



**TETRA TECH**

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January 19, 2010

Project Number 02014

Reference: Contract No. N62470-08-D-1001 (CLEAN)  
Contract Task Order (CTO) No. WE05

Subject: Distribution of RAB Meeting Minutes, December 9, 2009  
NAS JRB Willow Grove, Pennsylvania

Dear Restoration Advisory Board (RAB) Member:

At the request of Jeff Dale of the Navy's Base Realignment and Closure (BRAC), Program Management Office (PMO), Northeast, copies of the RAB meeting minutes for the RAB meeting held on December 9, 2009 are enclosed. Questions should be addressed to Bill Heil, the RAB Coordinator for the Naval Air Station Joint Reserve Base, Willow Grove, at (215) 443-6938.

Sincerely,

Russell E. Turner, P.E.  
Project Manager

RET/nfs

Enclosure: RAB Meeting Minutes  
Presentation Handouts  
Distribution List

c: Garth Glenn (Tetra Tech)  
File 3.2



# NAVAL AIR STATION JOINT RESERVE BASE (NAS JRB) WILLOW GROVE

## Restoration Advisory Board (RAB) Meeting Minutes RAB Meeting No. 40

Meeting Date: December 9, 2009

Meeting Time: 6:00 p.m.

Meeting Place: Horsham Township Public Library

	<u>Name</u>	<u>Organization</u>
Attendance:	Eric Lindhult (R)	RAB Member
	Rick Meyers (R)	RAB Member
	Jim Vetrini (R)	RAB Member
	Peter Choate (R)	RAB Member
	Joanna Furia	HLRA Environmental Committee Chair
	Bob Lewandowski (R)	Navy, BRAC PMO
	Jeff Dale (R)	Navy, BRAC PMO
	Bill Heil (R)	Navy, Willow Grove
	Hal Dusen (R)	Navy, Willow Grove
	Nate Paukovits (R)	Navy, Willow Grove
	Bill Downs (R)	Air Force Reserve
	Charles Clark (R)	PADEP
	Kevin Kilmartin	Tetra Tech
	Russ Turner	Tetra Tech
	Scott Shaw	Tetra Tech
	Andy Kandray	Tetra Tech
	Andy Johnson	Tetra Tech
	(R) Designates RAB Member	

Bob Lewandowski welcomed everyone to the NAS JRB Willow Grove Restoration Board (RAB) meeting number 40. Mr. Lewandowski thanked community members, some of whom have been attending since the RAB began, for being involved in approximately ten years of quarterly RAM meetings. This is quite a milestone and the Navy really appreciates the community's sticking with us this long. Liz (Gemmill) sent an email saying she could not attend because her husband is ill in hospice, and she is staying with him. She will be in our thoughts and prayers.

Mr. Lewandowski introduced Jeff Dale as the new Navy Remedial Project Manager. Many people know Jeff from when he worked for the Navy facility in Trenton and for Navy Engineering Field Activity, Lester for this Base and others, until closed down about three years ago. The Navy was lucky enough to woo Jeff back after Curt (Frye) left. Jeff was familiar with the NAS JRB Willow Grove program, so he's gotten up to speed really quickly and has jumped right in.

Mr. Lewandowski explained that since Governor Rendell has sent a letter to Secretary Gates, withdrawing plans for the Joint Interagency Installation, the Navy believes that the Base will follow the normal BRAC (Base Realignment and Closure law) process for disposal. The good news for this group is that the Navy, and the Air Force for the portion of the property they own, will continue with the cleanup process. The Navy team is pleased because we really enjoy working with this group, and would like to see the process through.

Mr. Myers asked if there wouldn't have been a function that you would have been required to do for your closing down period anyway? Wasn't there going to be a joint interagency? Were you expecting only a part of the buildings to worry about? Mr. Lewandowski explained that the plan was to turn the Base over to the Air Force, then the Air Force was to turn it over to the State. So the Navy's involvement was going to end very quickly. Now, the Navy will continue on with cleanup and investigations underway.

