MINUTES
NAVAL WEAPONS STATION (NAVWPNSTA) SEAL BEACH
RESTORATION ADVISORY BOARD (RAB)
AND COMMUNITY MEETING
City of Seal Beach Council Chambers
January 20, 2009

Participants:

Blake Geoff/Restoration Advisory Board (RAB) Community Member
Dadakis, Jason/Orange County Water District
Fu, Christina/California Department of Toxic Substances Control (DTSC)
Gomez, Eloy/Community Member
Hannon, Patricia/California Regional Water Quality Control Board, Santa Ana Region
Jordan, Jack/RAB Community Co-Chair
Lieberman, Tara/Richard Brady and Associates (RBA)
McHugh, Donald/RBA
Niou, Stephen/California DTSC
Shields, Timothy / RBA
Stillman, Glenn/RAB Community Member
Sullivan, Jennie / Naval Facilities Engineering Command Southwest (NAVFAC SW)
Tamashiro, Pei-Fen / NAVWPNSTA Seal Beach, RAB Navy Co-chair
Wittenberg, Lee/ City of Seal Beach, RAB Community Member
Wong, Bryant / CH2M HILL

WELCOME

P. Tamashiro commenced the meeting at 6:00 pm at the City of Seal Beach Council Chambers by welcoming all participants. Attendees were asked to introduce themselves and to sign in and collect handouts at the front table.

P. Tamashiro announced that three presentations will be given tonight: Project Highlights, Budget Status, and Extended Site Assessment of Former Underground Storage Tank Site 229.

P. Tamashiro introduced J. Sullivan as the Remedial Project Manager for NAVWPNSTA Seal Beach and will deliver the Project Highlights presentation.

J. Sullivan presented the Project Highlights for NAVWPNSTA Seal Beach.

Questions and answers discussed during the Project Highlights Presentation are summarized below.

Question: Site 70: You stated that Base-wide groundwater sampling was completed in August. Has a report of the data been published?
Answer: The Preliminary Draft Report is currently being prepared. It must go through Navy and Regulatory Agency review. A Draft version for public review should be available in the Spring 2009.

Question: Can you further explain the injection issues you encountered in the source area at Site 70?

Answer: We are recharging groundwater at the injection wells with groundwater extracted from nearby wells, so the injection of emulsified vegetable oil (EVO) does not cause mounding at the site. We had difficulty extracting groundwater from some of the wells that were previously injected with EVO. We suspect that this was due to the reduction in formation porosity after the EVO started occupying the porous space. The slow recharge is only significant in a few wells, and is likely geologically related. It does not appear to be a homogenous problem.

Question: It is like Molasses in thickness and not going to move quickly right?

Answer: Yes, the EVO also has higher viscosity than water. The EVO was diluted in groundwater extracted from the site before it is injected into the ground. This treatment of groundwater is done in sections at each biobarrier at the through out the site.

Question: Where is the re-injection of water coming from?

Answer: The water for re-injection is extracted from the same aquifer it originated from. It is like a recycle process. There is an array of wells and every other well is an injection well. Water is pulled from one well then injected in the next. Then the order is reversed.

Question: What about a pump and treat situation?

Answer: When you use a pump and treat remediation, groundwater is extracted from the ground, treated on the surface and discharged. The pump and treat technology would take more energy to pump groundwater out and create a drawdown of groundwater in the aquifer. It would be potentially detrimental to this area by bolstering sea water intrusion. The Navy is no longer accepting pump and treat as a remediation alternative for groundwater based on years of evaluation of this technology.

Question: Does pump and treat work well with MTBE?

Answer: It might. It all depends on the site condition. For this site (Site 70), based on our evaluation, and was concurred by the regulator, *in situ* bioremediation is the best remediation alternative for treating the VOC plume.

J. Sullivan presented the Budget Status presentation.

Questions and answers discussed during the Budget Summary Presentation are summarized below.

