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Ser T4E2GM/L3402
July 26, 1993

Mr. Tom Lanphar
Department of Toxic Substances Control
700 Heinz Ave., Suite 200
Berkeley, CA 94710

Subj: RESPONSES TO COMMENTS ON DRAFT FINAL PHASES 1 AND 2A DATA SUMMARY REPORT FOR THE REMEDIAL INVESTIGATION/FEASIBLITY STUDY (RI/FS) AT NAS ALAMEDA

Dear Mr. Lanphar:

We are providing as enclosure (1), responses to your March 4, 1993 comments on the Draft Final Phases 1 and 2A Data Summary Report (DSR) for the RI/FS at NAS Alameda. Pending final review and comment by your office, the attached responses to your comments will be incorporated into the Final Phases 1 and 2A DSR.

If you have any immediate questions regarding our responses to your comments, please contact either Mr. Gary J. Munekawa, Code T4E2GM, (415) 244-2524 or Mr. George Kikugawa, Code T4E2GK, (415) 244-2559.

Sincerely,

Original signed by:

MARCELO PASCUA, JR.
By direction

Encl:
(1) Responses to DTSC Comments on Draft Final Phases 1 and 2A DSR

Copy to:
California Regional Water Quality Control Board (Attn: James Nusrala)
US Environmental Protection Agency (Attn: Julie Anderson)
NAS Alameda (Attn: LT Mike Petouhoff)
PRC Environmental Management, Inc. (Attn: Duane Balch)
Montgomery Watson (Attn: Ken Leung)

Blind copy to:
T4E2, T4E2GM, T4E2GK, Admin Record (3 copies)
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18.0 RESPONSE TO COMMENTS

This section presents the Navy's response to comments received from the State of California Environmental Protection Agency Department of Toxic Substances Control (DTSC) on March 4, 1993. The responses have also been incorporated in the text of this data summary report (DSR). The DTSC comments are presented verbatim in bold type. The Navy responses follow in normal type.

Additional field work is planned for all Phases 1 and 2A sites to accomplish the goals described in the recommendations section of this DSR and to address the DTSC comments found in this section. All additional work for the Phase 1 sites, the 1943-1956 Disposal Area (Site 1) and the West Beach Landfill (Site 2), will be conducted under the Phases 5 and 6 follow-on field investigations. Similarly, all additional work at Site 4 will be conducted as part of the Phases 2B and 3 follow-on field investigations (the Site 4 Plating Shop was investigated under Phases 2B and 3). Work plans for the follow-on field work for Phases 2B and 3 and Phases 5 and 6 have been prepared and submitted to the DTSC (PRC/Montgomery Watson, 1993a,b). A separate field sampling plan describing the details of the future work at the Phase 2A sites will be submitted to the DTSC.

It is important to mention that this DSR is intended to present the data collected by Canonie Environmental Services Corporation (Canonie) in 1990 as part of the remedial investigation/feasibility study (RI/FS), Phases 1 and 2A. Sites 1 and 2, which were investigated under Phase 1, were also investigated under the RI/FS Phases 5 and 6 Solid Waste Water Quality Assessment Test (SWAT) investigation conducted by PRC and Montgomery Watson in 1991. The results of the SWAT investigation have been reported in the Final SWAT and DSR for RI/FS Phases 5 and 6 (PRC/Montgomery Watson, 1993c). Although the Phases 5 and 6 data are not discussed in the Phases 1 and 2A DSR, this DSR does include the results from the Phases 5 and 6 SWAT and DSR in the conclusions and recommendations for sites 1 and 2. All of the data collected at sites 1 and 2 will be discussed in the comprehensive remedial investigation (RI) report.

General Comments

COMMENT #1: Data Quality Issues

Validation procedures for data collected by Canonie during the Phases 1 and 2A investigation followed the Quality Assurance Project Plan (QAPP) approved by the DTSC. The QAPP required internal data validation at the laboratory. Validation packages were prepared for two percent of the samples analyzed; however, the complete validation package was not identified as a deliverable in the Navy-Canonie contract. The data validation was therefore, not delivered and can not be retrieved without expending major financial and human resources. The end result is external validation can not be performed.

