

NAVAL WEAPONS STATION (WPNSTA) SEAL BEACH
RESTORATION ADVISORY BOARD (RAB)
AND COMMUNITY MEETING
NOVEMBER 4, 1998

Participants:

Abbasi, Rafat/Department of Toxic Substances Control (DTSC)
Bettencourt, Philip
Chuang, Yueh/CH2M HILL
Coffey, Michael
Davis, Charles
Dick, Andrew/Southwest Division, Naval Facilities
Engineering Command (SWDIV)
Embree, Melody/CH2M HILL
Harrison, Will
Heinle, Don/CH2M HILL
Iacoboni, Mauro
Johnson, Jeff/WPNSTA Seal Beach
Kurtz, Adrienne/Orange County Environmental Health
Lamond, Robert
Menzel, Barry
Mingay, Marsha/DTSC
Moore, Richard
Peoples, J.P.
Robinson, Rob/WPNSTA Seal Beach (Navy Co-chair)
Sadeghipour, Jamshid/Foster Wheeler
Sears, Terry
Sebring, Fred
Shey, M.L
Theriault, John
Vessley, Gene
Voce, Mario (Community Co-chair)
Welz, Ed
Willhite, Lindi
Wong, Bryant/CH2M HILL

WELCOME

At 7:00 p.m., R. Robinson welcomed the attendees to the Restoration Advisory Board (RAB) meeting. He announced two changes to the agenda: 1) Y. Chuang/CH2M HILL would be providing the Sites 1 and 7 Groundwater Study overview, and 2) the presentation on Sites 40 and 70 Extended Removal Site Evaluation (ERSE) would not be conducted until the next RAB meeting in January 1999.

Encl (1)

PROJECT HIGHLIGHTS

R. Robinson introduced A. Dick who provided the RAB with highlights of the WPNSTA Seal Beach's Installation Restoration (IR) Program project status. Copies of the slide presentation were made available as a handout at the meeting. No questions were asked during the presentation.

ECOLOGICAL RISK ASSESSMENT PHASE II FOR SITE 1 AND 7

R. Robinson introduced D. Heinle, a Senior Ecologist from CH2M HILL who provided the RAB with a presentation on the Ecological Risk Assessment Phase II Validation Study. Copies of the slide presentation were made available as a handout at the meeting. Questions asked and answers provided during the presentation are summarized below:

Slide 3 - Glossary:

Question: Are the Toxicity Reference Values (TRVs) based on one or several species?

Answer: It depends on the specific chemical. TRVs are based on a wide array of studies including laboratory rat experiments and effects on exposed animals (e.g., fowl) in the field. An array of effects (including reproductive effects) in animals is also evaluated to determine TRVs.

Slide 5 - Purpose:

Question: Is there a degradation factor built into the soil-to-tissue bioaccumulation factors?

Answer: There are certain assumptions that are necessary to make when estimating the bioaccumulation factors of chemicals as they are taken up from the food chain. An example is that we assume the concentration in the tissue of an animal decreases as the concentration in the soil is decreased. Although this may be considered an oversimplification, it is the most reasonable approach to take unless we do specific research for each chemical for each exposed biological receptor. The State of California DTSC agrees with this approach. In doing the risk calculations, no degradation is assumed.

Slide 11 - Photograph of Site 7:

Question: Is the white surface in the photograph water?

Answer: The white surface in this photograph is mostly mud flats in the foreground. Some of the white surfaces in the far background are water surfaces from the Perimeter Pond.

Question: There were no insects found at Site 7?

Answer: In order to collect enough insects for a valid sample you need at least 50 grams, and we were unable to collect that amount. All of the insects collected at each site were pooled to form a composite sample from the respective site.

Question: Is that unusual?

Answer: Not really. There are a lot of animals in that area that eat the insects, such as birds. Also, much of the area was submerged due to high tides and/or heavy ponding as a result of the El Nino storms.

Slide 14 - Data:

Question: What are the standards used to achieve the low detection limits?

Answer: Specialized biota laboratories with past performance and experience in attaining sufficiently low detection limits in biota analyses were used.

Question: Are these laboratories certified?

Answer: Yes, all the labs we use are state certified.

Question: Should we be concerned about the chemicals detected during the Remedial Investigation (RI) but were not detected during this Phase II Validation Study?

Answer: This was observed for chemicals when concentrations were low and not widespread.

Slide 18 - Soil Copper Chart:

Question: Do all "mammals" refer to mice?

Answer: Yes, the mammals that were collected were mice.

Slide 19 - Soil Lead Chart:

Question: Do the bioaccumulation factors and soil metal concentrations always have an inverse relationship?

Answer: When the intake concentration is high enough that the animal cannot regulate the chemical, the bioaccumulation factor will increase with soil metal concentration. We never observed that point with samples we collected at Sites 1 and 7.

Question: Do we need the confidence of statistical data to feel comfortable in establishing this relationship between the bioaccumulation factor and soil metal concentration?

Answer: We have pretty good confidence in this relationship because we can draw a pretty good curve with the data we have collected, and this type of relationship is well-established in the scientific literature and not surprising.

Slide 25 - Summary of Possible Ecological Risks:

Question: Can there be risks without a defined threshold?

