



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105
SFD 8-3

N00236.002470
ALAMEDA POINT
SSIC NO. 5090.3

June 30, 2005

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 at IR Site 31, Alameda Point

Dear Mr. Macchiarella:

EPA has reviewed the above referenced document prepared by CDM Federal Programs Corporation and submitted by the Navy on April 20, 2005. Comments were due from the regulators on June 20, 2005 and EPA took an extra 10 days for review in accordance with Section 10.7(b)(2) of the FFA making our comments due on June 30, 2005.

We notice there does not appear to be any provision for community involvement in the work plan or the schedule. A section should be added in the Draft Final Work Plan describing the steps that will be taken to notify and involve residents of Marina Village about the upcoming sampling events. The discussion should include a description of the mechanisms by which the residents will be notified (fact sheet, public meetings, door-to-door notification); a schedule for notification; a means for the residents to contact the Navy with questions (both everyday and emergency); a description of how the field work will be scheduled to minimize disruption to the residents; and all safety precautions that will be put in place during the sampling events to protect the residents especially with regard to children.

In addition, it appears that some of the soil sampling locations may be sampling backfill that has been imported as part of the Marina Village Housing construction. It is important to bias the soil sampling to investigate areas of suspected releases from past Navy activities, and not merely

characterize imported backfill. The many supporting documents supplied by the Navy to assist in review of this work plan give information about the locations and depths of the imported and compacted construction backfill.

If you have any questions regarding the enclosed comments, please call me at (415) 972-3029.

Sincerely,



Anna-Marie Cook
Remedial Project Manager

enclosure

cc list: Darren Newton, SWDiv
Marcia Liao, DTSC
Judy Huang, RWQCB
Elizabeth Johnson, City of Alameda
Peter Russell, Russell Resources, Inc
Jean Sweeney, RAB Co-Chair
Karla Brasaemle, TechLaw Inc

**EPA Review of the Draft Work Plan for Remedial Investigation at
IR Site 31, Alameda Point**

GENERAL COMMENTS:

1. Please include a section describing the steps that will be taken to notify residents of Marina Village about the upcoming sampling events. The discussion should include a description of the mechanisms by which the residents will be notified (fact sheet, public meetings, door-to-door notification), a schedule for notification, a means for the residents to contact the Navy with questions (both everyday and emergency), a description of how the field work will be scheduled to minimize disruption to the residents, and all safety precautions that will be put in place during the sampling events to protect the residents especially with regard to children.
2. The document does not use all information available in developing a site history that would lead to a meaningful sampling plan. For example, Work Plan Section 2.2 and Attachment A Section 2.2 in the SAP fail to mention that the site was part of the San Francisco Bay Airdrome from 1930 - 1941 (Site Investigation at the Warehouse Area-Phase II, ERM -West, May 1988 and Risk Assessment Report for Military Housing Site, PRC Environmental Management, Inc, October 1990). Aircraft use, maintenance, and storage likely resulted in releases of VOC and inorganic contaminants to soil and groundwater in this area. The documents also mention that after the Airdrome closed, Site 31 was used as a DRMO storage area and that the area was never paved in the course of materials storage at the site. Further, these documents state that Site 31 and the day care site were the areas of greatest concern with respect to metals contamination.
3. Attachment A Section 2.3.5 gives a description of recommended construction for the housing units from Bissell and Karn, Inc (1987), but does not give a description of the final as built construction details for the housing. In the final approved drawings for the housing units, dated March 29, 1990, Spectrum Land Planning and Hunt Building Corporation state "The existing topography shown hereon represents a level of soil after removal of 3" of asphalt and 6" of contaminated soil." It specifies a 4 foot minimum of compacted fill, and does not show the vapor barriers that are believed to be underneath the houses. It is important to verify how much soil was excavated, how much new soil was brought in and compacted, and how and where the vapor barriers were installed. Soil samples taken in the first 0 - 4 feet of soil may be representative of imported material. In addition, it will be necessary to know the location of the vapor barriers relative to the proposed locations of the soil and groundwater samples.
4. In the Risk Assessment Report for Military Housing Site, PRC Environmental Management, Inc, October 1990, the vapor barrier is mentioned as being part of the housing project. It is stated that the membrane has been tested for a 4-year durability and

that if groundwater remediation has not taken place within four years of installation of the vapor barrier the Navy should perform indoor air sampling in the housing units. The indoor air samples taken by PRC in 1993 were within the 4-year life of the vapor barriers so it would be expected that the barriers would minimize vapor intrusion at that time. Whether the vapor barriers are still working is unknown, and the sampling performed by the Coast Guard in 2002 apparently showed no difference between Marina Village and North Housing residences which may also mean that the barriers are no longer effective.

