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June 30, 2006

Project Number 0182

Mr. Lonnie Monaco  
BRAC Program Management Office Northeast  
4911 South Broad Street  
Philadelphia, Pennsylvania 19112-1303

Reference: CLEAN Contract No. N62472-03-D-0057  
Contract Task Order 041

Subject: Technical Subcommittee Meeting (TSC) Meeting Notes of June 6, 2006  
Former Naval Air Warfare Center (NAWC) Warminster, Pennsylvania

Dear Mr. Monaco:

Enclosed please find notes from the TSC meeting held on June 6, 2006. Copies of these notes are being sent to the individuals identified on the distribution list.

Please contact me if you have any questions or comments.

Sincerely,

Jeffrey P. Orient  
Project Manager

JPO/sic

Enclosure

c: Distribution list

~~File 0182~~



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DISTRIBUTION LIST

Ron Sloto (USGS)  
April Flipse (PADEP)  
Tony Sauder (Pennoni)  
Dave Fennimore (Earth Data)  
Garth Glenn (TtNUS)  
Rich Evans (ECOR)  
Pat Schauble (ECOR)  
Kathy Davies (U.S. EPA)  
Carolyn Ohart (Battelle)  
Norm Kelly (RAB Co-Chair)  
Dennis Orenshaw (U.S. EPA)  
Bob Lewandowski (Navy BRAC PMO)

**TECHNICAL SUBCOMMITTEE (TSC) MEETING NOTES**  
**FORMER NAVAL AIR WARFARE CENTER (NAWC) WARMINSTER**  
**REFERENCE: CLEAN CTO NO. 041**

1. Meeting Date and Time: June 6, 2006, 9:30 AM to 12:15 PM
2. Location: Warminster Municipal Authority Board Room
3. Attendees: See Attachment 1 (attendance list)
4. Summary of Meeting Discussions: See below.

**WMA Wells 13 and 26 Update**

Lonnie Monaco, the Navy's Remedial Project Manager (RPM) for the project, asked Dave Fennimore (Earth Data) for an update on Warminster Municipal Authority's (WMA's) plans for treatment systems on municipal wells WMA 13 and 26. For well 26, Dave stated that there is an engineering evaluation underway that is considering both an upgrade of the stripper and a possible replacement of the treatment unit, as the current system's treatment capacity is at its limit and is about 25 years old. PCE is now the biggest concern, as concentrations have increased while TCE levels have declined. Bob Lewandowski (Navy) asked what the target treatment concentrations are – Joe Nolan (CKS Engineering) and Tim Hagey (WMA) replied that selection of the target concentrations is still under evaluation. Dave Fennimore requested validated lab data for highest PCE contaminant levels on which to base design of modified treatment.

For Well 13, WMA representatives indicated that no decisions have been made yet in regards to installing a treatment unit. Lonnie mentioned that the Navy is reviewing the legal agreement they have with WMA, asked what concentrations would be used for any design, and pointed out that Area C groundwater sampling data rather than Area A data would be more pertinent to Well 13. Dave asked for information regarding the highest concentrations found in Area C – Lonnie directed ECOR to provide that information to him (Lonnie) for subsequent distribution. Lonnie stated that the Navy will need to review the proposed design for reasonableness.

**Optimization Study**

Kathy Davies (EPA) summarized her comments on the draft optimization study prepared by Battelle. For Area D, she pointed out that BioChlor (a spreadsheet natural attenuation model) was used by Battelle to evaluate concentration declines in Area D, but there is no evidence of

biodegradation – the observed decline in concentrations is likely due to the extraction system pumping, not biodegradation. Lonnie asked if Kathy was comfortable with Area A picking up any contamination that migrates from Area D if the wells are shut down. Kathy expressed a concern that the flow dynamics in Area A would change if Area A pumping rates were increased – the current setup is designed to maximize mass removal. For Area C, Kathy felt that a shutdown was not advisable now that higher contaminant levels have recently been found – until this relatively new discovery is better understood so that an informed decision can be made, the extraction system should remain in operation. Kathy also indicated that she would forward her written comments on the optimization study to the Navy through Dennis Orenshaw (EPA RPM).