Mr. Lewandowski recapped the planned Agenda for the RAB meeting and provided an update of the upcoming investigations planned at the CERFA (Community Environmental Response Facilitation Act) Category 3 areas of interest. In previous RAB meetings, the Navy reported on the CERFA Category 3 site investigation process, and how working with EPA and PADEP we winnowed through to identify sites that may need some sort of action. Basically, there are five remaining areas that could potentially require some sort of action, that could not be characterized either way by simply reviewing existing records. Referring to a projected slide from the printed handout, Mr. Lewandowski identified the sites the Team agreed needed some follow-up investigation or sampling. Sites include two abandoned septic tank area and tile fields, an area of former underground storage tanks (USTs) we think were removed a long time ago that we want to verify, an old boiler building pipe blow-down area, and finally, a building already transferred to the Air Force where some friable exterior asbestos was noted. The building with asbestos noted has already been transferred to the Air Force to be used for the Army Reserve center, but since it was in our Work Plan, we're going to obtain samples anyway and then turn those results over to the Army and Air Force. We will be taking soil samples at the two septic tank areas, the boiler blow-down area, and in the area of the former USTs. Soil samples will be analyzed for VOCs (volatile organic compounds) and SVOCs (semi-volatile organic compounds) to compare the results to PADEP Act 2 standards. Once we have that data, we'll present it to evaluate if we need to do some type of further action or not. The Work Plan for field investigations has been approved through PADEP and EPA. Tetra Tech is in the process of subcontractor selection to begin the work in the second week of January. We also have other investigations going at Site 12, and we're putting a new monitoring well at Site 3. We're trying to coordinate all of that work in January to give us the most bang for the buck. There were no further questions, so Mr. Lewandowski handed over to Jeff Dale to present an update on activities at Site 3.

Referring to the projected slide, Mr. Dale reviewed the location of Site 3 near Horsham Road at the Golf Course, and gave a brief synopsis of Navy investigations at Site 3 over the past few years. Earlier investigations did not find much of concern at Site 3 until Curt (Frye) and Bob gave it a more thorough look, noticing the irregular soil surface areas. An electromagnetic (EM) survey identified potential metallic debris buried. The Navy performed test pit and soil sampling, confirming that historical Site 3 landfill activities had not been fully identified.

Mr. Dale used the projected slide to point out anomalous areas identified by the EM survey. Soil sample analytical results from the test pits are in the process of evaluation compared to benchmarks for human residential and industrial direct contact without showing much exceedence, but comparison to groundwater impact standards that are set by EPA suggest that the water leaching through the soil could impact groundwater quality. Referring to the projected slide, Mr. Dale discussed the anomalies where compounds were found in soil, and pointing out the location of existing monitoring wells, explained that there is an additional monitoring well needed to evaluate the soil impact to groundwater to finalize the Remedial Investigation (RI) report. PADEP and EPA agreed to the location of a new well to be installed. Depending on conditions encountered in the field, one or two new monitoring wells will be completed in the spot agreed to by the Navy, EPA and PADEP.

Mr. Dale summarized by discussing the status of the three investigations pending in January and February 2010. The Work Plans for the CERFA Category 3 areas of concern, the Site 3 monitoring well and investigations at Site 12 were all recently approved by all parties. The Navy plans to perform all of the field work in January and February. We wanted to have the Site 3 RI report finalized in fiscal year 2009, but that's going to slip to fiscal year 2010. We are still on track for a Feasibility Study in FY '10 and a Record of Decision for Site 3 in FY '11 to meet with the current property transfer schedules. There were no questions, so Mr. Dale handed over to Kevin Kilmartin to present an update of bioremediation activities at Site 5.

Mr. Kilmartin mentioned that this would be a brief update of the bioremediation status at Site 5 and gave an overview of the Site 5 fire training, drum storage and solvent spill history for those present who may not have been fully briefed from previous presentations.

