

MINUTES
NAVAL WEAPONS STATION (NAVWPNSTA) SEAL BEACH
RESTORATION ADVISORY BOARD (RAB)
AND COMMUNITY MEETING
SITE TOUR
12 July 2005

Participants:

Brock, Martha / Breitburn Energy
Garrison, Kirsten / CH2M HILL
Le, Si / Southwest Division, Naval Facilities Engineering Command (SWDIV)
Neville, Tom
Peoples, J.P. / RAB Community Co-chair
Pierce, Brad / Breitburn Energy
Sanders, Marissa
Smith, Gregg / NAVWPNSTA Seal Beach
Smith, Patti
Stevens, Charles
Tamashiro, Pei-Fen / NAVWPNSTA Seal Beach and Navy Co-chair
Teague, Christy / City of Seal Beach
Vineyard, Clif
Wong, Bryant / CH2M HILL

WELCOME

At 6:02 p.m., P. Tamashiro, Navy Co-chair and Base Installation Restoration (IR) Program Coordinator, began the 2005 IR Program Site Tour by welcoming the participants. P. Tamashiro introduced S. Le, the Remedial Project Manager (RPM) for the IR Program from SWDIV. In addition, P. Tamashiro introduced B. Wong, CH2M HILL Project Manager, who would be leading the site tour and K. Garrison, CH2M HILL who would be recording the questions and answers discussed during the site tour.

P. Tamashiro introduced G. Smith, NAVWPNSTA Seal Beach Public Affairs Officer (PAO). Participants were encouraged to direct any questions regarding the IR Program sites or environmental issues to P. Tamashiro. She indicated that questions regarding public affairs issues should be directed to G. Smith.

P. Tamashiro continued by introducing J.P. Peoples, RAB Community Co-chair and B. Pierce, a Production Engineer with Breitburn Energy who would provide a status update on activities at Site 22 – Oil Island. P. Tamashiro then turned the site tour over to B. Wong.

B. Wong reminded the site tour participants that the tour would last approximately two hours and end around 8:00 p.m. He indicated that participants should bring along a jacket or sweater for warmth, as it tends to get chilly by the end of the two-hour tour. B. Wong requested that participants stay together while on the site tour for health and safety reasons.

B. Wong indicated he had worked on the IR Program at NAVWPNSTA Seal Beach since 1990 and was familiar with the past and ongoing activities at each site. He encouraged participants to

ask questions during the site tour. B. Wong indicated that a total of seven sites would be visited during the 2005 IR Program Site Tour, beginning with those sites closest to the ocean, and then moving inland: Site 7 - Station Landfill, Site 74 - Old Skeet Range, Site 22 - Oil Island, Site 14 - Abandoned Underground Storage Tank (UST), Site 40 - Concrete Pit/Gravel Area, Solid Waste Management Unit (SWMU) 57 - Paint Locker Area, and Site 70 - Research, Testing, and Evaluation (RT&E) Area.

Questions and answers discussed during the site tour are summarized below.

SITE TOUR

Site 7 - Station Landfill

- Question: Did the Navy cap the buried debris in Area 1? Was it composed of clay?
- Answer: No, Area 1 did not require complete capping. The existing landfill cover was supplemented with 5,800 tons of clean soil to provide a minimum of two feet of cover thickness between the buried debris and the ground surface.
- Question: Did the remediation activities within Area 1 include removal of the buried debris and hauling offsite?
- Answer: No debris was removed from Area 1. However, there are other areas within Site 7 where debris was removed.
- Question: Was the source of lead contamination in Site 4 found to be oil from automobiles that traveled along Perimeter Road or waste oil that was spread along Perimeter Road for dust control?
- Answer: The lead contamination probably came from waste oil from an offsite oil refinery that was used for dust suppression along Perimeter Road for a short time in the early 1970s.
- Question: You have described the removal action within Site 4 as being lead contamination driven. Was there any concern over total petroleum hydrocarbon (TPH) contamination?
- Answer: No, the focus of the removal action within Area 2 was solely lead contamination.
- Question: TPH wasn't a chemical of concern driving the cleanup?
- Answer: No, TPH is not a risk driver and it is likely that TPH naturally degraded over time.
- Question: Were the primary materials excavated from Areas 3 and 4 of Site 7 metal and wood debris?
- Answer: Yes.
- Question: When was the pond next to Area 5 constructed?
- Answer: Between 1989 and 1991.
- Question: What was the purpose of the pond?

