.5  $\mu$ g/L which is below the instantaneous maximum of 5  $\mu$ g/L. 1,1-DCE is the indicator chemical for Site SD031. There were no VOCs detected in the effluent sample.

Through 31 July, 2007, a total of 114,000 gallons of reclaimed water was collected from the North Plant. Reclaimed water is used for dust suppression at Travis AFB.

### **Optimization Activities**

A work plan for optimization activities at sites SD031 and FT004 is being prepared. The work plan will be submitted in mid- to late-August 2007.

Table 1 Summary of Groundwater Analytical Data for July 2007 - North Groundwater Treatment Plant

	Instantaneous Maximum <sup>a</sup> Detection (μg/L) Limit			1 July 2007 (μg/L)	
Constituent	(µg/ =)	(μg/L)	N/C	Influent	Effluent
Halogenated Volatile Organics		W = ,		•	
Bromodichloromethane	0.5	0.17	0	ND	ND
Carbon Tetrachloride	0.5	0.19	0	ND	ND
Chloroform	5.0	0.16	0	ND	ND
Dibromochloromethane	0.5	0.17	0	ND	ND
1,1-Dichloroethane	5.0	0.16	0	ND	ND
1,2-Dichloroethane	0.5	0.13	0	ND	ND
1,1-Dichloroethene	5.0	0.14	0	1.5	ND
cis-1,2-Dichloroethene	5.0	0.15	0	0.32 J	ND
trans-1,2-Dichloroethene	5.0	0.15	0	ND	ND
Methylene Chloride	5.0	0.32	0	ND	ND
Methyl Ethyl Ketone (2-Butanone)	5.0	1.8	0	ND	ND
Tetrachloroethene	5.0	0.20	0	ND	ND
1,1,1-Trichloroethane	5.0	0.16	0	1.4	ND
1,1,2-Trichloroethane	5.0	0.32	0	ND	ND
Trichloroethene	5.0	0.16	0	13	ND
Vinyl Chloride	0.5	0.38	0	ND	ND
Non-Halogenated Volatile Organic	s			•	
Benzene	1.0	0.16	0	ND	ND
Ethylbenzene	5.0	0.16	0	ND	ND
Toluene	5.0	0.17	0	ND	ND
Xylenes	5.0	0.34	0	ND	ND
Other					
Total Petroleum Hydrocarbons –					
Gasoline	50	4.9	0	NM	ND (12 UJ)
Total Petroleum Hydrocarbons –					
Diesel	50	32	0	NM	ND (55 UJ)
Total Dissolved Solids (mg/L)	NE	4.7	0	NM	NM

<sup>&</sup>lt;sup>a</sup> In accordance with Appendix G of the *Travis AFB North Groundwater Treatment Plant Operations and Maintenance Manual*, Sites FT004, SD031, and LF007 Area C (URS Group, Inc., 2005).

<sup>=</sup> not detected

<sup>=</sup> analyte concentration is considered an estimated value

mg/L = milligrams per liter
N/C = number of samples out of compliance with discharge limits

ND = not detected NE = not established

NM = not measured

 $<sup>\</sup>mu$ g/L = micrograms per liter





# Performance Based Acquisitions Through Performance Based Contracting

- Performance Based Contracting
  - Environmental PBC Goals
  - PBC Defined
  - Incentive/Disincentive Examples
  - What is PBC contracting?
  - Government Role
- MacDill Case Study
- Lessons Learned





# **Environmental PBC Goals**



- Exit strategy for environmental sites
- Focus on performance objectives
- Maximize contractor involvement
- Customer Satisfaction
- Quicker Results
- Regulatory Buy-In





# Performance Based Contracting Defined\*



- The focus of Performance-Based Contracting (PBC) is what is to be achieved rather than how it is to be done.
- This focus shifts the risk and responsibility for success to the Contractor.
- Various types of contracts can be used to execute PBC including:
  - Firm-Fixed Price (FFP) Contracts
  - FFP Contracts with Incentives
  - Fixed Price Remediation w/Insurance(FPRI)
  - Cost Reimbursement Contracts with Incentives
    - \* by FAR Subpart 37.601