Lonnie and Bob indicated that the Navy will review the optimization study comments and discuss them with EPA and Battelle, with the TEG also pulled in for brainstorming/historical knowledge. Dave pointed out that the agreement between the Navy and WMA states that the Navy will achieve and maintain hydraulic control of the plume emanating from the base and requested the opportunity to have some input into the decision process. Lonnie stated that given the new data for Area C, he doesn't anticipate changing operations in the near future.

#### **Area A Review**

Pat Schauble and Rich Evans (ECOR) provided a summary data package (tables/graphs) of the sampling performed within and near Area A, for discussion of potential outside sources of contamination. Sampling data strongly suggests the presence of at least one non-Navy source for the contamination that is found in the area north and west of Area A. HN-52S is the well that most clearly shows evidence of being significantly impacted by an outside contaminant source, however data for several other wells (including WMA 26) also suggest impacts from one or more non-Navy sources. Dave asked if HN-52S is down-dip of Area A – Jeff Orient (Tetra Tech NUS) replied that there is a structure contour map in the Area A Groundwater RI Report that would show the dip of the rock units in the area. Dave also questioned the high PCE detections in Area A wells as shown on selected ECOR graphs – Kathy pointed out that the detections are not real, they were non-detect values (at high detection limits) that erroneously were plotted as detections.

Tony Sauder (Pennonni Associates) asked what the next step is in regards to looking for other sources. Lonnie asked Drew Lausch (EPA site assessment group) what the Navy needed to provide to get EPA involved in investigating the area for other sources. Drew stated that EPA can play a role in re-looking at the issue and revisiting some sites. He also mentioned that CRC Chemicals (nearby commercial operation that uses chlorinated solvents) is now a RCRA site.

A general discussion of potential sites along and in the general vicinity of Louis Drive ensued. Jeff and Ron Sloto (USGS) pointed out that a water level study performed for WMA 26 showed a strongly anisotropic drawdown pattern (strike-parallel drawdown) that suggested preferential flow to the well from areas on the western side of Louis Drive. April Flipse (PADEP) stated that she had recently been contacted by a consultant interested in getting an Act 2 release for deeper groundwater at well cluster HN-16S/I/D. Apparently, there is a shallow groundwater problem at this site. Ron provided a plot of PCE concentrations over time for wells HN-52S and WMA 26. Adjusting for concentration range and offsetting the data by approximately 1.5 months to account for travel time, the peaks and valleys for the data over time match up very well, suggesting that the PCE that is impacting WMA 26 is strongly tied with the PCE at HN-52S. Lonnie asked what the current pumping rate for WMA 26 is – Dave replied that it is 220 gpm, down from about 250 gpm a few years ago. Lonnie asked Drew if the information provided at the meeting was sufficient to get something started at EPA – Drew indicated that it was and that he would contact PADEP and initiate further site assessment activities.

Dave asked about cis 1,2-DCE contamination. Pat and Rich indicated that the data suggested that it was mostly an offsite issue. Dave brought up the concern that the cis 1,2 DCE may degrade to vinyl chloride, which then becomes a treatment issue (VC is not readily stripped). He indicated that the Navy's remedy could be adversely impacted if WMA decided to shut the well down, but Jeff pointed out that the Navy has the option to take over operation of the well if WMA decides not to pump it any more.