5. The Work Plan Page 2-6, and Attachment A, Page 2-1 both state that the elevated detections for benzene were discarded as an anomaly. This decision is probably not appropriate given that benzene concentrations in groundwater are high. Also, the soil gas data should not be considered unusable simply due to high detection limits. The highest detection limit of 0.19 ug/m³ is still much lower than the range of detected concentrations of 50 to 17,000 ug/m³ and so the data should still be useable in the HHRA.
6. The Draft Work Plan for Remedial Investigation (RI) at IR Site 31 (the Work Plan) would benefit from a clearer focus of its data quality objectives (DQOs). As currently written, the DQOs are quite broad and are not uniformly carried through the rest of the Work Plan. For example, the first objective mentioned in text on page 1-2 of the Work Plan is to determine the nature and extent of contamination, but determining the nature and extent of contamination is never mentioned in the DQOs in Table 3-1 of the Work Plan and Attachment A, Sampling and Analysis Plan (SAP). In addition, the objective of performing an ecological risk assessment is not mentioned in the first set of objectives at the top of page 1-2, but is included in the scope of the RI at the bottom of the same page; ecological risk assessment is mentioned but not carried across all DQOs in Table 3-1. More specific DQOs may make it easier to evaluate the results of the RI and determine whether DQOs were met. Suggestions for more specific DQOs are offered in the specific comments below.
7. There is no figure showing the location of a groundwater plume relative to IR Site 31. Please describe the relationship to IR Site 31 of any nearby contaminated groundwater plumes clearly in text and show the plume(s) on all appropriate figures.

SPECIFIC COMMENTS:

1. **Work Plan, Section 2.2, Alameda Point Description and Site History, Page 2-1, and Attachment A, Sampling and Analysis Plan, Section 2.2, Site Description, Page 2-2:** These sections contain identical descriptions of aerial photographs reviewed for IR Site 31, but the descriptions do not contain any mention of staining. It appears from the 1968 photo presented in the IR Site 30 RI, Appendix A, that a stain may be present near the northwest corner of the northwestern most warehouse in IR Site 31, and a second stain may be present due west of the warehouse. Please add descriptions of staining to the site

history summarized in these sections and explain how the proposed sampling addresses the stains.

2. **Work Plan, Section 2.5.2, Groundwater Sampling, Page 2-5, Section 3, Technical Approach, Page 3-3, Attachment A, Section 4.1.2, Groundwater Sampling and Analysis, Page 4-3 and Step 7 of Work Plan Table 3-1, Data Quality Objectives for IR Site 31, Page 3-5, and Attachment A, Step 7 of Sampling and Analysis Plan, Table 3-1, Data Quality Objectives for IR Site 31, Page 3-3:** Please collect VOC samples from the monitoring wells from the same depth interval as the nearest hydropunch samples or discuss in detail how VOC groundwater data separated by 10 to 18 months and collected from different depth intervals can be compared with hydropunch data from this investigation and used to make decisions about whether former activities at Site 31 contributed to groundwater contamination.

3. **Work Plan, Table 3-1, Data Quality Objectives for IR Site 31, Page 3-5 and Attachment A, Sampling and Analysis Plan, Table 3-1, Data Quality Objectives for IR Site 31, Page 3-3:** These tables contain identical information, and the following comments pertain to both tables:
 - The first objective listed in the bullets on page 1-2 of the Work Plan and page 1-1 of the SAP is to determine the nature and extent of contamination, but determining the nature and extent of contamination is never mentioned in the DQOs. Please add this objective to Step 1, State the Problem and Step 2, Identify the Decision.
 - Groundwater data will be collected during the RI, but no groundwater standards are included in Step 3, Identify the Decision Inputs. In addition, the text states that 2004 groundwater sampling data will be used for this RI, but the 2004 groundwater data is not listed as an input for decision making. Please add groundwater standards and the 2004 Groundwater sampling data to Step 3.
 - Metals data in soil will be collected during the RI, but no information on metals background is included in the DQOs. Please add metals background to Step 3, Identify the Decision Inputs, and explain how the background comparison will be conducted in Step 5, Develop the Decision Rules.
 - It is unclear why one of the Decision Rules in Step 5 involves evaluating whether volatile organic compound (VOC) data is usable, since the text in Section 2.5.2 of Attachment A states that the 2004 quarterly groundwater data are usable for RI purposes. Please delete this decision rule.
 - Step 6, Specify the Tolerable Limits on Decision Errors, discusses the consequences of a decision error but does not state how the potential for decision errors will be minimized. Such factors could include use of quality control (QC) samples (field and laboratory), careful sample collection, handling, preparation, and analysis of all media in accordance with applicable standard operating procedures (SOPs), and optimal sampling design. Under Step 6, please specify how the potential for decision errors will be minimized.
 - Step 7, Optimize the Sampling Design, states that samples will be collected from

50 locations in a modified grid pattern, but does not explain how this sampling design was chosen nor how it was determined to be the optimal design to meet the RI objectives. Please expand Step 7 by providing this explanation.