- Monetary reward for exceeding milestones or performance standards
- Increased number of task order awards as a result of outstanding performance
- Sharing of realized long-term savings to the government
- Incentive fees
- Award fees



## Examples of Disincentives

- Monetary penalty for unsatisfactory performance in technical performance and/or cost control
- Decision not to exercise option for another year
- Elimination of consideration from further contracts
- Rework at contractor's cost
- Termination





## What is Performance Based Contracting?\*

- Firm Fixed Price
- Multiple Vendors to compete
- Defined Performance Objectives, Milestones & Standards
- Use incentives to enhance performance
- Provide Flexibility and ensure accountability for results

<sup>\*</sup>Can vary per customer/client





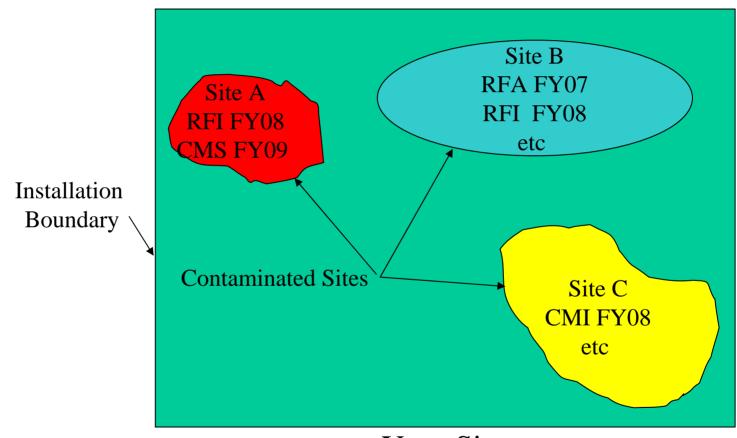
## Role Change for Government

- Since the contractor assumes most risk (including cost risk), the Government must be less directive.
- Role of Government Representative changes from giving direction to ensuring the designated contract outcomes are met.
- Government evaluates the final outcome not the method used to reach that outcome.
- Customer and Corps concurrence to path forward is Key



## US Army Corps Traditional Strategy of Engineers



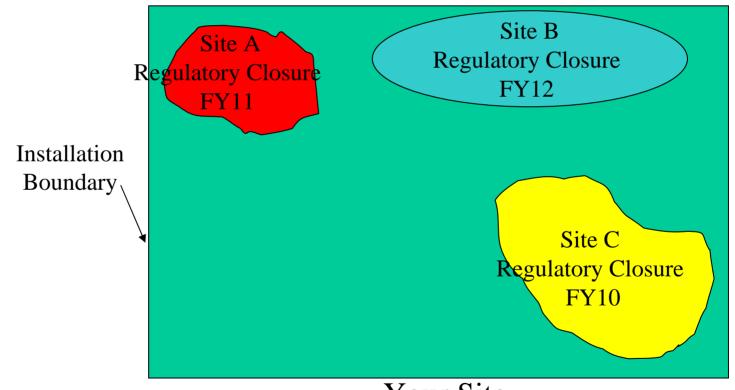


Your Site, Somewhere, USA



## New Strategy





Your Site, Somewhere, USA



### Elements of PBC Actions



- Performance Work Statements
- Performance Measurements
- Quality Assurance Surveillance Plan





#### Performance Measurements



- Performance is measured by facility construction, product recovery, reduction of mass, etc
- Performance can also be measured by other means, e.g., customer satisfaction surveys;
- Performance is rewarded by faster payments once reduction milestones are reached;
- Performance is not hindered by interference







- 40% payment upon installation and operation of the remedial system
- 20% payment for reduction of contaminate levels by 25%
- 20% payment for reduction of contaminate levels by 50%
- 10% payment for reduction of contaminate level by 70%
- Final payment once rebound period shows no increase above final cleanup goal (state dependent, average time 3 qtrs.)