The objective of the Site 5 groundwater bioremediation pilot system is to encourage the naturally occurring bacteria living in the aquifer to break down the solvent contamination. Initial conditions were not optimal for the bacteria, so the Navy has injected amendments to raise the pH and to provide a ready supply of nutrients for the existing bacteria. Referring to a projected slide of the site, Mr. Kilmartin explained the injection and extraction well network composed of new and some older wells at Site 5. These wells were used to extract groundwater or inject the same water with the amendments, to alter conditions in the aquifer and promote natural bacterial activity. Injection of amendments, sodium bicarbonate to raise the pH and lactate, the nutrient to add the required carbon, began in April 2009 and ended in June 2009. Post injection groundwater monitoring in August 2009 and October 2009 provided data to compare to baseline monitoring results obtained before starting injection. Referring to a series of projected slides of graphs of the analytical results, Mr. Kilmartin explained that the results indicate that we are changing the chemistry of the aquifer in the manner we hoped and that the bacteria have been stimulated to reproduce. However, the naturally occurring carbon in this groundwater unit is deficient. Addition of more amendment material, mainly the carbon in the lactate nutrient, but also the sodium carbonate to keep the pH up is needed. Preliminary discussions with the Navy conclude reinjection is needed. Discussions with the regulatory agency representatives are pending in January to plan for the next round of injection/recirculation.

Mr. Lindhult asked if the oxygen graph looks like the ORP graph, or is it less dramatic? When did it start to go down? Is 1,1-TCA your primary contaminant, and is the pH

coming back up or will you have to retreat for that? Mr. Kilmartin replied that oxygen concentrations started around one or two milligrams per liter (mg/l), which is not as low as we would like, and in some wells it was lowered to around 0.5 mg/l, but we have not seen any anaerobic conditions yet. At the most highly impacted well, 1,1-TCA is about 400 micrograms per liter (ug/l). Total VOCs at the most highly impacted well is about one part per million (ppm). Mr. Lewandowski asked if the pH is coming back up or do we have to add more bicarbonate for that? Mr. Kilmartin replied that the pH has stayed up and we want it to stay up. When we inject more lactate, we'll mix up another batch of 'bicarb and inject it at the same time, both bicarb and lactate can be injected at the same time.

Joanna Furia asked which entity decides when it's good and you no longer need to be doing these injections? Who is going to decide, "okay you're good," I don't understand the process. Mr. Dale and Charles Clark replied that EPA, the Navy and PADEP are relying on EPA's experts in Oklahoma to review this information and advise us how to proceed. We are anticipating a two-hour conference call in the near future to work this out. Mr. Lewandowski added that there were certain decision points along the way. We agreed that when we reached a certain point, then we would consult with EPA and PADEP. Ms. Furia mentioned that was really her question. I know EPA ultimately decides. I didn't know – you're talking about "we're going to try again, we're going to see", and I'm wondering who's making the decisions along the way? Mr. Lewandowski and Mr. Clark added that it is a Team decision with expert advice from EPA Ada, Oklahoma specialists. As we reach these consultation points, we are going to do the consultation and then move forward. Then there will be subsequent decision points. There were no more questions.

Mr. Lewandowski introduced Bill Downs of the Air Force Reserve to give updates on the Air Force POL (petroleum, oil and lubricants) site. Mr. Downs gave a brief overview of himself and the presentation for tonight, mentioning that the Air Force Reserve Command deactivated the Willow Grove Air Reserve Station and no longer has personnel there, but they still have remediation that is ongoing at this reserve station. Tonight the Air Force will brief on the work performed in the summer of 2009 and plans for completion of the remediation of this site. If plans go according to expectation, this site should be closed in 2012. The Air Force Reserve Command has contracted with Tetra Tech through 2012 for technical oversight of closure for this site. Scott Shaw of Tetra Tech will present the brief as outlined.

Scott Shaw began by mentioning he will be speaking about the removal action underway at the site, and the results of groundwater remediation and monitoring, followed by future milestones and plans.

