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MINUTES FROM 6 MARCH 2013 BASE REALIGNMENT AND CLOSURE TEAM MEETING  
MILLINGTON SUPPACT TN  
3/6/2013  
NAVFAC MIDWEST



**Agenda / Meeting Minutes**  
**BCT Meeting**  
**NSA Mid-South**  
**March 6, 2013; 9 AM – 4:00 PM**

**Attendees**

Roger Donovan	TDEC (Nashville)	(615) 532-0864	<a href="mailto:roger.donovan@state.tn.us">roger.donovan@state.tn.us</a>
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Scott Powell	Lee and Ryan (IN)	(248) 969-7290	<a href="mailto:spowell@leeandryan.com">spowell@leeandryan.com</a>
Matt Teglas	QE2 (Knoxville, TN)	(865) 689-1395	<a href="mailto:mteglas@qe2llc.com">mteglas@qe2llc.com</a>
Ben Brantley	Resolution Consult.	(901) 372-7962	<a href="mailto:bbrantley@ensafe.com">bbrantley@ensafe.com</a>

**AGENDA TOPICS**

**BRAC**

- SWMU 15 Status
- AOC A Optimization
- Skeet Range #2

**ER,N**

- UXO 1 and 2 status of field investigation
- Lingering SWMUs 17 and 22
- Well inspection/maintenance report (BRAC and ERN wells)
- SWMU 2
- SWMU 14/46
- SWMU 39

### **BRAC- SWMU 15 Investigation**

Resolution Consultants presented groundwater DPT data, collected in November 2012, at SWMU 15. The objective of the sampling was to vertically profile the upper section of the fluvial deposits aquifer between well 015G01UF and the former fuel farm. Despite a large soil-removal action at the fuel farm, elevated benzene levels had been persisting in well 015G01UF, triggering the source recent investigation.

Figures were presented showing groundwater sample locations north and south of the 015G01UF and benzene data from the three depth intervals (35', 45', and 55') indicated the 45' depth interval was the most impacted of the three. The most elevated benzene levels (2,780 and 4,380 µg/L) were identified at the southernmost locations 7 and 8. Potentiometric data plotted with the benzene data indicated the groundwater flow direction from the southeast to northwest, suggesting that the source of the benzene was likely emanating east of the former fuel farm/excavation area. Jim Heide mentioned that fuel dispensing island and waste oil tank were formerly west of the fuel farm, suggesting a possible separate source area for the benzene.

Resolution Consultants said they had prepared a plan of action/cost estimate for additional investigative work. Once funded, a soil gas survey and additional monitoring wells were planned to (1) identify the benzene source(s) and (2) the downgradient extent of contamination. Since the vertical profiling indicated that the 45' depth interval was the most impacted, future groundwater investigations would focus on this depth interval.

Schedule: Assuming a Navy award in late March early April, field activities are projected to be complete in June or July of 2013.

Action Item #1: Resolution Consultants is to provide TDEC with letter work plan/tech memos for any proposed sampling activities for their approval/concurrence before starting field work.

### **BRAC - AOC A Optimization Status**

*Optimization Well Construction* - The additional drilling activities for the AOC A Optimization were completed on February 22. Figures showing the new 10 injection wells and 5 monitoring wells were presented along with preliminary VOC screening data collected at the well development conclusion. The new injection wells will be used for delivery of a carbon substrate in an effort to mitigate further offsite VOC impacts and pending the outcome of the second VOC sampling event, a subset of the most contaminated wells may be used for treatment (versus all of the wells) so that the carbon substrate material is most effectively used.

*Semi-Annual Monitoring* - The AOC A semi-annual groundwater sampling event was concluded on February 22. Forty eight (48) monitoring wells were sampled including the newly constructed wells. The last sampling event was conducted in November 2010 therefore this data set will be interesting to

see whether the earlier contaminant trends are persisting and any contaminant rebound in the treatment areas. The comprehensive, annual groundwater sampling event (99 wells) will be completed in August 2013 which will include the previously sampled semi-annual wells (minus the 10 injection wells) and wells that are on an annual sampling cycle.