## Quality Assurance Surveillance Plan (QASP)



- Required by F.A.R.
- Methods of Surveillance
- Usually administered by the Contracting Officer Representative
- Elements:
  - Purpose
  - Roles/Responsibilities
  - Performance Measurements
  - Reporting Requirements



# Us Army Corporation the Problem that Needs of Engineers to be Solved



- Involve the Technical Team
- Consensus with Customer / Stakeholder
- Regulatory Buy-in



## Conceptual Schedule



- Prepare PASB document and receive concurrence
- Develop Performance Work Statement (PWS)
- Develop Quality Assurance Surveillance Plan (QASP)
- Develop Contractor Selection Plan
- Time for Contractors to Prepare Proposal 45 days minimum
- Evaluate Packages Cost, schedule, outcomes
- Make award



## Conceptual Ideas



- Determine Performance Measures for each site – no further action, land use controls, monitoring – yes or no
- Determine length of the contract –
   Base year plus 4 option years
- Identify transition plan for each site



#### Defining the "Project"



- Project Management Institute (PMI) defines a project a temporary endeavor undertaken to create a unique product, service or a result
- Look at opportunities to break a large project into more definable, small pieces, example is MacDill's ground water units
- Each "project" must have a measurable deliverable



## "Traditional" Scope of Work



- Build a snowman in the front yard, the base of the snow man shall be five feet from the house and the sidewalk
- Use 3 balls of snow
- Largest ball shall be 3' in diameter
- Head shall be 1' in diameter
- Nose shall be a carrot
- Eyes shall be 2 lumps of coal
- Snowman shall have a hat



## Your Expectation

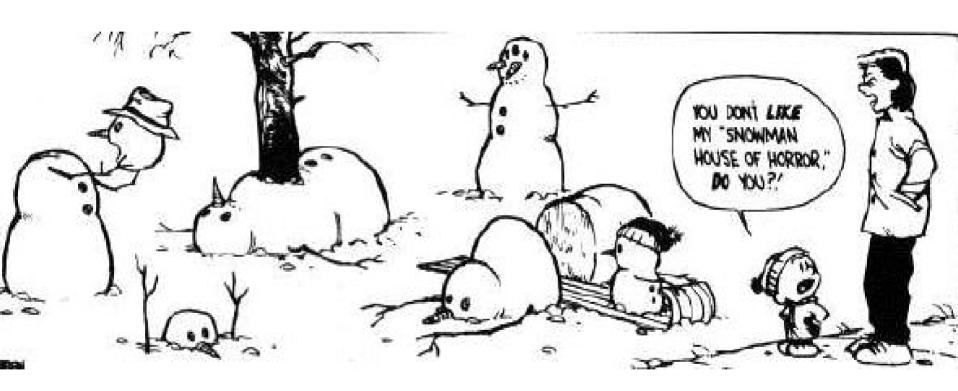






## What Calvin Created







#### Statement of Objectives (SOO)



• Describe the requirements in terms of **RESULTS** required rather than the **METHOD OF PERFORMANCE** of the work



# NEW Performance Based Work Statement



- Fabricate a sculpture using snow that resembles a person
- Sculpture should be completed today
- Sculpture should be viewable from window
- Cocoa and cookies will be provided following completion of the task (incentive)



## New Outcome





- Resembles a person
- Timely manner
- You owe a performance incentive



## MacDill Objectives



- Achieve Site closure or other performance objectives including Remedy in Place (RIP) at a fixed price
- Leverage private sector technical and regulatory expertise to reduce life cycle remediation costs
- Minimize the contracting and administrative requirements for achieving closeout



- Need to identify an end point for all work currently under contract that impacts sites
  - MacDill Example

"Black and Veatch (AFCEE contract) will prepare a monitoring plan for SWMU 5-8. No remedial action is anticipated. Contractor will assist in preparation of an annual report to document Institutional Controls are in place. A current round of groundwater sampling will be required for the approval of Remedy in Place."





#### Define future land use

- Residential, Industrial, green space
- MacDill Example

"The PBC Contactor will be required to remove the lead from the soil but may propose an alternative method for stabilization of the soils. The installation does not require the berm for future use."



- Need to ensure that the installation records are up to date and accessible by any potential bidder
  - MacDill AFB updated the administrative record and placed the documents on the FTTP site where they were assessable to all bidders. All documents in the repository were also updated.



