MINUTES
NAVAL WEAPONS STATION (NAVWPNSTA) SEAL BEACH
RESTORATION ADVISORY BOARD (RAB)
AND COMMUNITY MEETING
November 11, 2003

Participants:

Blake, Geoffrey
Custance, Ruth / GeoSyntec Consultants
Garrison, Kirsten / CH2M HILL
Grinyer, Walter / GeoSynetec Consultants
Jordan, Jack
Le, Si / Southwest Division, Naval Facilities Engineering Command (SWDIV)
Leibel, Katherine / DTSC
Mirick, R.A. / Captain, Commanding Officer, NAVWPNSTA Seal Beach
Maylone, Ken
Peoples, J.P. / RAB Community Co-chair
Reeve, Rod / MARRS Services, Inc.
Sample, Bradley / CH2M HILL
Smith, Gregg / NAVWPSNTA Seal Beach Public Affairs Officer (PAO)
Tamashiro, Pei-Fen / NAVWPNSTA Seal Beach and RAB Navy Co-chair
Torrey, Peter / CH2M HILL

WELCOME

At 7:03 p.m., P. Tamashiro, Navy Co-chair began the meeting by welcoming the participants. She thanked J. Peoples, the RAB Community Co-chair and all other RAB supporters for their participation, especially given the low turnout due to the rainy weather. P. Tamashiro then introduced G. Smith, NAVWPNSTA Seal Beach Public Affairs Officer (PAO). RAB members were encouraged to direct any questions regarding environmental issues or the Installation Restoration (IR) Program to P. Tamashiro or G. Smith.

P. Tamashiro announced that there would be a change to the presentations planned for the evening. While only one technical presentation was originally planned to allow time for discussion of RAB issues, the Navy added a presentation on the Site 74 (Old Skeet Range) Tier II Ecological Risk Assessment work plan because field work must begin before the next RAB meeting. The RAB matters discussion will be postponed until the January 2004 RAB meeting.

PROJECT HIGHLIGHTS

The RAB meeting continued with a status update on the ongoing IR Program presented by S. Le, the SWDIV Remedial Project Manager (RPM) for the NAVWPNSTA Seal Beach IR Program. The following sites were discussed:

- Site 7 - Station Landfill, Engineering Evaluation and Cost Analysis (EE/CA) and Action Memorandum (AM)
- Site 73 - Water Tower Area, Removal Action

- Site 14 - Abandoned Leaking Gasoline Underground Storage Tank (UST), Baseline Groundwater Investigation
- Site 40 - Concrete / Pit Gravel Area and Site 70 - Research, Testing, and Evaluation (RT&E) Area, Groundwater Monitoring Program
- Site 40 and Site 70 Feasibility Study, Proposed Plan (PP), and Record of Decision (ROD)
- Site 40 Pilot Testing
- Site 74 – Old Skeet Range, Tier II Ecological Risk Assessment
- Site 4 – Perimeter Road; Site 5 – Clean Fill Disposal Area; Site 6 – Explosives Burning Ground; and Site 7 – Station Landfill, Groundwater Monitoring Program

S. Le experienced technical difficulties with the Project Highlights slide presentation, so hard copies of the Project Highlights slide presentation were distributed to the participants. No questions were posed during or after the project highlights presentation.

PRESENTATION – SITE 14 (ABANDONED LEAKING GASOLINE UST) ECOLOGICAL RISK SCREENING

P. Tamashiro introduced R. Reeve of MARRS Services, Inc., the project manager for Site 14, along with W. Grinyer and R. Custance of GeoSyntec Consultants, who jointly presented the Site 14 Ecological Risk Screening presentation.

Copies of the slide presentation were made available as a handout at the meeting. The questions and answers posed after the presentation are summarized below:

General

Question: How is the salt content of saline waters measured?

Answer: It is measured in microSiemens per centimeter (µs / cm), which can be converted to total dissolved solids (TDS) measured in parts per million (ppm). The TDS value measured in ppm is a factor of approximately 0.6 times the µs / cm value. A conductivity of 2000 µs / cm is equivalent to approximately 1,100 to 1,200 ppm TDS.

Question: Isn't the salt content of groundwater at Site 14 extremely low when considering normal background levels?

Answer: It depends on whether you are considering salt content within an area of saltwater intrusion. For example the salinity of groundwater in the Santa Ana Forebay pressure area, which is not within a saltwater intrusion area, is similar to a typical drinking water aquifer at 100 to 200 µs / cm.

Question: Are the higher levels of salt in the groundwater at Site 14 due to the proximity of the salt marsh?