Answer: Perimeter Pond was constructed as part of the Port of Long Beach mitigation program. Build out activities at the Port of Long Beach often involve loss of wetland habitat. The NAVWPNSTA Seal Beach allowed the Port to create new wetlands within the Seal Beach National Wildlife Refuge (NWR) to compensate for the wetland loss.

Question: Is there a groundwater contamination problem at Site 7?

Answer: No. However, the Navy is continuing to monitor the groundwater at Site 7 as a precautionary measure.

Question: Wasn't this area under the jurisdiction of the United States Army Corps of Engineers (USACE)?

Answer: Yes. All wetlands are under USACE jurisdiction. A wetland delineation was conducted prior to the removal action. However, USACE regulatory involvement was not required for the removal action because the Navy is the federal lead agency under the IR Program. The Department of Toxic Substances Control served as the state reviewing agency.

Question: Was revegetation conducted within Area 1?

Answer: Yes. However, the heavy storm water flows this year washed a lot of the seeds away. The area was ponded until late March 2005.

Response by the Navy: The Navy plans to revegetate Area 1 again in the future. We will ensure that the site has maintained the minimum two feet of cover thickness between the buried debris and the ground surface and then revegetate.

Site 74 – Old Skeet Range

Question: Is the lead contamination leaching?

Answer: The distribution of lead seems to indicate that there may be some redistribution.

Note: A graphic of the distribution of lead contamination at Site 74 was shown. It was explained that the purple area indicated where lead concentrations are between background (36 micrograms per kilogram [mg/kg]) and 400 mg/kg. Iso-concentrations of contamination were also illustrated in the graphic. Lower concentrations of lead were indicated in a light orange color. Higher concentrations of lead were indicated in a bright red color.

Question: Are the red areas shown in the graphic indicative of the highest concentrations of lead leachate detected within Site 74?

Answer: The areas shown in the graphic are indicative of relative concentrations of lead from a background concentration of 36 mg/kg and higher. The red areas indicate relative concentrations of 100,000 mg/kg or higher.

Question: Why has the distribution of lead contamination moved so far out from the source of the contamination?

Answer: The western portion of Site 74 is tidally influenced. It is likely that the migration of lead contamination is due to tidal flow.

Question: Are polycyclic aromatic hydrocarbons (PAHs) toxic to wildlife?

Answer: Yes. PAHs are toxic to wildlife at higher concentrations, depending upon the species. However, the impacts of lead contamination to wildlife at Site 74 are of a higher concern.

Question: Were wildlife species actually taken in order to conduct the ecological risk assessment?

Answer: Yes. Sampling occurred by the collection and take of the species. However, no threatened or endangered species were harmed during the ecological risk assessment.

Question: Is this removal action anticipated to be one of the more expensive actions in the NAVWPNSTA Seal Beach IR Program?

Answer: The removal action will likely involve some degree of excavation for contaminant removal. However, because the excavation would primarily occur within wetland habitat, the destruction to wildlife habitat caused by the removal action must be balanced against the risk posed by the site contamination. The Navy is conducting a Net Environmental Benefits Analysis (NEBA) to evaluate this balance at Site 74. NEBA is a process for comparing the benefits and costs associated with alternative cleanup actions that affect the environment. The purpose for applying NEBA at Site 74 is to ensure that the cure (i.e., the removal action) is not worse than the disease (i.e., the lead contamination).