COMMENT #1: (Continued)

Because Canonie followed the approved QAPP, the DTSC considers the Canonie data useful for site characterization and possibly risk assessment if necessary data qualifiers are available. However, in order to increase confidence in the Canonie data, verification sampling will be required. A percentage of the surface samples at Site 1 must be recollected and analyzed. See comment #13 for details on the resampling.

RESPONSE:

This comment has been addressed in the responses to agency comments on the NAS Alameda Field Sampling Plan for Follow-on Work, RI/FS Phases 5 and 6 - Landfill Investigation (Phases 5 and 6 follow-on field sampling plan). The Phases 5 and 6 follow-on field sampling plan includes collection of ten samples for semivolatile organic compound (SVOC), pesticide, polychlorinated biphenyl (PCB), total petroleum hydrocarbon (TPH)-purgeable and extractable, and total organic carbon (TOC) analyses (see response to comment #13).

COMMENT #2:

<u>Groundwater</u>

Groundwater gradients at ANAS have not been characterized enough to understand the direction of groundwater flow or the influence of tides on groundwater flow. A tidal influence study should be conducted on all sites that have not been part of a previous tidal investigation.

RESPONSE:

The recommendation for additional study to evaluate the impact of tidal influences on all the Phase 1 and 2A sites is included in Section 17.2 of the DSR. Four quarterly groundwater sampling rounds are also recommended to further characterize groundwater flow direction and gradients at the Phase 1 and 2A sites.

COMMENT #3:

<u>Site 1 and Site 2</u>

Data for these sites were also collected under Phases 5 and 6, the Solid Waste Water Quality Assessment Test (SWAT). The objective of the SWAT is to determine if contaminated groundwater is moving off site. Phases 1 and 2 are the Remedial Investigations for Sites 1 and 2. The purpose of the remedial investigations is to characterize the site, in order to design remedial alternatives and conduct risk assessments. Different sets of data have been collected for the various phases and no comprehensive report is available that condenses all the information. This makes characterization of sites 1 and 2 difficult. In order to complete the remedial investigation, all data needs to be summarized in a single document. Data collected in Phases 5 and 6 should be summarized in the DSR. The DSR should include a short discussion of the data, data summary tables and maps. This will allow a complete assessment of the contamination at Sites 1 and 2. Condensing the information into a single document will not only aid project managers in their review, but will also provide the public with a definitive document to review.

RESPONSE:

The purpose of the Phases 1 and 2A DSR is to present the results of the Phases 1 and 2A field investigation conducted by Canonie in 1990. Because the results of the Phases 5 and 6 SWAT investigation are now available (PRC/Montgomery Watson, 1993c), they will be referenced in the conclusions and recommendations for Sites 1 and 2 in this DSR. The data presented in this DSR are also referenced by the Phases 5 and 6 SWAT and DSR. All data will be summarized in the comprehensive remedial investigation (RI) report.

Specific Comments

COMMENT #4: Sections 3.2 and 3.3

The DTSC would like to remind Navy that preliminary comparison levels shall not be used as a reference point for determining the need for further investigation or setting remediation goals at a site. The DTSC considers preliminary comparison levels as only useful for initiating discussion and for qualifying the level of contamination at a site.

RESPONSE: The Navy concurs; the preliminary comparison levels were used for a qualitative assessment of the soil data collected by Canonie. The recommendations for further investigation were based not only on the preliminary comparison levels but also on site history, general contaminant levels and distribution, evaluation of the data coverage, and sufficiency for the risk assessment as well. As stated in Section 3.2, the "levels were not generated for setting the remediation goals for NAS Alameda." Additionally, the significance of the chemicals found in soils at the Phases 1 and 2A sites will be evaluated in detail during the baseline risk assessment as part of the comprehensive RI/FS.

COMMENT #5: Section 3.2, page 3-2, first paragraph

The preliminary comparison levels identified in the following pages seem to be based on human health risks exclusively. Environmental receptors should also be considered in the comparison levels. Environmental receptors are often more sensitive and would result in lowering the preliminary comparison levels.

