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PITT-08-7-019

August 14, 2007

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: Restoration Advisory Board (RAB) Meeting Minutes of August 1, 2007
Former Naval Air Warfare Center (NAWC) Warminster, Pennsylvania

Dear Mr. Monaco:

Enclosed please find the minutes from the RAB meeting held on August 1, 2007. Copies of the minutes 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: Ron Sloto (USGS)
Jim Burke (PADEP)
Tony Sauder (Pennoni)
Dave Fennimore (Earth Data)
Garth Glenn (TiNUS)
Pat Schauble (ECOR)
Kathy Davies (U.S. EPA)
Russell Sirabian (Battelle)
Dennis Orenshaw (U.S. EPA)
Charlene Creamer (U.S. EPA)
Bob Lewandowski (Navy BRAC PMO)
Mike Nines (MGKF Law)
Chris Candela (ATC Associates)
File 0182

**FORMER NAVAL AIR WARFARE CENTER (NAWC) WARMINSTER
MEETING MINUTES**

RESTORATION ADVISORY BOARD (RAB) MEETING NO. 108

REFERENCE: CLEAN CTO NO. 041

1. Meeting Date and Time: August 1, 2007, 9:45 AM to 11:05 AM
2. Location: Warminster Municipal Authority Board Room
3. Attendees: See Attachment 1 (attendance list)
4. Summary of Meeting Discussions: See below.

Introduction and Administrative Update

Mr. Lonnie Monaco, the Navy's Remedial Project Manager (RPM) for the project working out of the Navy's Base Realignment and Closure Program Management Office (BRAC PMO) in Philadelphia, opened the meeting by welcoming the attendees and providing an agenda for the meeting (Attachment 2).

Comments were solicited on the minutes from the previous meeting, with no comments offered by those in attendance.

Action Item Review

Action items from the May 2, 2007 RAB meeting were reviewed as the associated agenda topics were discussed. The action items from the May 2007 meeting are summarized below:

- Mr. Lausch is to keep the RAB updated on the schedule for the CRC Industries site investigation.
- TtNUS is to notify the RAB about the schedule for the Area C pre-investigation meeting/site walk with Ann's Choice representatives.
- ECOR is to check the Area A PCE graphs that they prepared to evaluate the non-detect data issue.
- The Navy is to provide the FOST and/or ROD language for Area C to Mr. Sauder that indicates no Area C soils restrictions.
- The Navy is to direct ECOR to sample wells HN-14S and 59S.
- The Navy will have well D4 shut down after the current round of sampling is completed.
- EPA is to provide optimization study comments within one week.

Offsite Investigation

Ms. Charlene Creamer (U.S. EPA site assessment group) provided an update on their efforts to look into potential additional contaminant sources in the Louis Drive area. EPA is coordinating their efforts with PADEP, with CRC Chemicals the focus but other sites also being looked at. Mr. Dennis Orenshaw (U.S. EPA Remedial Project Manager) asked Mr. Jim Burke (PADEP hydrogeologist) whether PADEP had issued an order to CRC. Mr. Burke indicated that a letter had been sent to CRC through the Storage Tank Program, informing them that a release was suspected and directing to perform an investigation. He also indicated that, although a work plan is not required of CRC, the investigation and reporting requirements for site investigations under the Storage Tank Program are pretty well established. Mr. Burke then briefly outlined the general investigation requirements and stated that he expected a report submittal sometime around November.

Ms. Kathy Davies (U.S. EPA hydrogeologist) asked who CRC's consultant for the site investigation work is. Mr. Burke indicated that ERM is the consultant. Both Ms. Davies and Mr. Orenshaw indicated that they had been getting some information requests from ERM.