Question: Has a literature review been conducted to collect information about similar conditions at other sites that can be applied to the approach being considered at Site 74? Information may be available on the skeet ranges at the University of California, Irvine (UCI). These ranges were located off of Campus Drive in the Back Bay area. I believe they addressed similar concerns regarding contamination removal and potential effects to waterfowl. Any available literature on this subject should be examined and considered for comparison purposes against the potential approach at Site 74.

Answer: Skeet ranges have only recently come under a great deal of scrutiny by the U.S. Environmental Protection Agency (EPA) in recent years. It could be that the investigation of these ranges is not as far along as our Site 74 investigation.

Response By
the Navy:

We will include a note in the meeting minutes to document that the Navy was requested to review available research or literature on lead contamination in wetlands and recommendations on appropriate removal actions. Any pertinent information found will be used for comparison or reference purposes as part of the NEBA process conducted for Site 74.

Note: As indicated, the Navy will require that the consultant conducting the NEBA process include an effort to collect research or literature on this topic. The Navy

recognizes that this could also be an ongoing study and will request that every attempt be made to access all applicable information.

Site 22 – Oil Island

Note: The following answers were primarily provided by M. Brock, Breitburn Energy.

Question: Is Site 22 contaminated?

Answer: There is a small area of contamination currently being dealt with. The contamination is related to a liquid natural gas contamination from a leaking gas line. A remediation plan is being prepared and will be implemented once it is submitted and receives approval from the regulatory agencies.

Question: What does the term “shut-in” mean?

Answer: This term is used to describe an inactive well. It means that the well has been mechanically turned off, but not abandoned.

Question: How deep below ground surface (bgs) do the wells extend?

Answer: The wells are approximately 7,500 to 8,000 feet bgs.

Question: Do the wells that are drilled from Oil Island extend out to the ocean?

Answer: No. The wells that are drilled from Oil Island travel along the trend of the Newport-Inglewood fault line that passes through the NWR in a southwestern to northeastern direction.

Question: Is potential shifting of the well lines along the fault line a hazard to the public during an earthquake?

Answer: The Oil Island wells are not naturally flowing wells. The pressure in the oil formation is low and pumping is required to bring the oil to the surface. Shifting caused during an earthquake would not cause a column of fluid to appear at the surface primarily because the lines have sufficient pressure and because the well lines extend so deep (up to 8,000 feet bgs).

With respect to safety hazards, the most common occurrence during an earthquake would be minor natural gas spills at the surface. This gas could be methane, propane, or ethane. This is not considered a major safety hazard.

Question: Given that the well lines were designed to occur along the fault line, I would imagine all potential health and safety hazards have been considered?

Answer: The well lines were designed with the wetland in mind and were cemented to protect the environment from potential contamination.

Breitburn Energy is an environmentally conscious company and we are not trying to create environmental hazards. Our focus is to extract oil and natural gas with as little impact to the environment as possible. To the best of our knowledge, Oil Island is not associated with any significant contamination problems. We are in the process of addressing prior contamination issues related to the hydrocarbon and drilling fluid remnants previously recommended for

removal, as well as the more recent natural gas flow line leak. Breitburn Energy is moving forward with coordination with the Navy, United States Fish and Wildlife Service (USFWS), and other regulatory agencies to determine the appropriate cleanup actions required in accordance with regulatory standards.

Note: At the close of the question and answer session at Site 22, M. Brock distributed a Breitburn Energy brochure entitled, "Pipeline Safety - Information You Need to Know about Pipelines" to the site tour participants.

Site 14 - Abandoned Underground Storage Tank (UST)

Question: You mentioned methyl tertiary-butyl ether (MtBE) is the chemical of concern at Site 14, but that tetrachloroethylene (PCE) and trichloroethylene (TCE) were also detected at the site. Where did the PCE and TCE contamination come from?

Answer: We believe these compounds are the result of cross-contamination during the laboratory testing.

Question: What did the Stanford University research project, which studied microbial activity in the 1980s and 1990s, determine regarding natural degradation of petroleum hydrocarbons?