## All regulatory drivers must be included in the SOO

- MacDill Example
- "Comments received form EPA in July 2005 required additional delineation of the groundwater associated with this site. The State of Florida approved the confirmation report in July 2005 and recommended a RFI be conducted at this site."







- Structure the work and incentive fee to be in the same budget line item to allow for flexibility
- Simplify Just because you can write it does not mean that you can manage the contract issues





CLIN	Site ID	Base	Option	Option
		Year	1	2
1	SWMU A			
2	SWMU B			
3	SWMU C			
4	SWMU D			
	TOTAL	\$1.2 M	\$2.1M	Propose

# us Army collease Year and Option Years — Schedule B - Proposal #1



CLIN	Site ID	Base	Option	Option
		Year	1	2
1	SWMU A		\$0.9M	
2	SWMU B	\$1.2 M		
3	SWMU C		\$1.1M	
4	SWMU D			\$ 0.8M
	TOTAL	\$1.2 M	\$2.0M	\$ 0.8M





CLIN	Site ID	Base	Option	Option
		Year	1	2
1	SWMU A		\$0.9 M	
2	SWMU B			\$1.3M
3	SWMU C	\$1.2 M		
4	SWMU D		\$0.9 M	
	TOTAL	\$1.2 M	\$1.8M	\$1.3M



## US Army Corps of Engineers

### Milestone Payment Schedule



- Find measurable tasks
- Example:
  - Prepare Project Management Plan
  - Collect baseline samples
  - Collect 1<sup>st</sup> LTM samples
  - 1st LTM report
  - 2<sup>nd</sup> LTM report



## Quality Assurance Surveillance Plan (QASP)



- Details how and when the Government will survey, observe, evaluate and document contractor performance
- Focuses on quality, timeliness, etc.
- Included in the SOO



## Evaluating the Work Effort





- Contractor to maintain major arteries
- Secondary roads cleared in 24 hours



### Was the PB criteria fulfilled?







#### **Incentives**



- Include performance incentives and disincentives where appropriate
- Both financial and non-financial are acceptable
- Challenge is to isolate a pot of funding to pay for the incentives if the project was not programmed with an incentive fee, then any fee reduces the dollars available for actual work



#### MacDill Incentives

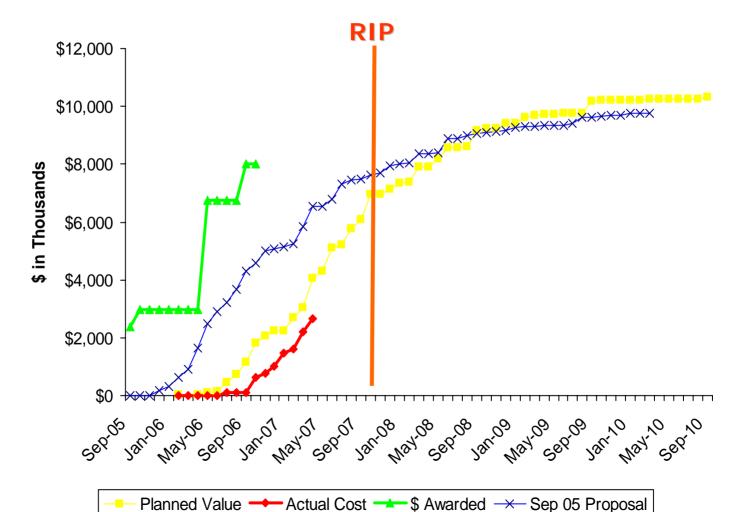


- Corporate Cash Flow: The A-E has developed a business plan based on estimated schedule payments
- Schedule Variation = Earned Value Planned Value
- Cost Variance = Earned Value Actual
   Cost



# MacDill Shore to Shore Payment Milestone Dates















#### Award Based on Best Value



- Technical Approach
- Key Personnel / Teaming Arrangements
- Schedule
- PAGE LIMIT IS 50 PAGES



#### Award Based on Best Value



- Costs Schedule B
- Cost Estimate including direct labor, subcontractors, other direct costs, mark-ups, including fees.
- Intent is to award without negotiations



### **Avoid Protests**



- Make sure that all potential bidders have access to the same information
- Schedule a site visit Need to have a script for each tour guide
- Schedule a follow up session to allow potential bidders to ask questions