Mr. Dave Fennimore (Earth Data, representing Warminster Municipal Authority) stated that he thought EPA was going to be taking the lead with the CRC investigation, and asked what would happen if the CRC investigation didn't appear to be thorough enough. Mr. Burke indicated that PADEP's site investigation requirements under the Storage Tank Program dictate a pretty thorough investigation. Ms. Creamer stated that EPA would be taking a lead or co-lead role (with PADEP) in investigating any other potential sources identified. Mr. Monaco asked whether, for any EPA-lead investigations, EPA would share their work plan with the RAB. Ms. Creamer stated that EPA typically shares the work plan with PADEP, but wasn't sure about sharing beyond that. Mr. Orenshaw suggested that it may be a good idea to keep the Navy out of the offsite source investigation process to avoid the perception of bias. Mr. Bob Lewandowski (Navy BRAC PMO) concurred that keeping a separation between the offsite work and the Navy would be a good idea. Mr. Fennimore suggested that EPA remain involved with the CRC investigation as it is within the Area A plume and thus is part of the Superfund Site. Mr. Burke assured those present that PADEP was taking the CRC investigation seriously and reiterated that he was the project manager for PADEP. Mr. Orenshaw suggested that PADEP distribute a copy of the letter sent to CRC to the RAB – Mr. Burke agreed to send it out.

Mr. Monaco indicated that Mr. Mike Nines (MGKF Law) was unable to attend the RAB meeting, thus there was no update on the status of their investigation of 905 Louis Drive other than additional sampling is under consideration. Mr. Russell Sirabian (Battelle) pointed out that ERM did some sampling of Navy wells a few years ago under subcontract to Battelle. Mr. Tony Sauder (Pennoni Associates, representing Warminster Township) asked when EPA would be sharing information about other potential sites. Ms. Creamer indicated that there may be something to share by the next RAB meeting. Mr. Jeff Orient (Tetra Tech NUS) asked whether Ms. Creamer or Mr. Drew Lausch (U.S. EPA site assessment) was now the EPA lead for the site assessment work – Ms. Creamer indicated that she would be taking over the lead role for EPA.

Status On Area C Source Investigation

Mr. Orient provided a status update of the Area C source investigation (see Attachment 3). No real source area has been identified to date from the well drilling, soil gas, pumping test, and sampling work done to date. A 12 foot by 15 foot rectangular subsurface anomaly was detected near well HN-23A during geophysical survey done to clear drilling locations, but there does not appear to be any significant contamination associated with it. Ms. Davies expressed concern over the soil gas reading of 1.5 ppm near the Ann's Choice residence building, stating that it suggested a potential vapor intrusion issue. Mr. Lewandowski asked if there were any construction details available for the building that would show whether it was a slab on grade construction or had a basement, and whether a vapor barrier had been installed – Mr. Chris Candela (ATC Associates, representing Ann's Choice) stated that the building was slab on grade and that he would look into the vapor barrier issue. Mr. Burke asked if there was room near the building to do more soil gas work – Mr. Orient and Mr. Candela indicated that much of the available space between the parking lot and building was taken up by utilities.

Mr. Monaco directed the Technical Evaluation Group (TEG) to review the results to date and come up with an approach to completing the site investigation. Mr. Sauder asked if there was any plan to further investigate the subsurface anomaly – Mr. Orient indicated that possible further work was currently under discussion. Mr. Monaco asked Mr. Sauder what he would suggest – Mr. Sauder indicated that digging it up was a possibility. Mr. Candela brought up the concern with excavating a large hole in the vicinity of several high-value trees. After some general discussion of potential approaches to further investigation of the anomaly, Mr. Monaco suggested a site visit following the RAB for anyone interested.

Plant Operations/LTM Update

Mr. Will Torres (ECOR Solutions) provided an update on groundwater extraction/treatment system operations. The treatment plant is operating normally. Wells are cycling on and off more than usual, probably due to low groundwater levels. Extraction well D4 has been shut down as per the May 2007 RAB discussion. Mr. Sauder asked about the sampling schedule for D4 – Mr. Sirabian stated that it was scheduled for 2 quarterly rounds of sampling, then semiannual. Ms. Amanda Bell (ECOR) stated that they had recently sampled wells HN-14S and HN-59S located along the property boundary between Area A and CRC Chemicals. HN-14S had 2.2 ug/L of TCE and PCE was non-detect, while HN-59S had 16 ug/L of TCE and 0.22 ug/L of PCE. The results have been provided to Mr. Nines. Ms. Bell also stated that she had sent out example PCE graphs for comment to determine how to handle non-detect values – the responses favored treating non-detects as zero for graphing purposes.