Answer: The Stanford University research project revealed that natural anaerobic biodegradation was occurring at a very slow pace, but aerobic degradation is more effective.

Site 40 - Concrete Pit/Gravel Area

Question: Do you have an estimate of contaminants released at Site 40?

Answer: The discharge of oil and solvents into the gravel area at Site 40 was not a regular practice and it is estimated that approximately 8 to 10 pounds of PCE was deposited. Despite that seemingly small quantity, the quantity is enough to exceed the maximum contaminant level (MCL) for PCE in drinking water, which is 5 parts per billion (ppb).

Note: While the MCL for drinking water is being applied for cleanup goals at Site 40, the groundwater underlying Site 40 is considered too saline for use as a potential drinking water source.

Question: Does the remedial action implemented at Site 40 involve the injection of sodium lactate?

Answer: Yes, the sodium lactate was injected into the groundwater plume to provide an electron donor (food source) for the *Dehalococcoides ethenogenes* (KB-1™) bacteria to consume. In turn, the bacteria respire the chlorine, resulting in complete reductive dechlorination of the PCE to ethene or ethane.

Question: You have stated that the remedial action at Site 40 involved bioaugmentation of the KB-1™ bacteria. What is the anticipated time frame for complete cleanup PCE at Site 40?

Answer: The third month of remediation has just been completed at Site 40. There are 17 injection wells and a number of monitoring wells that are monitored monthly. The monitoring is showing that the remedial action is effective.

We expect that because the plume of contamination at Site 40 is relatively small, complete dechlorination of the PCE to ethane and ethane will be achieved by the end of 2005. However, polishing activities may be conducted for another year or two.

SWMU 57 – Paint Locker Area (discussed at Site 40, drove by in the interest of time)

Question: What is the source of arsenic contamination at SWMU 57?

Answer: The Navy is not sure. The arsenic contamination was detected as part of the collection of background samples during contaminant investigations associated with the storage of paints, alcohols, and other solvents at the site. Arsenic is a common ingredient in rodenticides, which may have been used at the site.

Question: Arsenic is a main component of corrosion inhibitors and bactericides as well. I wonder if it could have come from these types of substances?

Answer: Rodenticides were probably more commonly used.

Site 70 – Research, Testing, and Evaluation Area

Question: Does the groundwater contamination plume associated with Site 70 extend beyond the NAVWPNSTA Seal Beach property?

Answer: No.

Question: Is the barrier technology proposed for Site 70 a physical barrier?

Answer: No. The technology is a permeable reactive barrier. The barrier is composed of a series of injection wells spaced at 5-year groundwater travel distances. The technology involves the injection of an electron donor (such as emulsified vegetable oil) into the groundwater as a food source for naturally occurring bacteria. The contaminated groundwater passes through the barriers at its natural flow rate and the TCE is dechlorinated by the bacteria as it passes through the biobarrier.

Question: Is uncontaminated groundwater from outside areas migrating into the contaminated area beneath Site 70?

Answer: Yes. Due to natural groundwater flow, uncontaminated water will enter the contaminated groundwater plume.

This proposed treatment method is still superior to the “pump-and-treat” method because at a pump rate of 550 gallons/minute, there would certainly be saltwater intrusion issues due to the site’s proximity to the NWR, resulting in further water quality degradation.

Comment: The level of detailed studies conducted at Site 70 to determine the degree and extent of contamination and appropriate remediation activity are similar to those that would be conducted for a Superfund site.

Response by
the Navy: The NAVWPNSTA Seal Beach IR Program falls under CERCLA, so the same steps applicable to a Superfund site are being followed. However, Site 70 is not on the National Priority List so U.S. EPA is not involved.

COMMUNITY FORUM

P. Tamashiro thanked the participants for attending the 2005 IR Program Site Tour. Participants were encouraged to direct any questions regarding the 2005 IR Program or Site Tour to P. Tamashiro.

ADJOURNMENT

Attendees were told to have a safe trip home. The 2005 IR Program Site Tour ended at 7:55 p.m.

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