

**RESPONSE TO COMMENTS ON
NAS MOFFETT FIELD
DRAFT PRELIMINARY ASSESSMENT/SITE INSPECTION
FIELD INVESTIGATION WORK PLAN**

AUGUST 6, 1993

This report presents point-by-point responses to regulatory agency comments on the "Draft Preliminary Assessment/Site Inspection (PA/SI) Field Investigation Work Plan" prepared June 14, 1993 by PRC Environmental Management, Inc. (PRC) for Naval Air Station (NAS) Moffett Field, California. Mr. Michael Gill of the U.S Environmental Protection Agency (EPA) submitted comments in a letter dated July 9, 1993. Ms. Elizabeth Adams of the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), submitted comments in a letter dated July 8, 1993.

In addition to these comments, further modifications to the work plan were agreed upon during a meeting on July 23, 1993 involving the Navy, EPA, and RWQCB. These modifications were summarized by Mr. Michael Gill in meeting minutes dated July 26, 1993 and are included for completeness in this document after Mr. Gill's written comments. The title of the draft final submittal of this field work plan has been changed from PA/SI to the "Additional Investigations of Inferred Sources" to more accurately reflect the focus of the investigation.

COMMENTS FROM MR. MICHAEL GILL, EPA

General Comments

Comment Number 1. EPA's review indicates that this document does not adequately address the objective of the PA/SI for the potential source areas. Also, out of 52 buildings of interest, more than half have been discounted as potential sources. Documentation of the data used to eliminate these sites is not included in the work plan to enable sufficient evaluation of these recommendations.

Response: Table 1 has been expanded to include additional data source references, and locations of groundwater monitoring wells cited in Table 1 have been added to Plate 1. These additional data further support the decisions presented in Table 1. Also, please refer to the response to specific comment 2.

Comment Number 2. A final work plan is scheduled to be completed on July 19, 1993 for the remaining 18 buildings (potential source areas). The mobilization of field activities is scheduled for the same day. This date is not realistic. It does not allow for time necessary for site walks in these areas or for the consideration of regulatory agency comments.

Response: Section 7.0 of the work plan has been modified to indicate the schedule established during the July 23, 1993 meeting. Field activities are scheduled to begin on August 23, 1993. To allow for adequate time for task completion and realizing that field activities seldom proceed without unforeseen delays, Section 4.1 has been modified to indicate that the goal will be to complete the inspections before the field work begins.

Specific Comments

Comment Number 1. Section 2.0, Page 3, Last Paragraph. The text refers to "preliminary mass allocation calculations" that "suggest a very small percentage of contamination is attributable to unidentified Navy sources." A reference document for these calculations is not provided. Please cite the reference document.

Response: The calculations were originally presented during a meeting between the Navy and the regulatory agencies on October 5, 1992. The same calculations also were included in a memorandum sent to the regulatory agencies on July 27, 1993.

Comment Number 2.

Section 4.1, Page 8, Paragraph 2. Out of 52 buildings of interest, more than half have been discounted by the Navy as potential sources; however, the only explanation offered for these recommendations is the generic description in the preceding paragraph (page 8, paragraph 1) for screening procedures and, in some cases, a well number in column 7 of Table 1. It is recommended that the following supporting information be used to justify the results:

- distance of groundwater monitoring wells from specific potential sources,
- direction of groundwater flow,
- dates of groundwater analytical results, and
- analytical results from soil sampling.

Response:

Because the building selection criteria used by Harding Lawson Associates (HLA) were very general (primary criteria included only the building name and its location above the regional plume), it is not unexpected that no further action is recommended for many of the buildings. Locations of groundwater monitoring wells discussed in Table 1 have been added to Plate 1. Consequently, distances between specific monitoring wells and buildings of interest can be measured on Plate 1. Plate 1 has also been modified to indicate the direction of regional groundwater flow in the A1 aquifer zone. Similarly, Table 1 has been expanded to include the data references cited for each building of interest. These references contain the dates of the groundwater analytical results. Most of the data cited in Table 1 are from groundwater samples collected during August and September 1992 (PRC and Montgomery 1993).