RESPONSE: The comparison levels used were for a preliminary evaluation of concentration. The baseline risk assessment will consider all data and take into account environmental receptors as well as human receptors.

COMMENT #6: Section 3.2, page 3-2, first bullet item

Please reference the application, by the Regional Water Quality Control Board, of 1 milligram per kilogram (mg/kg) for total Volatile Organic Chemicals (VOCs) and 10 mg/kg for total Semivolatile Organic Chemical (SVOCs) as the remediation goals in vadose zone soil for sites in the Bay Area where groundwater is considered as potable drinking water supply.

RESPONSE: These remediation goals for VOCs and SVOCs are cleanup goals established for client-confidential sites in the Bay Area with oversight by the Regional Water Quality Control Board. Therefore, the requested reference can not be included in this DSR at this time. However, remediation goals for NAS Alameda will be evaluated based on the baseline risk assessment, not on the preliminary comparison levels used for this DSR.

COMMENT #7: Section 3.2, page 3-2, third bullet item

Please reference the EPA guidance that identifies 1 mg/kg as a level that may trigger additional investigation at any site.

RESPONSE: The reference requested is the U.S. Environmental Protection Agency (U.S. EPA) "Guidance on Remedial Actions for Superfund Sites with PCB Contamination" (1990). This reference has been added to the text.

COMMENT #8: Section 4.0, page 4-1

This section should include a discussion of the validation methods described in the QAPP.

RESPONSE: A discussion of the validation methods described in the Canonie QAPP will be added to Section 4.2, Chemical Analyses.

COMMENT #9: Section 5.0, Site 1 - 1943-1956 Disposal Area

Because Navy Public Works Department employed open burning as the primary disposal method during the early 1950's, the presence of dioxin must be investigated at the extreme northwest corner of the disposal area and along the landfill's western edge.

RESPONSE: The proposed follow-on field investigation for Site 1, described in the Phases 5 and 6 follow-on field sampling plan, includes sampling for dioxin and furan in the extreme northwest corner of the disposal area, which has been identified through areal photographs as the burn area for the disposal site. No burn area was identified along the western edge of the landfill (with the exception of the northwest corner); therefore, no sampling for dioxin and furan is proposed for the western edge.

COMMENT #10: Section 5.0, Site 1 - 1943-1956 Disposal Area

This section should include a summary of data collected in the Phase 5 and 6 investigation. Conclusions on the completeness of information on the disposal area cannot be made without information from the other investigation.

RESPONSE: The purpose of the Phases 1 and 2A DSR is to present the Canonie data collected as part of the Phases 1 and 2A investigation. However, the results and conclusions from the Phases 5 and 6 investigation have been referenced in the conclusions section of this DSR regarding the completeness of data for the disposal area. The comprehensive RI report will include a compilation of all the data collected for Site 1 under the RI/FS, including the Canonie data discussed in the Phases 1 and 2A DSR.

COMMENT #11: Section 5.5.1 Site Geology/Hydrogeology

The extent of the clay member of the holocene bay mud unit underlaying 1943-1956 landfill is unknown. Geologic Cross Section A - A'; in the Phases 5 and 6 SWAT Report show the clay member of the holocene bay mud unit as non-continuous. The holocene bay mud unit therefore, can not be characterized as a continuous aquitard. More geologic investigation is needed to better define the extent of the clay member of the holocene bay mud under Site 1.

RESPONSE: The Holocene Bay Mud unit is not discussed as a continuous aquitard in Section 5.5.1. Section 5.5.1 describes the conditions encountered in the two borings drilled by Canonie; in both borings, the Holocene Bay Mud unit was encountered below the fill and was reported as 12 feet thick. Section 5.5.1 refers the reader to the Phases 5 and 6 SWAT and DSR for a detailed discussion of geologic and hydrogeologic conditions at Site 1. Cone penetrometer tests (CPTs) have been proposed for the follow-on work at Site 1 to collect additional subsurface information to further characterize the Holocene Bay Mud at this site. Details and rationale for the locations of the proposed CPTs are presented in the Phases 5 and 6 follow-on field sampling plan.