Answer: Yes, the saline levels of groundwater found at Site 14 are due to the proximity of the salt marsh.

Question: The historical data seems to show that over time the concentrations of chemicals at Site 14 are decreasing. Is this due to the fact that the plume is migrating away from the monitoring wells or because of natural attenuation?

Answer: The microcosm study we are recommending is designed to determine what is causing the drop in chemical concentrations. It could be due to dilution or natural attenuation at the site. Over time, the monitoring wells in the source area have detected a decrease in chemical concentrations. Since no additional contamination has been introduced to the site, natural attenuation is possible.

Also, the levels of dissolved oxygen at Site 14 have been depleted, indicating some degree of microbial activity.

Question: Do you believe that the natural attenuation is due to the presence of microorganisms?

Answer: Studies have shown that MTBE is degradable in both aerobic and anaerobic conditions, so microbial activity is likely.

A Stanford University research project studied microbial activity at Site 14 in the early 1990s to determine how microorganisms biodegrade petroleum hydrocarbons in conditions present at the site. As a result of the research study, the Navy determined that remedial action should be investigated for Site 14. The Navy would like to take action before the site impacts the refuge.

Question: Isn't the understanding of microbial activity and its effect on contaminated sites cutting edge information? In the past, rigorous remediation activity was thought to be the best solution and now we're learning that natural degradation of the contamination is occurring.

Answer: The Navy is seeking a faster solution to reducing contamination levels at Site 14. Natural attenuation is not occurring quickly enough. Luckily, the area is not a drinking water source; however, the risk of Site 14 contamination affecting the nearby Seal Beach National Wildlife Refuge (NWR) is a prominent concern.

Question: Is Site 14 the fuel storage area we visited on the site tour in July?

Answer: Yes, Site 14 is the Abandoned Leaking Gasoline UST visited during the July 2003 RAB Site Tour.

BREAK

P. Tamashiro announced that there would be a 10-minute break.

PRESENTATION – SITE 74 (OLD SKEET RANGE) TIER II ECOLOGICAL RISK ASSESSMENT

P. Tamashiro introduced Dr. B. Sample from CH2M HILL.

Copies of the slide presentation were made available as a handout at the meeting. The questions and answers posed during and after the presentation are summarized below:

Slide 8

Question: How far in feet is the lead contamination distributed at Site 74 from north to south and from east to west?

Answer: The lead distribution area centrally located within Site 74 is approximately 500 to 600 feet from east to west. The contamination at Site 74 does not cover a large area. The significant concern is the high concentration of lead in excess of 100,000 ppm.

Question: Are the concentrations of lead at Site 74 dissolved lead?

Answer: Not necessarily; however, as lead shot weathers, they break down into different forms of lead (carbonates, oxides, etc.). Some of these are soluble.

Question: How deep below ground surface (bgs) does lead contamination occur?

Answer: The lead contamination at Site 74 is relatively shallow. The vast majority is shallower than 2.5 feet bgs. Initial sample results showed the highest concentrations of lead occurred within the first 1 foot bgs. (Note: A review of the data after the meeting indicates that the lead was detected above the background concentration in only one of 21 soil samples collected at 2 feet bgs.

General

Question: How does the federally endangered California clapper rail use the site?

Answer: The upland portion of Site 74 is unlikely to be used by the California clapper rail to any significant degree, but the species will forage throughout the salt marsh, including those areas of salt marsh within Site 74. California clapper rail nests have been observed within 100 meters or less of the sampling points located furthest west (closest to and within the NWR).

Question: How would a removal action on portions of the site not used by the California clapper rail affect the species? Would noise or vibration be a concern?

Answer: Yes, noise would definitely be a concern. Lead removal would require heavy equipment operation. Dust generated by equipment operation would also be a concern. Because lead contamination occurs within the salt marsh (which the clapper rail actively use for foraging and nesting)

in addition to upland areas, the removal action would directly impact the species and its habitat.

The goal of the Tier II Ecological Risk Assessment is to gather site-specific information to provide detail on the nature and magnitude of ecological risk and examine the possibility of reducing the footprint of lead contamination recommended for removal. This approach would minimize the amount of salt marsh habitat impacted during the removal action.

Question: Are you considering home range effects in your ecological risk calculations?

Answer: Yes, we would use a weight-of-evidence analysis in the risk calculations. Species representative of the clapper rail (such as plovers or willets) will be tested. While these species have different movement patterns than the clapper rail, the species are similar enough that they would provide an example of the degree of ecological risk to the endangered species.

Question: A large amount of research has been conducted to study the behavioral and neurological effects of lead exposure in humans. What have studies on the effects of lead on birds and mammals shown?