As discussed in the July 23, 1993 meeting, soil analytical results were not used in the evaluation presented in Table 1 for two reasons. First, very few soil samples were collected near the buildings of interest. Second, because the subsurface sediments at NAS Moffett Field are highly heterogeneous,

soil analytical results do not provide reliable indications of contaminant distribution. The subsurface soil contaminant distribution depends heavily on the grain size and organic content of subsurface soils. These two properties are highly variable at NAS Moffett Field. Consequently, soil analytical results are not effective indicators of the extent of subsurface soil contamination.

Comment Number 3. The Navy has not refuted nor referenced any of the specific analytical data used by HLA (May 17, 1993) to name the specific source areas. An example of this is Building 6, where HLA cites fall 1992 analyses indicating a "six- to nine-fold increase in the trichloroethene (TCE) concentrations." Previous documentation is available that provides analytical data for storm and sanitary sewer sampling which the Navy has not considered in their recommendations.

Response: This field work plan does not include specific responses to all allegations made by HLA in the August 1992 and May 1993 reports. The Navy's general technical responses to HLA's inferred source issues were presented in a letter from Mr. Gilbert Rivera of the Navy to Ms. Roberta Blank of EPA dated March 9, 1993. Analytical results from storm sewer samples were considered in the evaluation presented in Table 1. Information from storm sewer samples presented in a 1986 study (ERM and AR 1986) was used to help characterize several buildings (for example, Buildings 292, 438, 535, and 544).

Comment Number 4. Table 1. The comments that follow are presented by building number.

Building 1. Please describe what additional investigation is to be performed. Based on historical solvent usage in hangars at naval air stations, Hangar 1 is a probable source of solvent contamination in groundwater beneath and downgradient of Hangar 1. However, no source control wells are currently proposed in the vicinity of this area.

Response:

Additional investigation of petroleum contamination resulting from operations at two fueling pits inside Hangar 1 is planned for late 1993 or early 1994. Contaminant concentrations measured in groundwater samples collected from three monitoring wells immediately downgradient from Hangar 1 do not indicate that it is a source of chlorinated volatile organic compound (VOC) contamination. TCE concentrations measured in samples from wells W9-43, W29-5, and WU4-8 during August 1992 were < 2, < 100, and 7 micrograms per liter ($\mu\text{g/L}$). The TCE concentration in the regional VOC plume in the A1 aquifer zone in the vicinity of Hangar 1 ranges from 100 to 1,000 $\mu\text{g/L}$. The low TCE concentrations measured in samples from wells W9-43, W29-5, and WU4-8 are consistent with concentrations that would be expected near the edge of the regional plume.

Building 6. This building should be included along with Buildings 29 and 31 as a possible source area of fuel or solvent contamination in the Expanded Site 9 Area. Although it is unclear whether the southwest portion of the Expanded Site 9 Area is a source area, it is not unreasonable to group all of the Navy's perceived Site 9 point sources into one Expanded Site 9 Area. It appears that both the regional plume and Navy sources within the Expanded Site 9 Area may be responsible for the TCE contamination in the Expanded Site 9 Area.

Response:

TCE concentrations in the A1 zone groundwater do not increase significantly downgradient from Building 6. The TCE concentration measured in a groundwater sample collected from well W9-35 is approximately the same as the TCE concentration in the groundwater of the regional VOC plume in this area. Therefore, Building 6 was not recommended for additional action. However, because Building 6 is close to Building 88 (immediately across Wescoat Road), the groundwater in the A1 aquifer zone beneath Building 6 will be extracted and treated as part of the Site 9 source control measure and the west-side aquifers long-term

source remediation. Groundwater extraction from well W9-46 will affect groundwater in the vicinity of Building 6 as well as Building 88.

Buildings 17/19 Area. These buildings are presently not included in Table 1. Please provide data to verify whether elevated levels of TCE (Middlefield-Ellis-Whisman [MEW] HydroPunch® sample HP89-13 detected a level of 1,740 µg/L) originate from a source in the Building 17/19 area or from a regional plume.