COMMENT #12:

Section 5.5.1 Site Geology/Hydrogeology

The use of the Cone Penetrometer Test (CPT), as proposed by Navy on February 3, 1993, will add to the information on the extent of the clay member of the holocene bay mud. Two to three ground-water well clusters need to be installed east of the 1943-1956 land fill boundary defined in the Phases 5 and 6 SWAT report. This will provide information on the holocene bay mud and on the groundwater quality along the eastern margin or [of] the land fill. If we are still unable to determine whether or not communication exist between the two water-bearing zones, pumping tests may be required.

RESPONSE:

Canonie did not collect any groundwater data at Site 1; therefore there are no conclusions or recommendations regarding the groundwater. The use of CPTs, however, is proposed in the Phases 5 and 6 follow-on field sampling plan. Two groundwater well clusters are also proposed, one to the east of the landfill boundary and one to the south. Details and rationale for the locations of the proposed CPTs and well clusters are presented in the Phases 5 and 6 follow-on field sampling plan.

COMMENT #13:

Section 5.5.2 Analytical Results - Surface Soil Sampling

Because of the lack of fully validated surface samples, confirmatory sampling is required for surface soils at Site 1. Ten random samples must be collected at locations where there was no detection of semivolatile organic compounds, pesticides, PCB compounds, TRPH, and total organic carbon.

RESPONSE:

The Phases 5 and 6 follow-on field sampling plan includes a proposal for ten additional surface samples to be collected at Site 1 for chemical analyses. The proposed chemical analyses include SVOCs, pesticides and PCBs, TPH-purgeable and TPH-extractable, and general chemical analyses (including total organic carbon).

COMMENT #14:

Section 5.5.2 Analytical Results - Surface Soil Sampling

Surface soil contamination is concentrated in the triangular area west of Runway 13-13. Another 200-foot grid sampling event should occur within this area. Sampling locations should be between the points already sampled by Canonie. This would provide sampling locations every 100 feet. Conducting surface sampling in this area will augment the validated data set. Soil samples collected in or near the burn area must be analyzed for dioxins.

RESPONSE:

Based on discussions with DTSC on June 30, 1993, additional surface soil samples will be collected in the triangular area west of Runway 13-31 where elevated contaminants were indicated by the Canonie data rather than on a 200-foot grid. The analyses for samples collected in the burn area will include dioxin. The locations and rationale of the proposed samples are discussed in the Phases 5 and 6 follow-on field sampling plan.

COMMENT #15: Section 5.6 Summary and Conclusions

Prior to concluding that sufficient soil data have been collected the Navy must determine that adequate data is available for completing the human health and environmental risk assessments and for future remedial design.

RESPONSE: Section 5.6, Summary and Conclusions, will be revised to include reference to conclusions made in the Phases 5 and 6 SWAT and DSR so that all data can be taken into account in assessing the sufficiency of the data for completing the human health and environmental risk assessments and for future remedial design.

COMMENT #16: Section 5.6 Summary and Conclusions

The groundwater under the site has not been fully characterized. More wells which are screened in the second water bearing zones are required. Two to three well clusters are needed along the eastern and southern boundaries of the disposal cells as shown in Figures 8-2 and 8-4 of the Phases 5 and 6 SWAT Report.

RESPONSE: Canonie did not collect any groundwater data at Site 1; therefore, there are no conclusions or recommendations regarding the groundwater. However, the Phases 5 and 6 investigation included groundwater sampling and analysis; the results of that investigation are presented in the Phases 5 and 6 SWAT and DSR. Well clusters are proposed for Site 1 along the southern and southeastern boundaries of the disposal cells and are addressed in the Phases 5 and 6 follow-on field sampling plan.

COMMENT #17: Section 6.0 Site 2 - West Beach Landfill

Very little sampling was conducted in this phase of analysis at Site 2. This section should also include a summary of data collected in the Phases 5 and 6 investigation. Conclusion on the completeness of information on the disposal area cannot be made without information from the other investigation.