Area C Soils Discussion

Mr. Monaco brought along the Records of Decision (RODs) for Operable Units 5 and 6 (soils at Sites 4 and 8) and provided them to Mr. Sauder in response to his previous request for some documentation about the suitability of Area C soils for residential use. Mr. Sauder asked to what level of risk the soils were cleaned up to; Mr. Lewandowski indicated that the cleanup level was suitable for residential use, otherwise institutional controls would have been included in the RODs.

WMA Update – Status of Wells #13 and #26

Mr. Fennimore stated that the planned treatment system upgrades were still in the design process. Mr. Monaco asked when completion of the actual upgrades was anticipated – Mr. Fennimore thought that late 2007, probably November or December, was a likely timeframe. Mr. Fennimore also asked whether the Navy needed to see the design information for the upgrades – Mr. Monaco requested that the design details for the Well #26 upgrade be provided.

Status of Post-ROD Monitoring at OU-10

Mr. Orient gave a brief status update for this activity. All the field sampling work has been completed and analytical results are expected to be received shortly. A report will be pulled together once the data is received and evaluated.

Extraction Well Near HN-69D/Long Term Monitoring

For the installation of an extraction well near HN-69D, Mr. Orient indicated that there was nothing new to report from the TEG's perspective. A final decision by the Navy and funding of the well installation are the next steps in the process. Mr. Sauder asked for an update on the schedule for the installation of the new well – Mr. Monaco indicated that it would likely be tied into upcoming treatment plant modifications and the NPDES renewal. Mr. Torres indicated that a new outfall location is being proposed for the treatment plant, as the old one is difficult to access and potentially not representative, as other discharges may also feed into it. The new outfall sampling location will be at the point of discharge from the treatment plant. Mr. Torres also indicated that there is about a 6 week timeframe for PADEP response to an NPDES permit application.

Revised Optimization Study

Mr. Monaco indicated that all RAB members should have gotten a copy of the latest/final revision of the Optimization Study Report yesterday (July 31). As per the action items from the previous RAB meeting, EPA got back to the Navy with their review of the preceding version (no comments) within one week. Mr. Fennimore asked for a clarification of the report text in Section 2.4.4 (page 14) – the report should state that the MCL for 1,1-DCE is exceeded for the untreated water only in well #26.

Mr. Sauder asked about whether quarterly sampling would be performed in Area C until the current investigation is completed. Mr. Sirabian stated that the revised optimization study called for semiannual sampling in Area C. The difference between Area A (where 2 quarterly rounds of sampling are called for after the pumping rates are changed, then semiannual) and Area C is that there are no pumping rate changes planned for Area C.

Miscellaneous Topics and Issues – Action Items

No miscellaneous topics or issues were brought up for discussion. Action items include:

- Mr. Candela is to check Ann's Choice building construction details to see if a vapor barrier was installed below the floor slab.
- Mr. Burke is to send out a copy of the letter sent by PADEP to CRC (he will send it to Mr. Orient for email distribution to the RAB).

- The TEG is to meet and decide the next course of action for the Area C source investigation.
- Battelle is to issue a changed page for the optimization study report to reflect the requested clarification.

Next Meeting Date

The next RAB meeting date was set for October 31, 2007 at 9:30 AM in the WMA Board Room.

The meeting was adjourned at approximately 11:05 AM.