Response:

Table 1 has been expanded to include Building 19, the Bachelor Enlisted Quarters, to incorporate this inferred source area. Compared to TCE values at neighboring locations, the concentration measured at Navy HydroPunch® location HP89-13 (PRC and JMM 1991) is consistent with the regional plume. The TCE concentration measured in sample HP89-13, 1,740 µg/L, is in the same range as that detected in a sample from well W89-9 (980 µg/L).

Building 48 Area. This building is presently not included in Table 1. The Navy has stated that it believes that TCE concentrations detected in the A1 permeable zone in the vicinity of the Building 48 area are attributed to the "upward vertical leakage" of elevated TCE concentrations from the A2 permeable zone. Additional geophysical data should be collected (cross sections and channel maps extending from south of Highway 101 through the Building 48 area) to confirm the "preferred migration pathway" or A1/A2 vertical gradient theory.

Response:

Table 1 has been expanded to include Building 48, the Chaplain's Office and Day Care Center, to incorporate this inferred source area. There is no current chemical use at this building and no indication of an impact to the regional VOC plume. The TCE concentration measured in a sample from well W89-5, 230 µg/L, is consistent with the values detected in the regional plume in this area. This area has been evaluated by the Navy in the past,

during the Inferred Sources 8 and 9 investigation (PRC and JMM 1991). The conclusion reached during this previous investigation also was that no contaminant sources were present in the area.

Two observations support the hypothesis that contamination in the A1 aquifer zone in the Building 48 area may be caused by upward migration from the underlying A2 zone. First, the TCE concentrations in the A2 aquifer zone upgradient from the Building 48 area are high currently (about 4,000 µg/L in well 12B1), and have been much higher historically (41,000 µg/L at well 12B1). Second, upward gradients have been consistently measured in A1/A2 zone well pairs in this area (W89-2/W89-12 and W89-1/W89-11). Hydrographs for these wells are included in the "August 1992 Final Quarterly Report" (PRC and Montgomery 1993). Because none of the data for the Building 48 area indicate the presence of a contaminant source, the Navy believes that the expense involved in collecting additional stratigraphic data and performing aquifer tests to further validate the vertical leakage hypothesis is not warranted.

Building 88. Building 88 is a source of VOC contamination. Because TCE is a known degradation product of tetrachloroethene (PCE), Building 88 can be considered a source of TCE contamination detected north of Building 88. The Navy should be responsible for remediating TCE contaminated groundwater in the vicinity of Building 88.

Response:

The Navy recognizes Building 88 as a source of PCE contamination and plans to extract and treat groundwater from the vicinity of Building 88 as part of the Site 9 source control measure and the west-side aquifers long-term source remediation. Groundwater extraction is not selective for individual contaminants. Therefore, the Navy also will be remediating TCE contaminated groundwater in the vicinity of Building 88.

Buildings 123, 127, 144 (Expanded Site 8 Area). The National Aeronautics and Space Administration (NASA) recently installed and sampled six well clusters in this area and TCE concentrations ranging from 1.9 to 250 µg/L were detected. Based on these recent data, it does not appear that the regional plume is truncated to the north of the Expanded Site 9 Area. However, no data have been presented to confirm whether preferred sand channels exist between the Expanded Site 9 Area and the Expanded Site 8 Area. Channel maps and geologic cross sections extending from the Expanded Site 9 Area up through and north of the Expanded Site 8 Area (around the Building 144 area) should be prepared and examined to investigate the possible existence of permeable migration pathways. (Does NASA have any stratigraphy maps available from their investigation?) Also, it appears that a source of TCE contamination may exist in the vicinity of well 11M04A. But insufficient soil and groundwater data exist near the drum storage area; additional sampling should be done.

Response:

The Navy concurs that, based on data recently collected by NASA, the regional VOC plume should not be truncated immediately north of the Site 9 area. Sand channel maps extending through the area between Sites 8 and 9 were prepared before NASA installed wells in this area (PRC 1993). These maps were used, in part, to select the locations of NASA's wells and the interpretation presented on the maps was confirmed by the results of the drilling activities. The Navy is not aware of NASA's plans to present stratigraphic information resulting from the recent drilling operations.