## Communications



- Performance Based is still a team effort!
- Good communications between the contractor, installation, service center, technical team members and the regulators is critical



### MacDill's Schedule



- Develop SOO 3 weeks starting in May
- Update Administrative Record 1 Month
- Announce to Contractors 27 May 2005
- Develop QAPP 3 weeks
- Prepare / Approve Selection Plan 3 weeks
- SOO released 10 Jun 2005
- Base Tour 21-22 June 2005



# of Engineers MacDill's Schedule - Continued

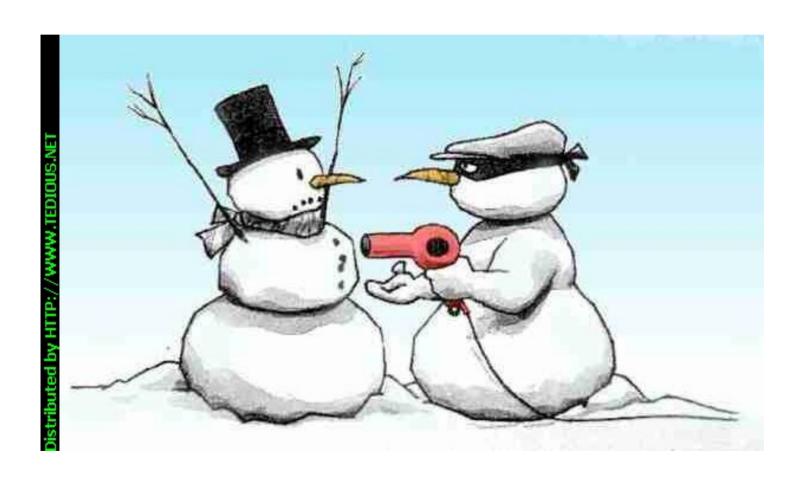


- Contractor Proposal Development 2 months
- Proposal due 5 Aug 2005
- Evaluation Board meets Aug 8-12
- COE Contracting Board Review / Approval
- Receive funding from AMC -
- Award Base Contract 23 Sept 2005
- Modified Contract 30 Sep 2005



# of Engineers $\overset{\text{US Army Corps}}{A}$ good $\overset{\text{SOO}}{SOO}$ can avoid this problem

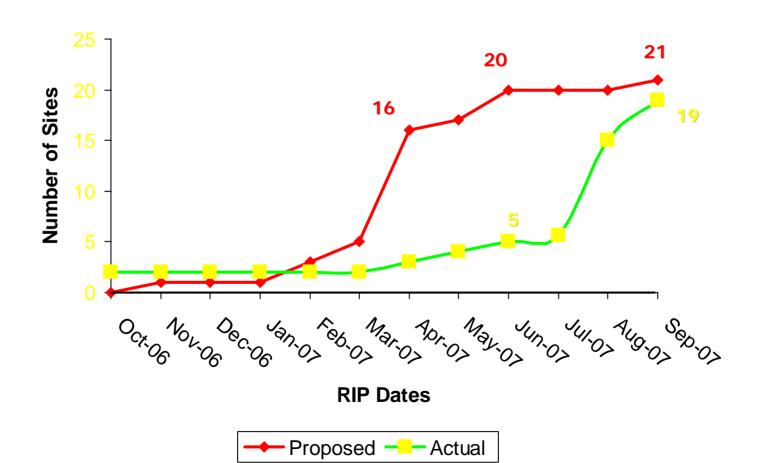


















 Regulatory rejection of a PAH study created schedule issues for SWMU 35.
 Contractor was proposing risk reduction as opposed to dig and haul

• Funding for SWMU 57 was delayed which created a lag in the schedule



### PBC Lessons Learned



- Contractor can propose solutions
- Tailor Performance Objectives
- Insurance as a last resort
- Make sure the project fits the criteria.
- Educate the Regulators.
- Educate the Stakeholders
- Determine Breakpoint for Execution
- Fence to Fence PBC
  - Single Contractor
  - Pass on savings to customer (economy of scale)
  - Can use options for flexibility
  - Solidify program (regulator and customer)
  - Work can match funding profile
  - Priority of work can be established



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