A removal action along the gas transmission line right-of-way was performed in conjunction with gas transmission pipeline repairs. Soil removal began in October through December 2008 and continued in June and July 2009. There was also another area called the "additional removal area" where it was concluded to be in the Air Force's best interest to remove some soil at this time. During soil remediation and between phases of soil removal, there were many efforts to maintain the site stable from erosion or discharge of untreated water. Sediment and erosion

controls were maintained and a water treatment system was constructed at the site. After soil removal, fill was placed to return the area to original grade, and the regraded site was stabilized with seed and other measures like woven mats or silt fence to stabilize the site while the revegetation efforts took hold. This work was governed by regulations covering petroleum release, typically the responsibility of PADEP.

Mr. Lindhult asked what did the wastewater treatment plant consist of? Andrew Kandray replied that it included a frac tank, weir tank, in-line bag filters and a carbon filter.

Referring to the projected slides and handouts, Mr. Shaw summarized the extensive soil investigation that preceded the right-of way soil removal action. Soil removed from the pipeline right-of-way, including the soil removed last year in 2008 that was stored temporarily in a large hangar on Base, was shipped for low temperature desorption treatment and disposal at two facilities in the Philadelphia area. In November we inspected restoration of on-Base areas impacted by the removal action with contacts from the PA Air National Guard and the Navy, and we completed an inspection of the Graeme Park driveway to ensure that it was restored to the satisfaction of the State. We are currently in the process of preparing our report for PADEP to be submitted in March, 2010.

Mr. Shaw explained that the Air Force Reserve is also working on compliance groundwater monitoring and groundwater remediation at the site. As far as FY 2009 is concerned, we have detected no compounds in exceedance of any of the jet fuel spill constituents of concern above applicable concentrations except for lead. Groundwater monitoring and reporting by the Air Force will continue, and annual reports of groundwater results will be filed with the State.

Groundwater remediation biosparging efforts also continue. The Air Force is continuing the program outlined before and summarized in the handout. To date we've completed biosparge air injection in Areas H and G. We have installed piping for Areas E, F, D, and C. We are currently injecting air into Area D. The biosparge air injection system has been effective in raising the oxygen concentrations in the groundwater to promote natural degradation. Reporting and closure requirements for groundwater are very similar to those required for soil discussed earlier tonight by the Air Force and the Navy. Over the next two years the Air Force will continue transitioning the active biosparge remediation program into the remaining areas to be treated until groundwater is remediated.

Future activities include submittal of the removal action report by March 2010, and continued groundwater remediation biosparging and reporting.

Mr. Lindhult asked about the lead reportedly found in the upgradient wells – you're looking to see if there is lead in the native constituents, I mean the groundwater [located at the depth of] bedrock? Was lead found in the production wells on Base? And another question, Are you looking at all potential alternatives to biosparge? Mr. Shaw replied that yes, we would like to identify the source of lead. In the samples collected in October, we did not find any lead. We are wondering if it could be a condition resulting from the rising and falling water table. We do not know if there is lead in the production wells. Russ Turner and Hal Dusen mentioned that the Air Force production wells have

not been operated since the 1970's. The Air Force has relied on the Navy water supply since the '70s for another reason. Mr. Shaw continued, explaining that the Air Force is committed to the biosparge remediation at this point. In the past, we did several reviews of the available technologies and performed a chemical oxidation remediation program at a number of those areas. We performed a study of natural attenuation for benzene in 2001 that predicted falling below the compliance concentration in five to ten years. We're right at that point now. We are not seeing benzene in any of our compliance wells now. The original plan included using application of chemical oxidant to treat free (petroleum) product. At this point, except possibly for very minor isolated instances, we are not seeing free product on the site anymore. There were no further questions.

Mr. Lewandowski mentioned that presentations for the night were concluded and asked if there were comments or questions.

