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MCRD PARRIS ISLAND
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EMAIL REGARDING PROGRESS OF FIELD ACTIVITIES AT SITE 45 DRY CLEANING
FACILITY SPILL AREA MCRD PARRIS ISLAND SC
10/2/2006
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST

Sladic, Mark -- NUS

From: Sanford, Art F CIV NAVFAC SE [art.sanford@navy.mil]
Sent: Monday, October 02, 2006 3:51 PM
To: timothy.j.harrington@usmc.mil
Cc: Koroma-Llamas.Lila@epamail.epa.gov; stampsjm@dhec.sc.gov; hargrodc@dhec.sc.gov; mmcrae@techlawinc.com; mark.sladic@tnus.com; kraemer@tampabay.rr.com
Subject: FW: DNAPL in upgradient wells of EZVI Injection - Parris Island, Site 45
Attachments: EZI injection and DNAPL well.JPG; PI DNAPL4.JPG

Tim and team,

Here is some interesting information from Cliff about his work at site 45. The injection is scheduled for this month and it will be interesting to see how that goes. Cliff speaks of the sewer lines under Site 45 and we are looking into any existing documentation on what is supposed to be out there.

Cliff is preparing a presentation for the team at our next meeting and would like to get a spot on the agenda for the morning of Nov. 15. He will be able to present his views and tie it all together. We have money in the budget for cleanup at Site 45 in FY07 and I would like to get agreement on a path forward so we can award a project by the spring.

Art

From: Casey, Cliff C CIV NAVFAC SE
Sent: Monday, October 02, 2006 15:12
To: Sanford, Art F CIV NAVFAC SE
Cc: SOHara@GeoSyntec.com; TKrug@GeoSyntec.com; Puls.Robert@epamail.epa.gov; Jacqueline.W.Quinn@nasa.gov; Ruiz, Nancy E CIV (NFESC); Cummings.James@epamail.epa.gov
Subject: DNAPL in upgradient wells of EZVI Injection - Parris Island, Site 45

Art,

I was at Parris Island, Site 45 last week (Sept. 26 -28, 2006) collecting samples at the EZVI pilot area as well as the new source area. Several items of significance were observed during this trip.

Field activities included collecting both water and microbiological samples, installing one of the Passive Flux Meters and evaluating the site hydrology. Samples for Molecular Biological Tools (MBT's), compound specific stable isotopes and VOC's were collected at both the EZVI demonstration project location as well as the other potential source area located on the southern part of the site.

Items of significance observed are as follows:

EZVI Demonstration Project

- Free product (DNAPL) was pumped from Multilevel well ML-2-5 (see attached picture) which is located **upgradient** of the target treatment zone of the EZVI injection. The sample port on this well is located at 13.5 feet below land surface. I

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collected approximately 5 to 7 ml of product in a VOA vial for you to observe. This is apparently PCE from one of the tanks that leaked in this area. The sample I sent to the laboratory does not contain free product but is expected to come back with elevated concentrations.

Significance: The zone targeted for treatment does not include this area. We need to discuss this with the EZVI Project team prior to injection (Oct. 13, 2006).

- **Geophysical Results.** Prior to injection of the EZVI, the USGS collected baseline geophysics at the site. The objective of this effort is to see if we can more closely evaluate distribution of the EZVI in the subsurface using geophysical tools. I have reviewed a draft plot of the baseline work and linear structures appear in the plots that are suggestive of underground utilities/pipes in areas surrounding the EZVI demonstration project.

Significance: This is potentially one of the mechanisms by which PCE and related products have been distributed across the site. Further site investigation of these geophysical anomalies may serve as targets for future site investigation and/or source reduction efforts.

Storm Drains/Sewers.

- I visually inspected a network of drains over a couple of blocks surrounding the site. One of the manholes for the drain/sewer line is located on the southern end of the site near the pump and treat equipment shed. The manhole is located underneath the overhead steam lines. The manhole has a shallow PVC pipe (8 inch diam.) emptying into the brick and mortar manhole (see attached picture). The PVC pipe was apparently part of the old dry cleaning facility that has since been torn down. One part of the sewer line leads towards the new dry cleaning facility. A 5 gallon bucket of tap water was poured into the sewer line and it drains towards the new dry cleaning facility. This appears to be a likely path in which PCE was distributed from the old dry cleaner up to the new dry cleaning facility. The source area for wells MW20SL and MW20SU and contamination near the new dry cleaning facility may be associated with this sewer line.

Significance: Other underground utilities in the area may have some influence as well. The site investigation should include areas around this sewer. In the past this area may not have been investigated due partly to the overhead steam lines.

- One of the old storm sewers appears to intercept the water table in the parking lot of the Temporary Lodge. Water was observed to be flowing in this drain. This likely intercepts shallow contaminated water in the area. A review of the water table map produced by TTNUS in the RI Addendum mimics the contours expected in a shallow drain for this area.

Significance: This shallow drain may have some protective value associated with prevention of very shallow contamination migrating towards the temporary lodge and possibly prevent potential Vapor Intrusion. It is unknown where this water drains to. I checked manholes and other drainage features but could not identify other nearby connections. Some drainage lines near the site appear much older and not connected with newer and shallower drains. Further investigation is required to determine the network of drainage around the site and its significance in potentially capturing part of the plume

and/or transporting contamination.

I will be in the office this week for follow-up to this email.

R,
Cliff

<<EZI injection and DNAPL well.JPG>> <<PI DNAPL4.JPG>>