Soil borings SBSI-4 through SBSI-7 and well WSI-4 are proposed in the work plan to further investigate contamination in the Site 8 area (refer to Sections 4.4.1 and 4.5.1). Soil borings SBSI-5 through SBSI-7 are specifically intended to characterize shallow soil contamination that may have been caused by drum storage at Site 8.

Buildings 146, 544. It is unclear whether the TCE concentrations detected in the South Gate Area are attributed to a Navy source or are the result of migration from the MEW site. Based on available data, the presence of a permeable migration pathway could not be verified. Channel maps presented in Navy documents do not extend south of Highway 101. Additional sampling of upgradient and downgradient wells with screened intervals located within the same aquifer and same approximate elevations is recommended. Channel maps should be presented that extend from south of Highway 101 through the South Gate Area.

Response:

As discussed in Sections 4.4.1 and 4.5.1, the investigation in the transportation yard is intended to evaluate whether contamination in the A1 zone groundwater in this area is caused by a local or upgradient source. Cone penetrometer tests (CPT) will be used to characterize the subsurface stratigraphy and HydroPunch® samples and samples from groundwater monitoring wells (specifically, wells WSI-1 and WSI-2) will be used to evaluate the extent of groundwater contamination in the A1 aquifer zone. The channel maps in the transportation yard area will be updated to incorporate the results of the investigation. However, continuation of these maps south of U.S. Highway 101 will be undertaken only if essential to the stratigraphic interpretation.

Buildings 467, 505, 555. Because a former auto hobby shop would probably have a chemical use history as a vehicle maintenance and repair area, this area should be considered a potential source area. Although observed TCE levels in nearby upgradient and downgradient wells may be consistent with the regional plume, no well data downgradient of well 82A were available to support the Navy's conclusion that TCE concentrations detected in well 82A are a result of the regional TCE plume.

Response:

Wells W9-38 and W9-16 are both downgradient from well 82A and the former auto hobby shop area. Groundwater samples collected in August

1992 indicated TCE concentrations of 2,700 µg/L in the sample from well W9-38 and 140 µg/L in the sample from well W9-16. The TCE concentration measured in a sample from well 82A was 2,500 µg/L. The concentrations measured at wells 82A and W9-38 are similar; the concentration measured at well W9-16 is an order of magnitude lower than that measured at well 82A. Therefore, the Navy does not believe that the data indicate an impact to the regional plume or that the former auto hobby shop area is a source to the regional plume. Table 1 has been modified to indicate that Buildings 467 and 505 were removed during 1974 to 1975.

Building 543. Provide more detail on the data presented in the reference for this building (PRC & JMM) to verify that the TCE source exists in the upgradient A2 aquifer.

Response:

This area has been evaluated by the Navy in the past, during the Inferred Sources 8 and 9 investigation (PRC and JMM 1991). This investigation included an extensive soil gas survey, CPTs and HydroPunch® sampling, soil borings and monitoring well installation, and interviews with base personnel. Interviews revealed that organic solvents were not used or disposed of in Building 543. The soil gas survey did not indicate any elevated concentrations or a consistent pattern of detections that would suggest a source. Furthermore, the TCE concentration measured in a groundwater sample collected from downgradient well 75A (130 µg/L) is consistent with the concentrations in the regional plume in this area. Also, please refer to the response for Building 48 for additional discussion of this general area.

Comment Number 5.

Section 4.1, Page 20, Top Paragraph. The Navy indicates that the results of the 18 site walkthroughs and possible resulting recommendations for further action will be conducted before the PA/SI work plan is finalized. This is making schedule assumptions that may make adequate task completion impossible.

Response: *Section 7.0 of the work plan has been modified to indicate the schedule established during the July 23, 1993 meeting. To allow for adequate time for task completion and realizing that field activities seldom proceed without unforeseen delays, Section 4.1 has been modified to indicate that the goal will be to complete the inspections before the field work begins.*

Comment Number 6. Section 4.4, Page 22, Paragraph 3. A reference is made to preliminary subsurface maps that were used by the Navy to locate sand and gravel channels in the A1 zone sediments. In the final work plan, a reference document for these maps should be cited.

