



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

N00236.002381
ALAMEDA POINT
SSIC NO. 5090.3

October 28, 2004

Mr. Thomas Macchiarella
BRAC Operations, Code 06CA.TM
Department of the Navy, Southwest Division
Naval Facilities Engineering Command
1230 Columbia Street, Suite 1100
San Diego, CA 92101

Re: Draft Work Plan for Remedial Investigation, IR Site 32, Northern Ordnance Storage Area, Alameda Point

Dear Mr Macchiarella:

EPA has reviewed the above referenced document, prepared by Bechtel Environmental, Inc and submitted by the Navy on August 23, 2004, with comments from the regulators due on October 29, 2004. We have two main concerns with the proposed sampling workplan. First, EPA requests that the Human Health Risk Assessment include the ingestion of groundwater as an exposure pathway. The risk assessment can be a screening level assessment, but the ingestion pathway must be evaluated to determine whether any form of remedial action, including institutional controls, is necessary to address this exposure pathway. Second, the logic used to delineate the southern boundary of IR 32 is not apparent. The IR site should be expanded to encompass Buildings 420 and 497 and GAP 7, and soil and groundwater sampling added to cover the expanded footprint.

We look forward to resolving these issues with the Navy and receiving the Draft Final IR 32 Workplan and Response to Comments per the Federal Facility Agreement and SMP on December 29, 2004.

Sincerely,

A handwritten signature in cursive script, appearing to read "Anna-Marie Cook".

Anna-Marie Cook

enclosure

cc list next page

cc list: Jennifer Stewart, SWDiv
Marcia Liao, DTSC
Judy Huang, RWQCB
Sophia Serda, EPA
Karla Brasaemle, TechLaw Inc
Elizabeth Johnson, City of Alameda
Peter Russell, Northgate Environmental Management, Inc
Lea Loizos, ARC Ecology
Jean Sweeney, RAB Co-chair

**EPA Review of the Draft Work Plan for Remedial Investigation,
IR Site 32, Northern Ordnance Storage Area
Alameda Point**

1. **Page 1-2, second to last paragraph, second sentence:** Include radiological contaminants in addition to the VOC and metals contaminants found in groundwater.
2. **Page 1-3, first full paragraph:** Include the provision that soil sampling for radiological contamination may be necessary depending on the outcome of the groundwater sampling.
3. **Page 1-3, last paragraph:** The Human Health Risk Assessment (HHRA) needs to include a screening level risk assessment for a residential scenario that includes the ingestion of groundwater. Even though this exposure pathway may be unlikely, it must be evaluated. If there is no risk, then no action regarding groundwater is necessary. If the ingestion pathway shows a risk, then at a minimum it will be necessary to have some form of remedy in the form of an institutional control on the property to prevent completion of the groundwater ingestion pathway.
4. **Page 2-2, second paragraph:** It is not exactly correct to state that the entire site was under water until 1919. The Alameda Mole crossed the northern portion of IR 32 and was constructed in 1883.
5. **Figure 4:** EPA recommends additional soil sampling beneath Building 594.
6. **Page A2-10, Section 2.1.3.4, second paragraph:** Please clarify from which zone the 20 ft bgs sample was taken. The Bay Mud is stated to begin at 18 ft bgs (page A2-5), and clarification as to whether this groundwater sample is from the FWBZ or the SWBZ is needed.
7. **Page A2-13, Section 2.1.4.2:** Where will RCRA SWMU GAP 7 be sampled and addressed? EPA is concerned at the lack of sampling performed to date in and around GAP 7, Building 420 and Building 497. It appears that only BTEX constituents were sampled for in groundwater near Building 420 and no other areas have been sampled. There is not sufficient justification for delineating the southern boundary of IR 32 to exclude Bldgs 497, 420 and GAP 7. EPA recommends expanding the IR Site 32 boundary and sampling program to address what are certain to become data gaps.

In addition to the above comments, EPA's contractor TechLaw Inc has provided the following comments for consideration:

GENERAL COMMENTS

1. The extent to which the Second Water Bearing Zone (SWBZ) will be investigated is unclear. In Table 3-2 of the Sampling and Analysis Plan (SAP) there is a footnote that states that permanent monitoring wells in the SWBZ may be installed “based on results of groundwater samples and analysis of aquifer testing,” and the text of SAP Section 4.1.6, Monitoring Well Construction, states that monitoring wells will potentially be installed in the SWBZ, but the text of the Work Plan (WP), the text of the SAP, and the data quality objectives (DQO) table in the WP and in the SAP do not discuss criteria for installation of monitoring wells into the SWBZ. Since all of the water sampling at IR Site 32, including the discrete groundwater sampling in hydropunch borings and permanent groundwater wells, will be conducted in the First Water Bearing Zone (FWBZ) and there is no provision for discrete groundwater sampling in the SWBZ, it is unclear how the locations of SWBZ monitoring wells will be determined. At a minimum, the DQO tables should include a decision question and a decision rule for installation of monitoring wells in the SWBZ and the text of the WP and SAP should include a discussion that SWBZ monitoring wells could be installed. Please revised the text to specify the potential for installation of monitoring wells in the SWBZ, and revise the DQO table to include a decision question and a decision rule for installation of SWBZ monitoring wells.
2. It is unlikely that discrete water samples will be sufficient to characterize groundwater since these samples will not allow monitoring the stability of the groundwater contaminant plume. The results of previous investigations indicate that volatile organic compounds (VOCs) are present at concentrations above the maximum contaminant levels (MCLs). In order to evaluate trends in contaminant concentrations and whether plume migration is occurring, installation of at least three monitoring wells will be necessary, but the text of the WP (Section 1.2) and SAP (Section 1.3) does not specify a minimum number of wells that will be installed. In addition, a single round of groundwater sampling will not be sufficient to evaluate trends and potential plume migration, but the text does not state that additional sampling will be performed. Please revise the text to specify that at least three and no more than five permanent FWBZ monitoring wells will be installed at Site 32 and to include provisions for additional sampling for analysis of trends in contaminant concentrations and plume migration.

SPECIFIC COMMENTS

1. **Table 1, Summary of Data Quality Objectives for IR Site 32 and SAP Table 3-1, Summary of Data Quality Objectives for IR Site 32:** The decision questions in Step 2 refer to the future use scenarios for the site, but the future use of the site is not discussed in the text. Please specify the future use of IR Site 32.

2. **SAP, Section 3.2, Soil Gas Sampling, Page A3-2 and Section 4.1.4, Soil Gas Sampling, Page A4-4:** The procedures for soil gas sampling reference the Los Angeles Regional Water Quality Control Board (LARWQCB) requirements, but do not specify whether leak testing procedures as described in the LARWQCB advisory for soil gas investigations will be followed. Since leakage during soil gas sampling may dilute samples with ambient air and produce results that underestimate actual site concentrations or introduce contaminants present in ambient air, leak testing is important. This is done by placing materials saturated with tracer compounds like pentane, isopropanol, isobutene, propane, and butane near the top of the soil gas probe or at sample system connections. If the tracer compound is detected in the sample, leakage has occurred. It is recommended that the leak testing be conducted for every soil gas sample collected at IR Site 32. Please specify that leak testing will be conducted for every soil gas sample and list the specific compound(s) that will be used for leak testing.
3. **SAP Section 4.1.6, Monitoring Well Construction, Page A4-8:** The text does not specify that at least 24 hours should elapse between completion of monitoring well installation and well development in order to allow the grout to cure. Please revise the text to specify that the grout will be allowed to cure for at least 24 hours before each monitoring well is developed.
4. **SAP Section 4.1.7.1, Discrete Groundwater Sampling, Page A4-9:** It appears that the text in this section contains a contradiction. The third sentence states that VOC samples will be collected using a small-diameter disposable bailer. The fourth sentence states that samples “will be collected directly into precleaned laboratory-supplied sample containers at a low flow rate to minimize volatilization,” but this language is normally used to describe sampling conducted with a peristaltic or submersible pump. Please resolve this discrepancy.
5. **SAP Section 4.1.7.2, Monitor Well Sampling, Page A4-10:** The text states that groundwater samples “will be collected from the pumps at a pumping rate of 0.1 liter per minute or less,” but based on experience and observation, this flow rate likely will produce a stream of droplets rather than a laminar flow and VOCs will potentially be lost. It is important to maintain a laminar flow rate during collection of VOC samples. This may require a flow rate of at least 0.2 liter per minute. Please revise the text to state that VOCs will be collected at a flow rate that results in a smooth laminar flow into the sampling vial.
6. **SAP Section 4.1.7.2, Monitor Well Sampling, Page A4-10:** Stability will not necessarily be achieved and groundwater may not be representative of aquifer conditions if successive temperature readings in the vicinity of 10 percent, given that the average groundwater temperatures in the Bay Area are in the range from 16 to about 24 degrees Centigrade. It should be possible to achieve temperature readings that are separated by no more than 0.2 degrees. Please revise the text to specify that temperatures will be stabilized to plus or minus 0.2 degrees.

7. **SAP Figure 3-1, Schematic Conceptual Site Model:** The conceptual site model (CSM) does not accurately present ecological pathways or depict pathways consistent with the text in Section 3.6.5.1. For example, Figure 3-1 shows a complete exposure pathway, which is not considered a significant risk, for ecological receptors inhaling vapors during showering. It is not clear how ecological receptors will be exposed to this pathway. This pathway should be shown as incomplete. Further, the CSM does not address root uptake, but shows ingestion of groundwater by ecological receptors as a completed exposure pathway. There is no discussion of groundwater discharge to clarify why this pathway is considered complete. Please revise the CSM to include accurate exposure pathways (including exposure routes) for ecological receptors, and please provide a breakdown of ecological receptors by taxonomic group for consistency with the discussion in the text.