**ATTACHMENT 1
ATTENDANCE LIST**

NAWC WARMINSTER
 TECHNICAL SUBCOMMITTEE/RAB MEETING
 DATE: 8/1/07

NAME	AFFILIATION	PHONE	EMAIL
JEFF ORIENT	TETRA TECH NUS	412/921-8778	jeff.orient@ttnus.com
Kathy Davies	EPA	215-814-3315	davies.kathy@epa.gov
LONNIE MONACO	NAVY	215 897-4911	orlando.monaco@navy.mil
Amanda Bell	ECOR	484-887-7510	bell@ecor-solutions.com
Will Torres	ECOR	484-887-7510	wtorres@ecor-solutions.com
NORA KELLY	R&P/FLRA	(215) 675-1157	[N-A]
Kimberly Gould	Techlaw	(302) 299-9864	KGould@techlawinc.com
Tony Sander	Pennoni/Warminster Pwp	(215) 222-3000	tsander@pennoni.com
Jim Krueger	Warminster Township	215 443-5423	
Amanda Gibson	ATC	610 313 3100	amanda.gibson@atcassociates.com
Chris Candela	ATC/ERICUSON	610 313 3100 X495	chris.candela@atcassociates.com
Bob Lewandowski	Navy BRAC PMO	(215) 894 4908	robert.f.lewandowski@navy.mil
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DENNIS ORENSTAN	US EPA	215-814-3361	ORENSTAN.DENNIS@EPA.GOV
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RON SLOTO	US Geological Survey	610-321-2434 X212	rsлото@USGS.GOV

**ATTACHMENT 2
MEETING AGENDA**

**NAWC WARMINSTER
TECHNICAL SUBCOMMITTEE/RAB MEETING**

01 August 2007 9:30 AM

WMA Board Room

415 Gibson Ave

Warminster, PA

MEETING AGENDA

Administrative Update

- Minutes of the Last Meeting
- Review Action Items (see below)

Off-Site Investigation

- EPA Update on Offsite/CRC Preliminary Assessment (AI #1)
- Status Update from 905 Louis Drive property owner (rep Mike Nines)
- PADEP investigation of CRC Chemical

Status on Area C Source Investigation (includes AI #2)

Plant Operation/LTMP Update

- Operating Status
- Area A PCE graphs (ECOR) (AI #3)
- Status of Wells HN-14S and HN-59S (AI #5)
- Status of EW-D4 (AI #6)

Area C Soils Discussion (AI #4)

WMA Update - Status of Wells #13 and #26

Status of Post-ROD Monitoring at OU-10

Extraction Well near 69D/ Long Term Monitoring

- TEG update

Revised Optimization Study

- EPA comments (AI#7)
- What's next

Miscellaneous Topics and Issues – Action Items

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

Action Items

The following action items were identified at the wrap-up of our last meeting:

- 1) Mr. Lausch is to keep the RAB updated on the schedule for the CRC Industries site investigation.
- 2) TINUS is to notify the RAB about the schedule for the Area C pre-investigation meeting/site walk with Ann's Choice representatives.
- 3) ECOR is to check the Area A PCE graphs that they prepared to evaluate the non-detect data issue.
- 4) The Navy is to provide the FOST and/or ROD language for Area C to Mr. Sauder that indicates no Area C soils restrictions.
- 5) The Navy is to direct ECOR to sample wells HN-14S and 59S.
- 6) The Navy will have well D4 shut down after the current round of sampling is completed.
- 7) EPA is to provide optimization study comments within one week.

Directions to the WMA Board Room:

ATTACHMENT 3
TETRA TECH NUS AREA C SOURCE INVESTIGATION UPDATE

**Technical Memo
Area C Source Investigation Update
July 12, 2007**

This memo summarizes the preliminary findings of the site investigation activities performed to date for the Area C source investigation. To date, the following field activities have been completed:

- Well drilling – Five monitoring wells (four Phase I wells plus the open borehole well that was originally planned for Phase II) have been drilled, logged, and installed as per the work plan.
- Soil gas survey – The soil gas survey has been completed.
- Pumping test – The short-term pumping test has been performed, along with the associated pre-test and post-test groundwater sampling.

Results to date do not show any clear evidence of a discrete source for the PCE contamination in groundwater. The soil gas survey did not locate any areas of high soil gas concentrations (maximum 1.5 ppm VOCs at point SG-11). A hand mark-up of the soil gas results is included in the attached figures. One thing of note is that a subsurface anomaly about 12 ft x 15 ft in size was identified during utility clearing activities. The anomaly is located very close to HN-23A, and based on its size and the field observation that a “septic” odor was noted at well HN-23A, the anomaly could be an old septic tank or a small building slab/foundation.