Mr. Vetrini asked about the general change in the future of the Base. Will there be any different tack taken as far as what we are doing here (in the RAB)? Mr. Lewandowski replied that no, not from the Navy's standpoint. We've been proceeding along as if we had blinders on. Regardless of what was happening with the Base as far as reuse and becoming the Horsham joint interagency installation, we just tried to put on the blinders and just follow our regular cleanup process and try to move forward as quickly as possible. As it turns out, I think that was a good plan because now in the remediation area of closure we're probably ahead of the game as compared to the reuse functions of the LRA (Local Reuse Authority) and all they need to go through before the Base can be transferred. Hopefully our paths will converge a couple of years out, where we have all of the remediation completed, the LRA has all of their reuse planning completed, and then we will be able to transfer the property. So from the Navy's point of view, no change.

Mr. Myers asked if since the change of the Governor's actions, after the Navy leaves in 2011, is there going to be technically any use for us (the RAB) here. Are you (the Navy) going to be replaced by the Air National Guard or the Army? Do you expect a point on the teeter totter where the Air National Guard takes over this (RAB) and the Navy says "we're done here Bob, go off to work in New Jersey at McGuire"? Mr. Lewandowski replied that no, if we use the former Warminster Base as an example, we're still plugging away. Jeff and Bob just attended a RAB meeting at the Warminster facility earlier the same day. The Base in Warminster was transferred in 2000, but we have continuing responsibilities for remedial systems and remedies in place, where final cleanup isn't complete. For instance, the groundwater remedy is in place, but the groundwater isn't totally cleaned up. So we continue to meet with the RAB and our PADEP and EPA counterparts to refine that process. Chick Clark was at that meeting earlier also. If past predicts the present, the Navy will continue to be involved in the long-term remediation that has to go on at this Base. Mr. Myers asked if the RAB would morph into something new. Mr. Lewandowski replied that we anticipate that like at the Warminster Base and at several other Navy facilities, the Navy may stand up a local caretaker's support office. It would be very small, staffed with Navy personnel. The main component of this would be responsibility for security. There would be several security officers to patrol the property

and a skeleton staff to make sure that proper maintenance, to keep the facility at a certain standard, is performed prior to transfer. Mr. Myers asked if the Army would be invited into the RAB group? Nate Paukovits explained that the Army will not be a property owner. They will be tenants. Mr. Lewandowski added that the Navy transferred approximately 20 acres of Navy property to the Air Force for the building of the Army Armed Forces Reserve Center. Mr. Paukovits added that the current schedule is probably May of 2010 to start demolition of buildings to make way for the Army facility.

Mr. Choate asked about the pipeline repair and soil removal action. His understanding was that the reason for the project was to examine the pipeline to see if there was any degradation due to the spill. Was there any problem with the pipeline as a result of the spill? Was Transco satisfied or did they do repairs? He lives within a quarter mile of it, so is interested in the status of the pipeline. Mr. Downs replied that the purpose for the removal action wasn't to look at the integrity of the pipeline. The push came from Transco, they had to perform maintenance on their pipe. And we (the Air Force) knew we had contaminated soils. When Transco excavated the soils, they knew they would not be able to put them back into the ground. So we worked up an agreement with Transco for the soils they took out that were contaminated. The Air Force would take possession of these soils for disposal purposes, and we would give Transco clean soil to put back into the excavation pit after Transco was done with their maintenance on their pipe. Mr. Choate asked - so there's no problem with the pipe? Mr. Downs replied that there was none that was seen. Mr. Shaw and Mr. Kandray added that Transco examined the coating both during the removal action and also during the action that was done in 2006. Transco recoated the pipeline in the areas excavated, and a new detection system was installed to monitor conditions, so now Transco can routinely test it. That was the maintenance activity mentioned earlier. Mr. Downs added that the new coating applied would be resistant to POL products.

There were no more questions or comments,

Mr. Lewandowski suggested, and after a brief discussion, confirmed that the next RAB meeting will be held on March 17, 2010 and wished everyone a good holiday. The meeting adjourned.