Schedule: Substrate injections are tentatively scheduled for mid-April.

Action Item #2: Resolution Consultants to provide TDEC with notification of actual injection date and any deviations from the number of injection wells originally proposed in the SAP will require their concurrence/approval before initiating field activities.

### **BRAC - Skeet Range #2**

The Horse Stables Skeet Range is the only active MRP site on the BRAC portion of the Base and David Criswell indicated that pending TDEC approval of the removal work plan, execution is anticipated to be completed sometime in April. Solutions Inc. is the remedial contractor and Tetra Tech is providing oversight.

Action Items: None

### **ER, N – UXO 1 and UXO 2**

Resolution Consultants indicated the skeet and trap range (UXO 2) sampling was complete and the pistol firing range (UXO 1) was scheduled for the week of March 11<sup>th</sup> (the Pistol Firing Range investigation has been concluded on March 15<sup>th</sup>). Discussions were held about possible cleanup alternatives for the skeet and pistol ranges and given the widespread, multi-acre nature of soil contamination a traditional removal action was not practical. The site cleanup needs to be dovetailed with the Base Master Plan which is believed to have either a non-development or recreational use designated for the area.

Action Items: Rob Williamson to check with Roger Aitken on specified land use in Base Master Plan for the former skeet range areas.

### **ER,N – Lingering SWMUs 17 and 22**

SWMU 17 (Tank S-75 280 gallon Heating Oil UST) - Ben Simes discussed the need to close these two SWMUs that remained open due to data gaps associated with former removal actions. Both SWMUs are listed in the RCRA Permit as requiring a Corrective Measures Study which would likely be land use controls; however, the Navy would prefer to relook these sites and have them removed from the permit if recent data indicates they qualify for “no further action”. Ben B. presented the SWMU 22 history and a figure showing the locations where soil data was needed (three locations at depths of 6 to 10 feet) to verify whether the contaminated soil associated with former tank S-75, located adjacent to the boiler

plant, was removed during the building's demolition. An extensive search by the Navy and EnSafe failed to find any documentation that U.S. Environmental conducted a removal action during their demolition activities leaving a data gap associated with the former tank closure.

SWMU 22 (Tank S-9 Waste Oil UST) - Resolution Cons. presented data soil and groundwater data from the voluntary corrective action (VCA). A groundwater sample collected from the alluvial at 49 feet contained a detection of 1,2-dichloropropane of 28 µg/L – exceeding the 5 µg/L MCL. Given that the VCA data was collected in 2000, it's possible that the contaminant detections have since attenuated. Resolution Cons. presented a figure showing three proposed groundwater samples for collection from a comparable depth, encircling where the 1,2-DCP was detected.

Action Items: Resolution Consultants to submit letter work plan to TDEC with proposed soil sampling locations for SWMU 22 and groundwater sampling locations at SWMU 17. Ben S. indicated that the Navy is in the process of issuing an award for this work upon which the letter work plan will be prepared.

#### **ER,N and BRAC - Well Inspection Report**

Resolution Consultants presented a spreadsheet of monitoring wells that have been repaired and those that are still pending based on the 2012 well inspection. Due to the significant number of base wells (200) that require maintenance, coupled with the winter weather, the well repairs have taken longer than anticipated, hence the well inspection report is late. Approximately 15 monitoring wells will require new manholes due to extensive corrosion and rust of eyelets and/or broken mounting brackets. The repairs are being subcontracted and are expected to be complete in March after which the well inspection report will be prepared. Anticipated delivery date is middle of April.

Schedule: Well repairs to conclude in the next two weeks and inspection report to be submitted by middle April.