RESPONSE: The purpose of the Phases 1 and 2A DSR is to present the Canonie data collected as part of Phases 1 and 2A. However, the results and conclusions from the Phases 5 and 6 investigation have been referenced in the conclusions section of this DSR regarding the completeness of data for Site 2. The comprehensive RI report will include a compilation of all the data collected for Site 2 under the RI/FS, including the Canonie data discussed in the Phases 1 and 2A DSR.

COMMENT #18: Section 6.5.1 Site Geology/Hydrogeology

More data is needed on the occurrence of the clay member of the holocene bay mud in the south west portion of Site 2.

RESPONSE: The characterization of the Holocene Bay Mud unit beneath Site 2 has been revised to reflect the conclusions presented in the Phases 5 and 6 SWAT and DSR. CPTs have been proposed for the follow-on work at Site 2 to collect additional subsurface information. Details and rationale for the locations of the proposed CPTs are presented in the Phases 5 and 6 follow-on field sampling plan.

COMMENT #19: Section 6.6 Summary and Conclusions

Please support the statement that the PAHs detected in the surface sample at WB-3 may be natural in origin.

RESPONSE: At present there is no history of PAH disposal in the landfill near WP-3, and thus the PAHs detected in the sample likely did not originate in the landfill. A statement has been included in Section 6.6 that explains the PAHs detected are suspected of originating in the fill before it was brought to the landfill site, possibly as a result of the oil refinery operations near portions of the San Francisco Bay that were dredged to provide material for the landfill.

COMMENT #20: Section 6.6 Summary and Conclusions

Conclusions should also be made on the completeness of groundwater data collected at Site 2. More information is needed on the quality of the second water bearing zone along the southern margin of the West Beach Landfill.

RESPONSE: The purpose of the Phases 1 and 2A DSR is to present the Canonie data collected as part of Phases 1 and 2A. Canonie did not collect any groundwater data at Site 2; therefore, there are no conclusions or recommendations regarding the groundwater. The proposed follow-on field investigation at Site 2 is addressed in the Phases 5 and 6 follow-on field sampling plan and includes CPT and HydroPunch® to further evaluate the quality of groundwater in the second water-bearing zone along the southern margin of the West Beach Landfill.

COMMENT #21: Section 7.0 Site 3 - Area 97, Abandoned Fuel Storage Area

Both the Kennedy Engineers and the Wahler Associates investigations found contamination associated with the storm sewers and sanitary sewers. A comparison of the soil gas survey with the storm sewers shows a possible relationship between the two. The storm sewers and the fill material surrounding the storm sewers should be investigated as a possible conduit of contamination.

RESPONSE: The DSR reports that none of the Canonie soil samples were collected from areas of elevated soil gas concentrations and recommends additional sampling in those areas. Recommendations for additional soil samples near sample locations with high concentrations of hydrocarbons from the Kennedy Engineers and Wahler Associates investigations and the 1985 trench have been included in sections 7.0 and 17.0 of this DSR. The locations of proposed soil borings and groundwater monitoring wells will be addressed in the work plan for the follow-on field investigation at the Phase 2A sites. The storm sewers as a possible conduit of contamination will be investigated. The details of the sampling program will be addressed as part of the follow-on field investigation at the Phase 2A sites.

COMMENT #22: Section 7.5.2 Summary and Conclusion - Soils

Because none of Canonie's soil samples were collected from areas where elevated soil gas levels were found, Navy cannot conclude that with the exception of TRPH, sufficient soil data have been collected for the RI/FS evaluation.

RESPONSE: Section 7.5.2 has been revised to clarify that the Navy concludes that sufficient soil data have been collected to the northeast of the site. The Navy recognizes that additional soil work will be required to evaluate the TRPH and BTEX in areas where elevated soil gas levels were found (the northwestern part of the site; see Section 7.5.2, second bulleted item).

COMMENT #23:

Section 7.5.2 Summary and Conclusion - Groundwater

The groundwater wells evaluated in the Canonie investigation have no relationship with the plume identified by soil gas survey. Therefore, conclusions can not be made as to the presence of VOCs, SVOCs, and EDBs. Additional groundwater wells are necessary to evaluate VOCs, SVOCs, EDBs, and TPH in the groundwater to the west and northwest.