**NAS JRB  
WILLOW GROVE**

**RESTORATION  
ADVISORY BOARD  
(RAB)**

December 9, 2009  
Meeting Number 40




## Agenda

- CERFA Category 3 Areas of Interest
- Site 3 – Ninth Street Landfill Investigation Status
- Site 5 – Fire Training Area Groundwater Pilot Investigation Status
- Air Force Remediation of POL Site



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## CERFA Category 3 Areas of Interest

- Work Plan for Field Sampling Approved
- Subcontractor Selection and Scheduling Underway
- Tentative Plan is to Commence Sampling Second Week in January
- Will Coordinate With Investigations at Site 12 and Installation of New Site 3 Monitoring Well



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## CERFA Category 3 Areas of Interest

SITE	DESCRIPTION	Notes after Table Top Investigation	ACTION REQUIRED	HAND	DETECT PRESH BORINGS	SOIL SAMPLES	PACKS SAMPLES	LAB ANALYSIS	DECISION STATEMENT
<b>Substance</b>									
104	Building # former Compound	Abandoned traffic system. Tank and soils sampled for SVOCs in 1997. No detections. Historical activities at site not known.	Subsurface soil sampling to determine if release has occurred based on ACT 2 standards.		2	2		VOC, SVOCs	If sample results less than Act 2 standards, then No Action. Otherwise, team will meet to discuss future action.
110	Ground Electrics	Abandoned traffic system. Tank and soils sampled for SVOCs in 1997. No detections. Tank excavated by contractor in 2001.	Subsurface soil sampling to determine if release has occurred based on ACT 2 standards.		2	2		VOC, SVOCs	If sample results less than Act 2 standards, then No Action. Otherwise, team will meet to discuss future action.
<b>Site 3 Light Linn</b>									
Former Bldg 70 and former Flight Line	Buildings 22, 38 and 70 and former hangar, etc.	Visual evidence of possible UST found. For cleanup see investigation. Historical record of Fuel Form No. 1 years of loading. Oil spill investigation. UST. Blanket dated 1989 shows plans for removal of tanks.	Subsurface soil sampling to determine if release has occurred. Former tank locations.		4	4		VOCs, SVOCs	If sample results less than Act 2 standards, then No Action. Otherwise, team will meet to discuss future action.
10A	Old boiler building	Boiler has inspection performed. ACM in good condition. CERFA area under blow down pipe discharged to ground surface.	Conduct soil sample at boiler blow down.	1		1		SVOC metals	If sample results greater than Act 2 standards, then further study, observation, NFA.
<b>Miscellaneous</b>									
101, 120	LOX Storage	ACM in Building 120. To be transferred to Army and demolished.	Sample several shale rock/soil samples in CERFA report.				1	soils/soil	



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### Site 3 – 9<sup>th</sup> Street Landfill Investigation Status

BRAC PMO



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### Site 3 – 9<sup>th</sup> Street Landfill Investigation Status

BRAC PMO

- Results of RI Indicate Need for Additional Monitoring Well Downgradient of Geophysical Anomalies B and C
- Work Plan for New Well Installation is Approved
- Subcontractor Selection and Scheduling Underway
- Tentative Plan is to Commence Well Installation Second Week in January 2010
- Will Coordinate With Investigations at Site 12 and CERFA Areas of Interest

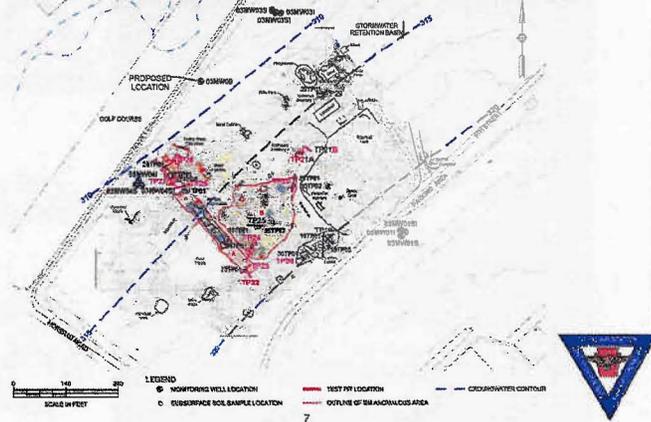


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### Site 3 – 9<sup>th</sup> Street Landfill Investigation Status