Response: *Section 4.4 has been modified to include the reference for the channel zone maps.*

Comment Number 7. Section 4.5.2, Page 28, Paragraph 3. It is considered impractical for any well that does not recharge to within 80 percent within 1 hour to be purged of three well volumes. The correct procedure, for any well that does not recharge to within 80 percent within 1 hour, according to Section 10.3, step four (page 67) of the "Final Field Sampling Plan" (July 1, 1992), is to bail the well dry and then sample after 80 percent recharge has occurred. Please make this correction in Section 4.5.2.

Response: *Section 4.5.2 has been modified to be consistent with the well development procedures described in Section 9.3.1.3 of the basewide field sampling plan (PRC and JMM 1992). For wells that recharge slowly, the procedures include additional surging and, if recharge remains slow, bailing the well to dryness three times. Sampling of slow recharging wells will follow the procedures described in Section 10.3 of the basewide field sampling plan, as noted in the comment.*

Comment Number 8. Section 7.0, Page 37, Paragraph 3. The Navy shows that a tentative schedule for field activity calls for mobilization on July 19-20, 1993. This

seems to assume that no modifications will be necessary to the final field work plan. Based on comment number 5 above, mobilization of field activities should not be scheduled until specific time has been allowed for technical review of additional recommendations.

Response: *Section 7.0 of the work plan has been modified to indicate the schedule established during the July 23, 1993 meeting.*

Editorial Comments

Comment Number 1. Section 4.1, Page 8, Paragraph 2. The text indicates that "no further action" is recommended for 26 of the buildings of interest; Table 1 lists only 24 buildings with recommendations of "no further action." Please clarify the correct number of buildings.

Response: *Section 4.1 and Table 1 have been corrected to indicate the same number of buildings that are recommended for no further action. The draft final version of the work plan now indicates that 28 of 54 buildings are recommended for no further action.*

Comment Number 2. Section 4.1, Page 8, Paragraph 2. The Navy lists 17 buildings of interest scheduled for "site walkthrough." Building 146 has been omitted from this list, however, on page 20 (paragraph 1), the total buildings has been corrected to 18. Please clarify this discrepancy.

Response: *Because a walkthrough inspection had already been conducted at Building 146 (SEC Donohue 1993), the Building 146 entry in Table 1 in the draft version was incorrect. However, because Hangar 1 was also included for a site walkthrough inspection, the total number of inspections should have been listed as 18 on page 8 of the draft version. Table 1 and Section 4.1 have been modified to indicate 18 site walkthrough inspections (17 by PRC and Montgomery Watson and one by Tetra Tech, Inc.).*

Modifications From The July 23, 1993 Meeting

1. The Navy will enlarge the report's Table 1 to include additional references that justify their position on inferred sources.

Response: Table 1 has been expanded to include more references supporting the proposed recommendations for further action.

2. The document's name will be changed to "Additional Investigation of Inferred Sources Field Work Plan" in order to better define its purpose.

Response: The document title has been changed accordingly.

3. These buildings will require further investigation:
a. Buildings 123, 127, 144 (Expanded Site 8 Area)
b. Buildings 146, 544 (Transportation Yard)

Response: The Navy concurs that the transportation yard and Site 8 areas require further investigation.

4. Site 9 is defined as source control wells for Buildings 29, 31, and 88 (Building 88 and the old fuel farm) in the A1 aquifer.

Response: This comment is noted but does not cause any changes to the field work plan.

5. Schedule for related work is as follows:

Draft final document due 8/9/93
Regulatory agency comments due 8/23/93
Field work starts 8/23/93
Final document due 9/10/93

Response: Section 7.0 has been modified to reflect the new schedule.