#### **ER,N SWMU 2**

Matt Teglas with QE2 stated the SWMU 2 semi-annual groundwater monitoring was completed in January. The low VOC detections found in Big Creek Surface water during the July 2012 sampling event were absent in the recent, January 2013 monitoring. Test America Laboratories provided the analyses for the 2012 sampling events and the low detections in Big Creek are considered suspect due to a history of no previous detections. Test America had multiple internal QA/QC issues during the January and July 2012 sampling events. Among the laboratory problems were VOC holding times, analyzing samples on an improperly cleaned instrument, and improper sample results reporting A new lab was chosen for the 2013 sampling events. All VOC detections were below detection limits from January

2013 surface water samples, with the exception of acetone (laboratory instrument cleaning cross contamination).

Photos showing the vegetation clearing and repairs to the SWMU 2 fence were provided. The well inspection requirement specified in the RCRA permit for SWMU 2 will be conducted concurrent with the semi-annual monitoring by QE2 which includes both wells that undergo semi-annual monitoring and water level monitoring only. The following wells are listed in the permit for semi-annual inspection: 002G01DA, 002G02DA, 002G03DA, 002G05DA, 002G06DA, 002G11DA, 002G12DA, 002G24DA, 002G25DA, 002G26DA, 002G27DA, 002G28DA, 002GGM02DA and 002GGM05DA.

#### **ER,N SWMU 14/46**

QE2 obtained an injection permit waiver from the Shelby County Health Department, clearing the way for switching the carbon substrate from sodium acetate to Hydrogen Release Compound (HRC<sup>®</sup>) to continue the enhanced bioremediation remedy at SWMU 14. HRC will be injected at 27 locations across the SWMU 14 plume to provide a long-term carbon source for the continued enhanced bioremediation of the residual chlorinated solvents in the loess groundwater. The tentative injection date is April 2013. Quarterly monitoring remains in place; however, the next scheduled event in April may be skipped to provide adequate time for the HRC to take effect. Ben Simes asked about a possible reduction from quarterly to semi-annual monitoring. Roger D. indicated semi-annual monitoring was acceptable to TDEC. QE2 will submit a technical memo to TDEC confirming injection activities along with a request for semi-annual monitoring at the site. SWMU 14 annual monitoring report will be submitted to the NAVFAC for review in November 2013.

Action Item: Navy to submit letter to TDEC requesting modification to the SWMU 14 monitoring frequency from quarterly to semi-annual.

#### **ER,N SWMU 39**

Scott P. with Lee and Ryan reviewed the former slab and sub-slab soil removal action conducted at SWMU 39. Vinyl chloride in soil at in the deeper part of the excavation at two locations (CS-01 and CS-02) were very near the residential RSL and the subsequent water intrusion prevented over-excavating activities. The infiltrated water had a PCE concentration of 6.7 µg/L hampering its removal and disposal for confirmation soil sampling. Resolution Consultants is preparing a sampling and analysis plan for evaluating the extent of potential groundwater impacts in the perched groundwater. Confirmation samples may be collected at the same time to verify the VC concentration in soil. Proposed confirmation verification sample depths of 10-12 feet were mentioned. Lee & Ryan will incorporate TDEC comments into the Excavation Report for final release.

Scott P. also provided an update on the SWMU 39 injection history and recent monitoring data. The former acetate injections were replaced with potassium permanganate. Since the July 2012 ISCO injection, increases in TCE concentrations were noted in four wells for the December 2012 sampling event. Scott P. mentioned that monitoring will continue and one of three options will be decided after the March 2013 sampling event: (1) another ISCO injection of potassium permanganate, (2) switching to SOCORE (sustained oxidation and controlled oxidant release) for a longer sustained treatment, or (3) continued monitoring if NFA is appropriate. Lee & Ryan is preparing the annual Interim Measures Work Plan (IMWP). The Draft IMPR will be submitted to TDEC for review in April 2013.

Action Item: Collect confirmation soil samples beneath the former CS-01 and CS-02 locations. Evaluate extent of perched groundwater impacts.

**The BCT meeting concluded at 4:00 PM on March 6<sup>th</sup>. The next BCT meeting was scheduled for October 30<sup>th</sup>, 2013.**