BRAC PMO



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### Site 3 – Ninth Street Landfill Next Steps

BRAC PMO

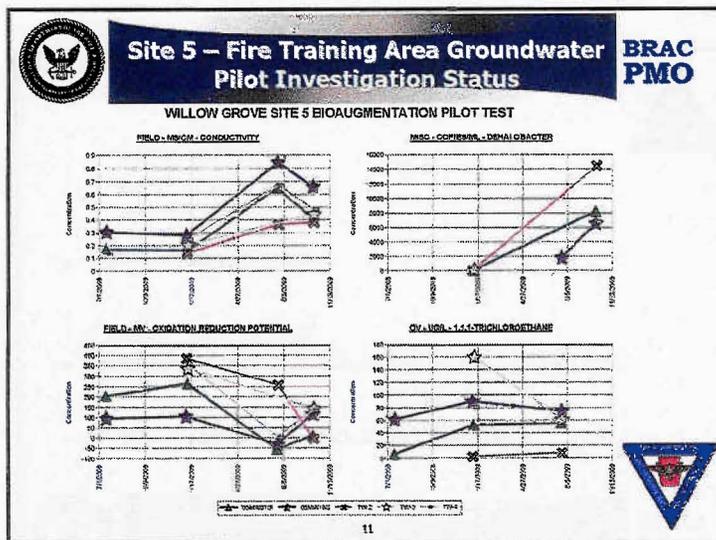
- Remedial Investigation Report FY '10
- Feasibility Study Report FY '10
- Record of Decision (ROD) FY '11



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- ### Site 5 – Fire Training Area Groundwater Pilot Investigation Status
- BRAC PMO
- Injected and Recirculated Sodium Bicarbonate and Substrate (Early April through Late June 2009)
  - Conducted Two Post-Injection Monitoring events (Early August and Early October 2009)
  - Results Indicate that the Geochemistry Within the Recirculation Cell has been Favorably Impacted  
However,
  - Additional Food Source (Lactate) is Required



### Air Force Reserve POL Site Remedial Action

BRAC PMO

Point of Contact

Bill Downs (478) 327-1073



## RAB Member Questions Closing Remarks

BRAC  
PMO

- RAB Member Questions/Suggestions
- Document availability at Horsham Township Library and on line
- Next Meeting Date



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Willow Grove ARS, PA  
Restoration Advisory Board Meeting  
Air Force Reserve Command- POL Site (ST-01)