COMMENTS FROM MS. ELIZABETH ADAMS, RWOCB

General Comments

Comment Number 1. Though the PA/SI Work Plan Screening Flow Chart (Figure 2) is easy to understand and seems appropriate for the project, the following Table 1, in which further action is determined needs more detail. Are all the wells listed in the table screened in the A1 aquifer, or do they represent different saturated zones? What are the concentrations of the contaminants of concern in these monitoring wells and where are the wells located? A map referencing the specific buildings listed in Table 1, plus the monitoring well locations would be helpful in following the Navy's evaluation of the sites. Though Table 1 lists almost every site as having no groundwater impact, sometimes no further action is recommended, and other times further action is recommended. The logic behind these decisions, and what constitutes "impact" in the screening process needs to be clarified.

Response: Table 1 has been modified to indicate that all the listed wells are screened in the A1 aquifer zone. Table 1 also has been expanded to include the data references for each building. These references provide the contaminant concentrations for groundwater samples collected from the wells listed in Table 1. Plate 1 has been modified to indicate the locations of all the wells discussed on Table 1. References to additional investigations that are not related to this study have been removed from Table 1. Section 4.1 also has been modified to more clearly describe the screening process. As discussed in the July 23, 1993 meeting, the primary criterion in assessing impact to groundwater was a change in TCE concentration of greater than one order of magnitude between upgradient and downgradient wells.

Comment Number 2. This work plan is specifically designed to address MEW's concern with potential source areas which may be contributing to the regional plume. Have all the inferred sources proposed by the MEW companies been

addressed in this work plan? It is important to include all the areas in the screening process to help move the project beyond this issue.

Response:

Table 1 has been expanded to include Buildings 19 and 48 to incorporate the inferred source areas at these locations. With these additions, the work plan considers all the potential source areas identified by the MEW companies.

Comment Number 3.

In general, if further work is recommended in an area which may be adjacent to a known plume or area of concern that contains contaminants other than TCE, such as petroleum-related contaminants, metals, pesticides, or polychlorinated biphenyls (PCB), please include analyses which would address these additional potential contaminants. Since the field work is going to occur as part of this PA/SI effort, it would be more cost effective to sample for all potential contaminants of concern in order to augment existing data which may apply to other sites within the area.

Response:

Sampling in the transportation yard area will include petroleum-related contaminants in addition to VOCs. In addition, subsurface soils around Building 251 in the transportation yard area were sampled for VOCs, pesticides, herbicides, dioxins, and furans but no detections of these compounds were measured (Geo/Resource 1986). Because there are no data to suggest other contaminants may be present and because a comprehensive analytical program would result in a significant increase in analytical expenses, the Navy believes that the analytical program should remain as presented in the work plan. Additional analytes may be added if field observations (for example, observation of buried batteries or metal shavings or transformer oils likely to contain PCBs) indicate that it is necessary.

Specific Comments

Comment Number 1. **Page 2, Paragraph 3.** This paragraph states that the PA/SI will address only VOC related contaminants. Please see comments above which request that if investigations are going to occur in areas in close proximity or downgradient of other sites which show contamination other than VOCs, that the appropriate analysis be run.

Response: Please refer to the response to general comment 3.

Comment Number 2. **Pages 2 and 3, Paragraph 4.** Please clarify how it will be determined whether or not a potential release or inferred source will have a significant impact on the groundwater?

Response: Section 4.1 has been modified to indicate that the primary criterion in assessing impact to groundwater is a change in TCE concentration of greater than one order of magnitude between upgradient and downgradient wells.

Comment Number 3. **Table 1.** Note comments in the general comments section. Why wouldn't fuel storage buildings 431 and 432 have had a past or current use of petroleum products? Why are these categories empty?

Response: "Buildings" 431 and 432 are not actual buildings, but instead are double-walled underground storage tanks that were installed in about 1986. For completeness, Table 1 has been modified to indicate the past and current use of these tanks for storage of petroleum products (motor vehicle gasoline).

Comment Number 4. **Figure 3.** Where is Building 258? There should be soil or groundwater sampling around Buildings 251 and 383, especially downgradient, to determine if the buildings are a source. What potential source is being addressed by the placement of proposed well location WSI-1?