Answer: Yes. There is a "non-threshold school of thinking" that says that there is no lower threshold for cancer. However, cancer risks are not included among the endpoints of the toxicity tests used to determine TRVs, so a threshold is assumed in the calculations.

Question: What is the relationship with regard to the size of an animal?

Answer: In general, the larger an animal is the more susceptible it is to chemical concentrations in tissue. We apply safety factors based on DTSC guidance as an alternative approach.

Question: What about an animal (e.g., cow or sheep) that ingests the contaminated fruits or vegetables and then humans eat the flesh of that animal?

Answer: We are talking about bioaccumulation and, in this case, we would look at the concentration of the chemical in the plants. Our original screening done in the RI was derived from studies and values established in Canada to be protective of agricultural uses.

Question: For Site 1, samples were taken close to the berm. Is agricultural farming still being conducted in this area?

Answer: Agricultural activities were not conducted during the environmental investigations and sampling events. The Navy has cordoned off this area to prevent farming of this

area pending resolution of the Engineering Evaluation/Cost Analysis (EE/CA).

Question: Are agricultural activities contributing to the chemicals in the soil?

Answer: Probably not. When samples were taken, no significantly higher concentrations were detected in the agricultural area, away from the disposal pond.

Question: Is Canadian analysis better than the United States?

Answer: It is not that one analysis is better than the other, it is that DTSC guidance did not exist at the time (1994-95) and the most appropriate standards available were what was established in Canada.

Question: Because Canada still imports and uses asbestos, how prudent is it to use Canadian values for the United States?

Answer: Not all nations view or evaluate toxic effects the same way. What may be acceptable limits for a particular chemical in one country may not be acceptable in another country. For example, most European countries see copper as a serious threat, and would not allow the use of copper piping for drinking water the way we do in the United States.

Question: What is the risk to what part of the body that is the basis for thresholds?

Answer: Examples of low threshold (subtle) effects include decreased birthrates, decreased litter size, and smaller birth weights.

Question: Does DTSC set the threshold limits for carcinogens?

Answer: Yes, DTSC sets limits for known carcinogens.

SITES 1 AND 7 GROUNDWATER STUDY

R. Robinson introduced Y. Chuang from CH2M HILL who provided the RAB with a presentation on the Groundwater Monitoring Study for Sites 1 and 7 - Status Report. Handouts of the presentation were made available at the meeting. Questions

asked and answers provided during the presentation are summarized below:

Slide 5 - In-Situ TROLL Logger/Probe:

Question: Is the probe stationary once it hits groundwater?

Answer: Yes, the probe stays in the well collecting continuous water level measurements until it is pulled out.

Question: Is the probe submerged?

Answer: Yes, the probe is submerged under about 10 to 15 feet of water.

Slide - 18 Groundwater Sampling:

Comment from R. Abbasi/DTSC: DTSC compares groundwater results to Ambient Water Quality Criteria.

Response from A. Dick/SWDIV: The Navy does not agree that Ambient Water Quality Criteria (which are surface water standards) are directly applicable to groundwater.

Slide 19 - Redi-Flo 2 Pump and Controller Box:

Question: Is this a grab sample?

Answer: For sampling purposes, we actually continuously pump water until we fill the required sample volume of each sample bottle.

Question: What is the range of flow of this pump?

Answer: The Redi-Flo2 pump can pump from 100 milliliters per minute to about 9 gallons per minute.

Slide 21 - Purging of Monitoring Well Before Sampling:

Question: Can you describe the purge process?

Answer: Yes. We purge or pump out stagnant water that has been sitting in the well to help ensure we get actual (formation) groundwater. The typical volume purged is equivalent to three times the volume of standing water in the well.

Question: Is the water being pumped coming from an aquifer?

Answer: What we pumped is groundwater from beneath the site, but not necessarily from an aquifer. An aquifer is typically defined as being capable of yielding enough water of good quality to production wells. The groundwater beneath these sites does not meet this definition because of poor yield of the subsurface formations and high salt content of the water.

Slide 25 - Preliminary Results of Sampling:

Question: What are the sources of Radium 226?

Answer: The dials on instrumentation may have been painted with a type of paint that contained Radium 226 for illumination purposes. Also, there are naturally occurring radionuclides, such as potassium.

Question: In regard to the exceedances of water quality standards that you mention in the slide, are these exceedances of *drinking water standards*?

Answer: No, these exceedances refer to *surface water standards* (e.g., any surface water body such as inland streams, oceans, etc.).

Question: What is the quality of this water as compared to leachate (e.g., clarity, odor, etc.)?

Answer: The water was clear and in no way resembles typical landfill leachate. There was one well that had a particular odor (probably hydrogen sulfide). The odor could be due to the site trenches, but it could also be associated with a salt marsh environment.

COMMUNITY FORUM

M. Voce announced the community forum open. R. Robinson reminded the RAB members that there would be no RAB meeting in December. The next scheduled RAB meeting will be held on Wednesday, January 13, 1999. Sites 40 and 70 ERSE presentation will be on the January agenda.

Comment: The report written by Bechtel was nicely put together; they did a good job.

ADJOURNMENT

R. Robinson thanked the participants of the RAB for attending and adjourned the meeting at 8:55 p.m.