Wednesday December 9, 2009

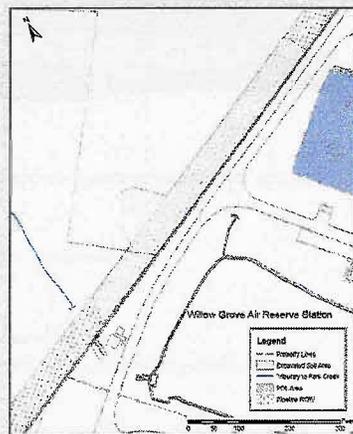


## Overview

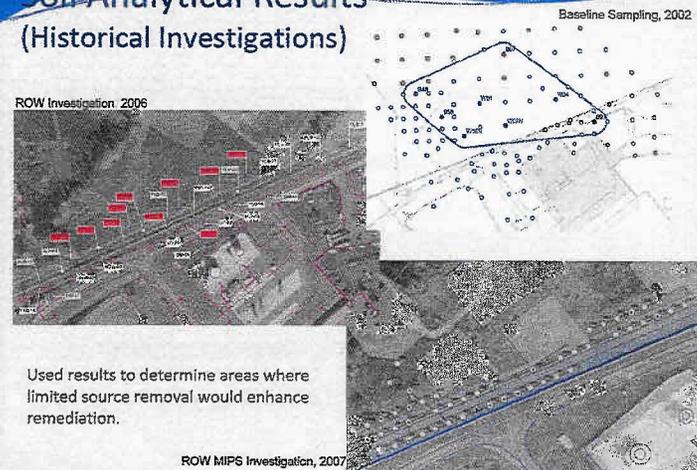
- Removal Action
- Compliance Monitoring Program
- Groundwater Remediation
- Remedial Objectives and Closure Requirements
- Project Milestones

## Removal Action

- Pipeline Repair/ Soil Removal Action
  - Phase I: October - December 2008
  - Phase II: June - July 2009
- Additional Area Removal
  - August 2009
- Site Restoration
  - Stabilization: December 2008
  - Completion: October 2009
- Notice of Intent to Remediate Soils
  - SECP - Final Submitted Aug. 20, 2009
  - NIR Filed - Aug. 21, 2009
  - Public Notice - Aug. 18, 2009
  - Township Notified - Aug. 31, 2009



## Soil Analytical Results (Historical Investigations)



## Soil Management

- October 15 – December 1, 2008
  - Moved 8,450 tons of Contaminated Soil to Hangar for Storage
  - Imported clean fill to replace soil shipped off-site
- June 3 – August 4, 2009
  - Shipped 9,500 tons from Ongoing Excavation
  - Shipped 8,450 tons from Hangar
- Off-site Shipment to Low-Temperature Thermal Desorption Facilities
  - Clean Earth in Morrisville, PA
  - Clean Earth in Philadelphia, PA

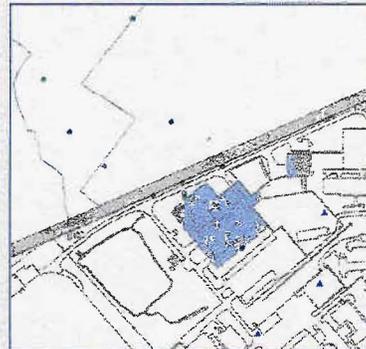


## Additional Removal Action Activities

- Wetlands Delineation Survey
- Submittal of SECP
- Water Management
- Site Restoration
- Well Replacement
- Site Inspection – in coordination with ANG, Navy, and Graeme Park
- Reporting – PADEP Closure Requirements

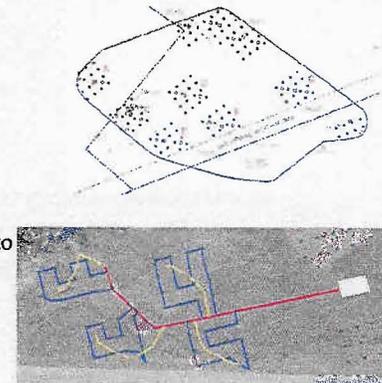
## Groundwater Compliance Monitoring Program

- FY 2009 Monitoring Results
- Lead Concentrations and Further Investigation Planning
- Future Monitoring Events
- Future Reporting



## Groundwater Remediation – Biosparge System

- Treatment Completed in Areas G and H
- Installing of System Equipment Complete in Areas C, D, E and F
- Treatment Currently Underway in Area D
- Treatment will Transition to Areas E, F, and C During Next 2 Years



## Remedial Objectives and Closure Requirements for Site ST-01

- Groundwater Cleanup Standards
- Notice of Intent to Remediate – Groundwater
- Reporting



## Anticipated Milestones

- Removal Action Report – March 2010
- Compliance Monitoring Reporting
  - October 2009
  - September 2010
  - September 2011
  - September 2012
- Biosparge Operation – February 2012
- NIR for Groundwater – April 2012

Questions??