Response:

Figure 3 has been modified to indicate the location of Building 258 (immediately south of Building 146). Existing wells W60-1 and W60-2 and proposed well WSI-3 are intended to evaluate potential groundwater contamination from Building 251. Existing well 74A monitors the groundwater downgradient from Building 383. Proposed well WSI-1 is intended to characterize contaminant concentrations entering the transportation yard area from upgradient sources.

Comment Number 5.

Page 22, Section 4.4. How many boreholes will be drilled to correlate the CPT results? Be sure there are enough to substantiate the CPT findings.

Response:

Two of the four proposed boreholes (SBSI-1 and SBSI-2) will be drilled adjacent to CPTs for correlation. These two borings, together with experience gathered from analysis of more than 15 other borehole/CPT pairs already drilled at NAS Moffett Field, will help when comparing CPT and soil boring results to interpret the subsurface stratigraphy.

Comment Number 6.

Page 23, Section 4.4.1. How are the proposed soil borings notated on Figure 3? Please clarify their locations.

Response:

The legends of Figures 3 and 4 have been modified to more clearly indicate the locations of proposed soil borings and groundwater monitoring wells.

Comment Number 7.

Page 24, Section 4.4.3. The sampling points in boreholes and monitoring well installations may vary depending on the depth to the saturated zones. Please describe the intent of the sampling points in terms of saturated versus unsaturated zones, as well as by estimated depths below ground surface. All borings and monitoring well installations should have representative samples collected for analysis from both the saturated and unsaturated zones.

Response: Section 4.4.3 discusses the rationale for the sample depth selection. For the soil borings at the transportation yard (SBSI-1 through SBSI-3), samples collected at 1, 5, and 10 feet below land surface (BLS) are intended to characterize the unsaturated zone and the sample collected at approximately 25 feet BLS is intended to represent the well screen interval in the saturated zone. The same rationale applies for SBSI-4 at Site 8. For the other three soil borings at Site 8 (SBSI-5 through SBSI-7), samples collected at 1 and 4 feet BLS are intended to characterize the unsaturated zone and the sample collected at 8 feet BLS is intended to represent the saturated zone. In all cases, the location of the saturated zone sample will be adjusted according to field observations of saturation conditions.

Comment Number 8. Table 2. Please include reasons for excluding total petroleum hydrocarbons (TPH) analysis for borings SBSI-5 through SBSI-7. The drum storage area which these boreholes address may have stored petroleum products at some point in the past.

Response: Sampling in the Site 8 area is intended to focus on VOC contamination. Consequently, Table 2 has been modified to remove the samples listed for TPH analysis that were incorrectly included with boring SBSI-4.

Comment Number 9. Page 29, Section 4.6.1. Please include sampling for benzene, toluene, ethylbenzene, and xylenes (BTEX) for groundwater samples collected downgradient from suspected petroleum contaminated areas.

Response: All the groundwater samples collected from the transportation yard area will be analyzed for VOCs. This analysis measures the concentrations of BTEX constituents. Samples collected from monitoring wells will also be analyzed for TPH purgeable as gasoline which provides an additional measurement of BTEX constituent concentrations.

REFERENCES

- ERM-West, Inc., and Aqua Resources, Inc., Joint Venture (ERM and AR). 1986. "Final Report Industrial Waste Engineering Study, Naval Air Station Moffett Field, California." April.
- Geo/Resource Consultants, Inc. 1986. "Revised Report, Soil Sampling at the Pesticide Storage Facility, Building 251, Moffett Naval Air Station." November.
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- PRC and James M. Montgomery, Consulting Engineers, Inc. (JMM). 1991. "Site Investigation Report, Inferred Sources 8 and 9, Naval Air Station Moffett Field, Mountain View, California." May.
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- Rivera, Gilbert, U.S. Navy, WestDiv. 1993. "Technical Evaluation of Inferred Sources at NAS Moffett Field, California." Personal communication to Ms. Roberta Blank, EPA. March 9.
- SEC Donohue, Inc. 1993. "Preliminary Site Assessment, NAS Moffett Field, Bldg. 146 and 146A, Santa Clara County, California." February 12.