For the pumping test, the new open borehole well installed adjacent to HN-23A was pumped instead of HN-23A, as HN-23A is a 2-inch well with a low yield. The pumping test was run for approximately 8 hours at an average rate of approximately 7 gpm. Minor drawdown was noted in several wells. Groundwater samples were collected the day prior to the test and immediately upon completion of the test. The preliminary results of pre-test and post-test groundwater sampling are provided below and shown on the attached sketch.

Well	Monitored Interval, ft bgs	PCE Concentration, ug/L	
		Pre-Test	Post-Test
		6/27/07	6/28/07
101S	15-25	26	19
101-OB	15-60	35	34
102S	40-60	1.9	2
103S	32-50	75	110
104S	20-30	ND	ND
HN-23A	38-60	130	210/120*

* second result is from a dilution analysis.

Based on these results, the most likely area for a PCE source appears to be south of HN-23A, in the general direction of HN-103S. The soil gas data provides some limited support for this, as the highest (albeit still very low @ 1.5 ppm) soil gas VOC concentration was measured at a point located about 60 feet southeast of HN-103S. Unfortunately, that would put the source area either right under a building or within the highly developed area further south, either of which would be extremely problematic at best in terms of implementing any sort of remediation.

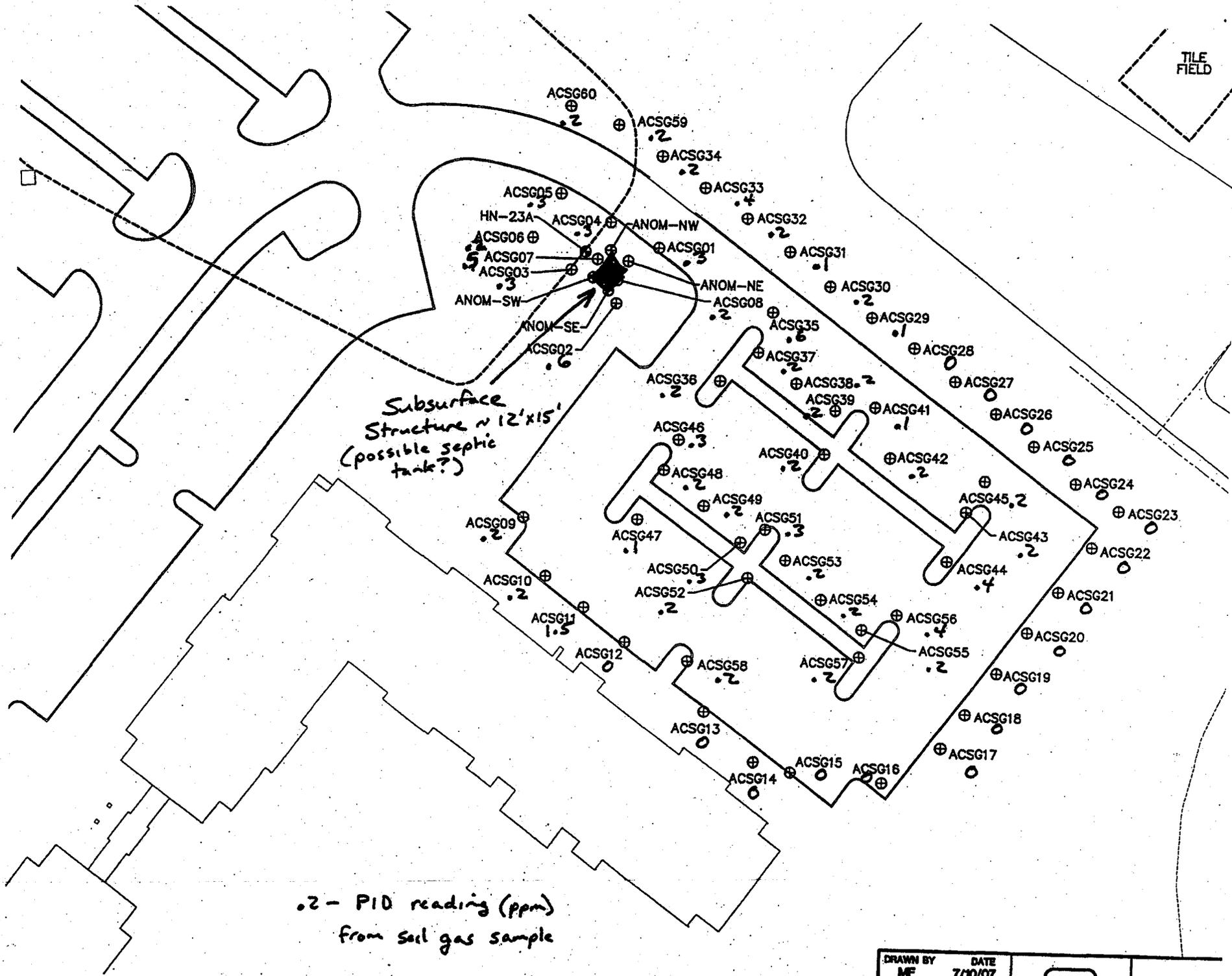
Next Steps

Potential next steps for the Area C source investigation include:

- Phase II well installations – Maybe some wells bracketing 103S to the southeast and/or northwest, I don't really see any other areas of potential interest from the results so far.