RESPONSE:

In both the Kennedy Engineers (Kennedy) and Wahler Associates (Wahler) investigations, the concentrations of gasoline hydrocarbons (AVGAS in the case of the Kennedy investigation) were low (a maximum of 41 mg/L at OW-23 located on the west side of Area 97 [Kennedy, 1980]). No gasoline hydrocarbons, VOCs, ethylene dibromide (EDB), or SVOCs were detected in the groundwater from Canonie well MW97-3, which is located within Area 97. Recommendations have been made to monitor hydrocarbons, VOCs, and BTEX in groundwater at the site on a quarterly basis. EDB will be included in the recommended analyses. However, because no SVOCs were detected in the groundwater and there is no history of SVOCs used at the site, the quarterly groundwater samples will not be analyzed for SVOCs.

COMMENT #24:

Section 7.5.2 Summary and Conclusion - Groundwater

Wells installed during previous investigations should be located and their integrity determined. Wells that may be useful to this investigation are: OW-1, OW-2, OW-3, OW-6, OW-14, OW-16, OW-23, OW-25, WA-7, WA-8, and WA-9.

RESPONSE:

The Navy agrees that previously installed wells should be sampled provided they are of acceptable integrity; the recommendations will be revised to reflect this. Details of the task will be discussed in the work plan for the follow-on field investigation at the Phase 2A sites; however, the success of this endeavor may be limited. Sampling the existing Kennedy wells was part of the Wahler investigation in 1985. Thirteen of the eighteen Kennedy wells were found, one of which was later covered with an asphalt patch during street repairs (Wahler, 1985). The three wells located within Area 97, OW-1, OW-23, and OW-25, were among those wells not found. Wahler also reported that many of the Kennedy wells appeared to contain large quantities of soil, which prevented clear access to the entire original screened interval. Some well caps were, at that time, located at or below grade, which may have allowed material to enter the well casings. As part of the Phase 2B and 3 investigation at sites 7B and 11, an attempt was made by the PRC team to locate several of the existing wells. Well WA-8 was located; however, wells OW-2 and OW-21 could not be located. During the next phase of field work, the integrity of the wells identified by the DTSC will be evaluated; wells that will produce representative groundwater data for this site will be included in the groundwater monitoring program.

COMMENT #25: Section 8.5.2 Groundwater, page 8-9, last paragraph

Please elaborate on what is meant by the statement; "12 of these metals have an extreme upper concentration that can be found in typical groundwater samples; with the exception of vanadium, the concentrations at Site 4 are within those extreme upper limits."

RESPONSE: The referenced statement will be clarified as follows: "Based on Table 3-4, which presents both a typical range and extreme value of natural concentrations of various elements in groundwater, 12 of the metals detected in the groundwater have an extreme upper value for natural concentrations found in groundwater. The concentrations of metals detected in the groundwater at Site 4 are less than natural extreme upper values with the exception of vanadium, which was detected at a concentration above the extreme upper value typical for vanadium in groundwater."

COMMENT #26: Section 9.1 Site Description and Background

Two waste oil tanks are thought to be located at Site 7C, the Service Station; however, their exact location is unknown. These tanks should be located and a determination made as to if they are sources of contamination.

RESPONSE: A visit to Site 7C was made to determine if any visible evidence existed to locate the waste oil tanks; none was found. During the preparation of the Phase 2A follow-on field sampling plan, discussions with base personnel will be made in an attempt to locate the two waste oil tanks. If the tanks are found, the text and maps will be incorporated into the Phase 2A follow-on field sampling plan.

COMMENT #27: Section 10.5.1 Summary and Conclusions - Soils

Methylene chloride and acetone were detected in all soil borings. Toluene was also a prevalent contaminant. The distribution of VOCs may indicate wide-spread, low level contamination at Site 9. The Department does not agree that sufficient VOC data have been collected for the RI/FS evaluation. The source of the contamination is unknown and because [of] the distribution of sampling points, VOC levels at other areas of Site 9 are unknown. The Navy should conduct a soil gas survey in order to identify high levels of VOCs. Soil sampling may be necessary after the soil gas survey in order to better characterize the extent of VOC contamination at Site 9.