Answer: The impacts of lead on humans have been studied extensively and shown that significant neurological effects result. There is growing amount of data that shows lead has neurological impacts on birds and other mammals too. Studies on birds and mammals have attempted to determine an effect threshold for impairment. Studies have shown that differing effects are displayed at differing levels of exposure. Examinations of reproductive cycles, blood, and liver are common ways to determine sufficient exposure for impairment in birds and mammals.

Question: Is the lead shot at Site 74 decomposing quite rapidly?

Answer: It is likely that the lead shot is decomposing. However, the nature of lead decomposition at Site 74 is not known and the decomposed lead forms aren't equally bioavailable.

Question: Could remediation activities at Site 74 cause more problems than leaving the site alone?

Answer: Possibly. Some level of remediation at Site 74 is likely to be required. However, the Tier II Ecological Risk Assessment will provide more refined information on the ecological risk and may minimize the amount of endangered species habitat impacted during a removal action.

Question: How would the removal action be accomplished to reduce impacts to endangered species?

Answer: The removal would certainly be conducted outside of the species' breeding season.

Question: How do the lead concentrations and area of contamination at Site 74 compare to those at Site 73 (Water Tower Area)?

Answer: The lead contamination at Site 73 was much smaller in concentration and size.

Site 73 involved the excavation of 500 tons of lead impacted soil. If all soil and sediment contaminated with elevated levels of lead (above background concentrations) were removed at Site 74, possibly an area several hundred times as large as Site 73 would be excavated.

Question: Is lead removal at Site 74 a time critical action? Is the lead migrating toward the NWR?

Answer: No, remedial action at Site 74 is not a time critical action because of a concern that the lead contamination is migrating toward the NWR. However, it is a time critical action in the sense that sampling needs to be completed and bird and mammal collection needs to begin as soon as possible. A number of the bird species identified for collection are migratory and the migration season has already begun. Collection of these species needs to occur by the end of November or early December 2003.

Question: Will species actually be taken or will they be released after the risk assessment is completed?

Answer: Sampling will occur by removal and take of the species, as concentrations in the liver will be analyzed. Waterfowl collection will be accomplished with a shotgun.

This approach is not unusual. The sacrifice of a limited subset of animals is required to collect enough data for the risk assessment.

COMMUNITY FORUM

P. Tamashiro announced that the next RAB meeting would be held on the second Tuesday of January (13 January 2004).

Correction to the September 2003 RAB Meeting Minutes

P. Tamashiro announced that the response to the question below regarding groundwater testing for "emergent chemicals," was incorrectly reported in the September 2003 meeting minutes. Perchlorate testing has been conducted at Site 6 (Explosives Burning Ground) and Site 70 (Research, Testing, and Evaluation [RT&E] Area) and not at Site 40 (Concrete / Pit Gravel Area) as was reported in the September 2003 RAB minutes. The question and correct response are provided below.

Question: Are "emergent chemicals" being tested for at Site 14 and other IR Program sites at NAVWPNSTA Seal Beach?

Note: The term "emergent chemicals" is used by the United States Environmental Protection Agency (USEPA) and other regulatory agencies to identify a group of chemicals associated with explosives and solvent release sites. Of particular concern to the Regional Water Quality Control Board is groundwater contamination at former and active military facilities. In California, "emergent chemicals" include N-nitrosodimethylamine (NDMA), Perchlorate, 1,4-Dioxane, Hexavalent chromium, 1,2,3-Trichloropropane (TCP), and Polybrominated diphenyl ether (PBDE).

Answer: The Regional Water Quality Control Board (RWQCB) has asked the Navy to test for "emergent chemicals" and Navy headquarters are determining what IR Program sites should be tested. The Navy works closely with the environmental regulatory agencies (including the RWQCB) regarding the decision-making process. It is a difficult process because many IR Program sites are closed.

We have tested for perchlorate at Site 70 (Research, Testing, and Evaluation [RT&E] Area) and Site 6 (Explosives Burning Ground) and perchlorate has not been detected at either site.

Hexavalent chromium is not considered an "emergent chemical" by the Navy and has always been tested at groundwater contamination sites where metals are of concern.

P. Tamashiro asked the participants if they had any questions regarding recently distributed IR Program reports. No questions were raised.

J. Peoples requested that Captain R. Mirick be thanked for his attendance at the RAB meeting.

ADJOURNMENT

P. Tamashiro concluded the meeting by thanking the participants for attending and wishing them a safe trip home. The meeting was adjourned at 8:36 p.m.

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