- DPT soil sampling – No source area of significance has been identified from the soil gas work; the only potential area that I see to possibly look at would be to drill some borings into the subsurface anomaly near HN-23A. Both 101S and 101-OB (which draws significant water from shallow fractures) are less contaminated than HN-23A, which suggests that the adjacent shallow anomaly is probably not the PCE source, or at least the primary source.
- Collect the final round of groundwater samples and water levels (and survey the wells), then wrap up the investigation. This would be the minimum additional work that should be done.

Any thoughts/suggestions? I'd like to wrap everything up soon, and any more drilling work will require another round of coordination/location clearances with Ann's Choice/ATC prior to going out to execute the work.

TILE FIELD



.2 - PID reading (ppm)
from soil gas sample

DRAWN BY MF	DATE 7/10/07
CHECKED BY	DATE

Location	Tedlar (PID-ppm)	Borehole tubing (PID-ppm)
SG-01	0.3	0.3
SG-02	0.6	0.1
SG-03	0.3	0.1
SG-04	0.3	1.5
SG-05	0.3	1.5
SG-06	0.2	0.5
SG-07	0.5	0
SG-08	0.2	0
SG-09	0.2	0
SG-10	0.2	0
SG-11	1.5	0.5
SG-12	0	0
SG-13	0	0
SG-14	0	0
SG-15	0	0
SG-16	0	0
SG-17	0	0
SG-18	0	0
SG-19	0	0
SG-20	0	0
SG-21	0	0
SG-22	0	0
SG-23	0	0
SG-24	0	0
SG-25	0	0
SG-26	0	0
SG-27	0	0
SG-28	0	0
SG-29	0.1	0
SG-30	0.2	0
SG-31	0.1	0
SG-32	0.2	0
SG-33	0.4	0
SG-34	0.2	0
SG-35	0.6	0.2
SG-36	0.2	0
SG-37	0.2	0
SG-38	0.2	0
SG-39	0.2	0
SG-40	0.2	0
SG-41	0.1	0
SG-42	0.2	0
SG-43	0.2	0
SG-44	0.4	0
SG-45	0.2	0
SG-46	0.3	0
SG-47	0.1	0
SG-48	0.2	0
SG-49	0.2	0
SG-50	0.3	0
SG-51	0.3	0
SG-52	0.2	0
SG-53	0.2	0
SG-54	0.2	0
SG-55	0.2	0
SG-56	0.4	0
SG-57	0.2	0
SG-58	0.2	0
SG-59	0.2	0
SG-60	0.2	0

Pumping Test
Groundwater Sampling
Results (PCE, ug/L)
pre-test/post-test