RESPONSE: Methylene chloride and acetone were detected at several other sites and are suspected to be laboratory artifacts. The levels of these VOCs detected at Site 9 are low. Toluene was also detected at low concentrations except at boring B410-7. Boring B410-7 is located in the northeast portion of the site and has two borings within 150 feet to the southeast and southwest and two borings within 200 feet to the north. These four borings had comparatively low concentrations of toluene (< 0.1 mg/kg); four other borings at the site also had concentrations below 0.1 mg/kg. The results from a soil gas survey are not expected to reveal much information due to the low concentrations of VOCs in the soil. There appears to be no history of VOC use outside the building.

RESPONSE: (Continued)

Operations inside the building, however, consisted mainly of paint stripping; the Initial Assessment Study (E&E, 1983) indicates that paint strippers used contained methylene chloride, among other chemicals. During the preparation of the Phase 2A follow-on field sampling plan, the site history will be further investigated in an attempt to identify potential sources for toluene and VOCs. If potential VOC sources are identified, additional soil sampling will be proposed in the Phase 2A,follow-on field sampling plan.

COMMENT #28:

Section 12.5.1 Summary and Conclusions - Soils

The highest level of contamination at Site 13 is found at BOR-9. Further soil sampling is required near the vicinity of BOR-9 in order to better characterize the extent of contamination and possibly identify a source area.

RESPONSE:

Section 17.0 recommends additional soil sampling near borings BOR-9, BOR-15, BOR-17, and BOR-19 for petroleum hydrocarbons. These recommendations have been revised to include sampling for BTEX. The locations proposed for additional soil sampling will be presented in the Phases 2A follow-on field sampling plan.

COMMENT #29:

Section 12.5.1 Summary and Conclusions - Groundwater

An additional groundwater well is necessary east of BOR-9 in order to further characterize groundwater contamination near that boring.

RESPONSE:

Monitoring well MWOR-3 is located approximately 320 feet to the east of BOR-9. Furthermore, only 17 μg/L of methylene chloride was detected in groundwater from MWOR-3. For these reasons an additional well in that location is not recommended.

COMMENT #30:

Section 14.4.2.1 Volatile Organic Compounds

Detection limits for methylene chloride and acetone were 1400μg/kg for soil sample MWD13-2. Because of the high detection limit this area should be resampled and reanalyzed with lower detection limits.

RESPONSE:

The high detection limits for methylene chloride and acetone at a depth of 1.5 to 2 feet below ground surface (bgs) at MWD13-2 are due to the high concentrations of other VOCs (toluene, xylenes, and 1,3-dichlorobenzene) in the sample. The recommendations have been revised to include a sample collected from a depth of 2.5 feet bgs adjacent to MWD13-2 for VOC analysis.

COMMENT #31:

Section 14.5.1 Summary and Conclusions - Soils

Because of the high detection limit for methylene chloride and acetone, the concentration of toluene, and the levels of SVOCs, more soil sampling is required near boring MWD13-2.

Section 17.2.2 recommends additional soil sampling at Site 19 for petroleum hydrocarbons; additional analysis for VOC and SVOCs will be added to the recommendations. The locations proposed for the additional soil sampling will be presented in the Phase 2A follow-on field sampling plan.

COMMENT #32: Section 16.1.1 Human Receptors

Please explain why near by residents were not considered human receptors when residential neighborhoods are adjacent to the eastern boundary of the base.

RESPONSE: The human receptors are considered as a single group consisting of workers and visitors to the base because these on-base individuals comprise the main portion of potential human receptors. Special off-base receptor groups and exposure scenarios will be identified and fully discussed in the risk assessment.

COMMENT #33: Section 16.1.1 Terrestrial Organisms

Is the wetland habitat at Site 2 considered a terrestrial or marine habitat?

RESPONSE: The exposure pathways table in Section 16.1.1 shows both terrestrial and marine pathways completed for Site 2. For the baseline risk assessment, the wetland habitat at Site 2 will be evaluated based on the results of the Ecological Assessment currently being conducted by PRC and Kinnetics Laboratories, Inc.