4. **Attachment A, Sampling and Analysis Plan, Section 2.3.4, Hydrogeology, Page 2-4:** This section discusses groundwater flow direction and depth to groundwater, but does not discuss groundwater flow velocity nor possible tidal influences. A discussion of groundwater flow velocity has been requested in previous EPA comments on the IR Site 30 RI, and information may have been developed in response to those comments. A tidal study in the shallow aquifer has been conducted at Alameda Point, and this information will be essential to interpretation of groundwater data from IR Site 31. Please discuss the estimated groundwater flow velocity beneath IR Site 31 and the results of the tidal study in the shallow aquifer in this section or add a separate section to discuss these results and their potential impact on the RI.
5. **Attachment A, Sampling and Analysis Plan, Section 2.4, Previous Investigations at IR Site 31, Page 2-6:** This section states that Figure 2-4 summarizes previous soil gas sampling results and Figure 2-5 summarizes previous soil and groundwater sampling results, but the only figure included in the Work Plan that shows the results of previous investigations is "Figure 2-4, 2003 B(a)P Concentrations". Please add the other two figures referenced in this section to the next version of the Work Plan.
6. **Attachment A, Sampling and Analysis Plan, Section 2.5.1, Soil Sampling, Page 2-9 and 2-10:** This section describes how many samples have been collected, but does not present an evaluation of data gaps as stated in the introduction to the section, and figures are not presented to allow an independent evaluation of the data gaps. Please evaluate soil data gaps in the next version of the Work Plan and evaluate the soil data gaps for each class of contaminants.
7. **Attachment A, Sampling and Analysis Plan, Section 5.1.6, Groundwater Sampling Page 5-5:** The text states that the low-flow purging and sampling point will be the mid-point of the wetted screen, but this will not provide data that is comparable with the hydropunch data. Sampling depths in the monitoring wells should be targeted to the same zones that are sampled by hydropunch. Please revise the Sampling and Analysis Plan to specify that low-flow purging and sampling will be done at one or more depths that will target the same depth interval as the hydropunch samples.
8. **Attachment A, Sampling and Analysis Plan, Section 5.1.6, Page 5-5:** No procedures are provided for hydropunch sampling, so it is unclear if hydropunch samples will also be collected using low-flow techniques. It is also unclear whether samples will be analyzed for total metals, dissolved metals, or both. Please revise the text to include procedures for hydropunch sampling and specify whether samples will be analyzed for total metals,

dissolved metals or both.

9. **Attachment A, Sampling and Analysis Plan, Figure 2-2, Regional Topography and Geology:** Please add these three symbols “br”, “Qhbr” and “Qhsc” used on the map to the legend of Figure 2-2.
10. **Attachment A, Sampling and Analysis Plan, Table 4-3, Groundwater Monitoring Well Construction Information IR Site 31 Alameda Point:** The table has no listed entries under top-of-casing (TOC) elevation for four of the six listed wells. In addition, no survey coordinates (northing and easting) are provided for MW25-01, no completion type is provided for MW-25-01, PW-10A, and PW-12, and a note indicates PW-10A may have been abandoned. It is not clear how groundwater level data will be interpreted without accurate measuring point elevations and survey coordinates, nor if sufficient wells are available to construct accurate maps. Please add a task to survey the wells as needed and to verify the status of PW-10A. Alternatively, please explain how accurate water level measurements will be taken from the listed wells.
11. **Attachment A, Sampling and Analysis Plan, Table 6-2, Analytes Reporting Limits and Regulatory Criteria Internal Draft Quality Assurance Project Plan for IR at IR Site 31 Alameda Point, Pages 6-17 to 6-20:** Many of the Reporting Limits (RLs) in this table exceed the listed regulatory screening criteria, so it is not clear how chemicals of potential concern (COPCs) will be selected for the risk assessments and how decisions will be made. Please explain why lower RLs were not achievable or practicable. Also, please revise the document to explain how COPCs will be selected and how decisions will be made, given the large number of RLs that exceed regulatory screening criteria. Alternatively, if the table is labeled “internal draft” because it will be substantially changed in the next version of the SAP, please provide an updated table with lower RLs. It should be noted that analytes should be carried forward and assessed as COPCs in instances where RLs exceed screening criteria.