Question: What is roughly the FY 2009 budget for Site 70?

Answer: About $2 million. This amount is based on the original contract. We have had to hold off on awarding the rest of contract.

P. Tamashiro briefly commented on competing with other installations for funding. NAVWPNSTA Seal Beach is an active installation. It is a weapons station with limited areas that have munitions issues. Risk imposed on outside residents is very minimal due to the

fact that it is a secure base. The public is not exposed to areas of high risk. Due to this, NAVWPNSTA Seal Beach is placed into lower priority compared to other sites that pose more risk to the public, like BRAC Sites. With that being said, we still want to minimize exposure for our workers.

P. Tamashiro announced a short break.

Upon return, P. Tamashiro introduced T. Shields and D. McHugh to deliver The Extended Site Assessment of Former Underground Storage Tank 229 presentation.

D. McHugh and T. Shields presented the Extended Site Assessment of Former Underground Storage Tank (UST) 229 presentation.

Questions and answers discussed during the Extended Site Assessment of Former UST Tank 229 Presentation are summarized below.

Question: What is the typical turbidity of the water sample?
Answer: It can vary depending on the site. Using pre-packed screens reduces turbidity greatly.

Question: Can you tell if you are hitting artifacts?
Answer: Yes, we have encountered railroad ties, a metal wheel of truck, not archaeological artifacts.

Question: Could you identify shell mitten deposits in culturally sensitive areas?
Answer: No. Calcium carbonate fluoresces, and caliche out in the desert also fluoresces.

Question: What is the correlation between laser-induced fluorescence and soil concentrations?
Answer: Laser-induced fluorescence is semi-quantitative that is best used to get a detailed understanding of petroleum hydrocarbon distribution, then targeting specific locations and depths for laboratory analysis to determine concentrations. Extensive studies have been completed in lab. The technology was originally developed for fueling operations for ships at piers. Numerous experiments testing different types of fuels and soils have been completed. From experience we know that we need to look on a site by site basis. We are using the technology to look at where we can get samples to make decisions. The Navy SCAPS is unique because it is staffed with PGs and experienced professionals who write reports and interpret results and have familiarity with the technology.

Question: Fluorescence is difficult if you lose the probe?
Answer: Yes, it has happened on rare occasions. The new probes are robust and the main issue is getting kinks and cracking the fiber optics, but this doesn't happen very often. We also run a grout probe, and tremie fill the hole because we don't want to leave an open conduit.

Question: Is this more sophisticated than taking a gas sample?

Answer: We hope so. Groundwater at Site 229 is very shallow. When soil gas samples were attempted in 1990s, free product was smeared all over the soil gas probes, but they didn't find it in their monitoring wells.

Question: What is the correlative with fluorescence in terms of accuracy?
Answer: We want to know if there is free product, we also want to know the extent of contaminated soil mass. The laser is good for these decision objectives. If we want to look at dissolve phase, laser doesn't help with that. Using the laser helps to optimize sample locations; it can tell us where hot spots and site boundaries are. With this technology we are not doing intermediate sampling (using expensive laboratory samples).

Question: Can you determine what product it is?
Answer: Typically lighter fuels produce lower wavelengths. We also compare the results with lab tests. We will be collecting confirmation samples from areas of high fuel fluorescence.

P. Tamashiro informed of the next RAB Meeting scheduled for 2nd Tuesday of May. It will cover the following 2 subjects: 1) Site 40 update based on additional injections from late '08. *(Post meeting note: Due to contract delay for Site 40, this presentation will be postponed to September 2009. In it's place, contractor will present the baseline groundwater sampling results for Site 70.)* and 2) the MRP Site Inspection draft work plan. The draft work plan will be available for review prior to the next RAB meeting.

ADJOURNMENT

P. Tamashiro adjourned the meeting at approximately 8:00 p.m.

Note: This is a meeting summary, not an actual transcript.