Rich and Kathy pointed out that the current concentrations in WMA 26 may not represent a worst-case scenario – based on the increases recently observed, further increases are possible. Kathy also mentioned that the PCE concentrations in HN-52S suggest the possible presence of DNAPL somewhere in the area. Jeff pointed out that the most recent (April 2006) sampling results for HN-52D look a lot like the data for HN-52S and suggested that the results may have been transposed. After some discussion, Rich confirmed that the well had not been sampled recently and consensus was reached that the data had been erroneously entered. Kathy pointed out that assigning these sampling results to HN-52S continues an upward trend in PCE contamination in the well and indicates that PCE concentrations are still rising. The April 2006 PCE concentration (16,000 ug/L) is higher than any previous results for HN-52S (previous maximum 15,000 ug/L in April 2005).

After a short break, Lonnie recapped action items as follows:

EPA will initiate site assessment activities to look for offsite sources in the Louis Drive and nearby areas.

The Navy will continue operating in accordance with the existing settlement agreement with WMA in regards to operations, and will talk with counsel about potentially going after other contributors.

### **Second Five-Year Review Report**

Jeff indicated that the draft report is out for review (sent out on May 26). A due date of July 7 was set for any review comments on the report.

### **Navy Housing**

The Navy still retains some housing in the Shenandoah Woods area and along Jacksonville Road. Prior to divesting the properties (no timetable set yet), the Site 5 soils issue will need to be revisited. Bob asked who the EPA contact would be for this work – Dennis said it would likely be him, and April stated that she would be the PADEP contact. For Area B surface water and sediment, Lonnie indicated that he has tasked TtNUS with pulling together a work plan to go out and perform some sampling. Dennis indicated that EPA would review it upon submission.

### **Miscellaneous Topics and Issues**

Kathy pointed out that well HN-69D (in Area A) has a lot of TCE in it and suggested that consideration be given to turning it into an extraction well. Jeff stated that the well is a 2-inch PVC well so it isn't suited for conversion to an extraction well, but another well could be drilled adjacent to it. Dave asked what the implications are of the high TCE levels in HN-69D in regards to plume containment. Jeff stated that data for wells HN-14I and HN-16I indicate plume containment, and that HN-69D is within the source area and capture zone of the extraction system, as indicated on capture zone maps.

Dave expressed an interest in obtaining CRC Chemicals' RCRA-related data and asked whether EPA could expedite a FOIA request. Drew and Dennis indicated that they would discuss the issue and see what they can do to get the data to Dave.

**ATTACHMENT 1  
ATTENDANCE LIST**

Former NAOC Warminster  
 Technical Mtg June 6, 2006

Name	Affiliation	Phone / email
JEFF ORIENT	TETRA TECH NMS	412/831-4806 jeff.orient@tetrat.com
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Pat Schauble	ECOR	610 431 8731 schauble@ecor-solutions.com

**ATTACHMENT 2  
MEETING AGENDA**

**NAWC WARMINSTER  
TECHNICAL SUBCOMMITTEE/RAB MEETING**

**6 June 2006 9:30 AM**

**WMA Board Room**

**415 Gibson Ave**

**Warminster, PA**

**MEETING AGENDA**

**Administrative Update**

Minutes of the Last Meeting

**Area A Data Review**

**Update on Status of Wells #13 and #26**

**Optimization Study Comments**

**5-Year Review Status**

**Navy Housing**

**Area B Investigation**

**Miscellaneous Topics and Issues**

**Time and Location of Next Meeting: November 2006 - Date to be determined**

**Directions to the WMA Board Room:**

**From County Line Rd** - instead of turning north (right) onto Jacksonville, continue west on County Line to York Rd. Turn north (right) onto York Rd. Continue to Henry Ave. Turn west (left) onto Henry Ave. Continue to Gibson Ave. Turn right into the parking lot shared by the Warminster Township and WMA. The WMA building is located towards the rear.

**From the former NAWC** - proceed to the intersection of Street and Jacksonville Rd. Turn west (right) onto Street Rd. Continue west to York Rd. Turn south (left) onto York Rd. Continue to Henry Ave. Turn west (right) onto Henry Ave. Follow directions as above to the WMA building.