

APPENDIX H
RESPONSE TO AGENCY COMMENTS

RESPONSE TO AGENCY COMMENTS
DRAFT BASEWIDE REMEDIAL INVESTIGATION/FEASIBILITY STUDY
VOLUME II - SITES 2 AND 12 REMEDIAL INVESTIGATION
FORT ORD, CALIFORNIA

The following are the Army's responses to the comments of the regulatory agencies on the Draft Basewide Remedial Investigation/Feasibility Study. All comments and the associated responses pertaining to this Section of the Basewide Remedial Investigation/Feasibility Study are provided below.

I. U.S. ENVIRONMENTAL PROTECTION AGENCY TECHNICAL REVIEW COMMENTS

Analysis of Conclusions and Recommendations

Comment 1: The information presented in the report does not support the conclusion that there is no indication of significant continuing sources of groundwater contamination.

Response: We disagree with above-cited EPA review statement. All known potential sources (i.e., site activities, tanks, storm drains, etc.) at Sites 2 and 12 have either ceased operations, were removed or have been characterized. Analytical results for soil samples do not support the conclusion that a source still exists nor do the results point to the location of past sources. The soil gas results do not support the conclusion of a continuing source, especially with the maximum concentrations of PCE (43 µg/l), 1,1,1-TCA (5.9 µg/l), and TCE (1.1 µg/l) that were detected. The area of maximum PCE and 1,1,1-TCA concentrations detected in soil gas (east end of the SPRR spur) may have been the location of a past solvent spill although analytical data from nearby samples (soil, groundwater and HydroPunch) do not lend support. Other compounds detected in soil gas (i.e., TCE, cis- and trans-1,2-DCE) were infrequently detected and at low concentrations. Elevated concentrations of THCs in soil gas were detected near Building T-2427 in the vicinity of a leaking sanitary sewer line, and near the former location of UST 2754. Therefore, the information presented in the report supports the conclusion that there is no indication of significant continuing source of groundwater contamination.

General Comments

Comment 1: Numerous inaccuracies were noted in this report. Several are noted in the specific comments below. It is recommended that the entire RI/FS report receive a thorough technical edit and quality control check.

Response: A thorough technical edit and quality control check are consistent with HLA's standard policy on all documents, and was performed for the Draft RI/FS. In addition, the Draft Final report was edited, reviewed, and revisions, as appropriate, were incorporated. Based on our review of the comments provided by EPA's technical review, as well as those provided by other agency reviewers, we disagree with the statement regarding numerous inaccuracies. In many cases, we have noted that, in fact, some of the EPA review comments were in error and the information in question was already present in the document. Specifics are addressed in the responses below.

Comment 2: From the discussion in the text, it appears that background levels for metals were arrived at by simply taking the highest value encountered in the background samples and using that as maximum background. Since this is not always the case, this issue should be explained further, and Upper Confidence Limit (UCL) should be used to describe the metals background value.

Response: Background levels for metals that were used as a screening tool were the maximum background concentrations detected in the background study. Upper Confidence Limits (UCLs) were not used because they were not developed for all metals. A detailed discussion of the use of background levels as a screening tool is presented in Section 4.3. A discussion of the background statistics is presented in the Basewide Background Soil Investigation.

Comment 3: The report should include a more thorough discussion of COPCs/COCs.

Response: A thorough discussion of COPCs/COCs was presented in Volume III, Human Health Risk Assessment. Therefore, no revisions to the RI relative to this comment were necessary.

Comment 4: Sections should be added to cover fate and transport, data gaps, and remedial action objectives. A summary of the Risk Assessment and Ecological Assessment of these sites is also needed.

Response: A Fate and Transport section has been added to the RI; any data gaps were discussed in the RI conclusions; the Remedial Action Objectives were discussed in the Feasibility Study. A discussion of Human Health Risk Assessment and Ecological Risk Assessment was summarized in Volume I and detailed in Volumes III and Volume IV respectively.

Comment 5: Even though pesticides were found in the earlier investigations, it does not appear that they were sampled for during the RI. This needs to be explained.

Response: Pesticides were included in the analytical suite for soil samples collected at Sites 2 and 13 during Phase 1 of the RI and for the soil samples collected in the surface water outfall investigation (OF-15 to OF-31). A list of analytes for these samples was presented in Sections 2.1.1.4 and 2.2.1. Therefore, no revisions to the RI relative to this comment were necessary.

Specific Comments

Comment 1: Executive Summary, Page ix, last paragraph: The text should indicate what was stored in the USTs and the muffler.

Response: The former contents of the USTs has been added to the text. The underground muffler was not intended for use as a storage container, but was used to catch engine exhaust during engine testing. The potential however, does exist for liquid waste disposal or storage. As outlined in Section 2.1.2.2, the contents of the muffler were sampled and a summary of the analytical results are presented in Tables 40 and 41.

Comment 2: Section 1.2.3, Page 2, first paragraph: The text should indicate what was stored in the muffler.

Response: See response to EPA Specific Comment 1.

Comment 3: Section 1.2.3, Page 2: The text does not mention Tank 2433, which is shown on Plate 1. A discussion of this tank should be added to the text.

Response: The discussion of Tank 2433 was presented in Section 1.2.4, because the tank was located in the Cannibalization Yard and Industrial Area. Therefore, no revision to the RI relative to this comment were necessary.

Comment 4: Section 1.2.3, Page 2, second paragraph: Although Plate 1 shows Building 2426, the report discusses Building 2426A. This discrepancy should be resolved.

Response: Building 2426 is located in the Cannibalization Yard and Industrial Area, which was discussed in Section 1.2.4. The text has been changed to reference the correct building number.

Comment 5: Section 1.2.4, Page 3, last paragraph: If runoff from the site went to the baseball field, why was the baseball field not sampled?

Response: Before the installation of an oil/water separator in 1988 runoff from the Cannibalization Yard flowed down the sloped northeastern margin of the site toward the baseball field. During the Phase 2 investigation five shallow borings were completed and four surface samples were collected to investigate the impact of surface water runoff from the Cannibalization Yard. In addition, one HydroPunch sample and several soil and soil gas samples were collected from the area east and northeast of the Cannibalization Yard including the baseball field. Sample locations were presented on Plate 2 and the analytical results were presented in Sections 4.2.3, 4.3.4, and 4.4.1. Therefore, no revisions to the RI relative to this comment were necessary.

Comment 6: Section 1.4.3, Page 5, second paragraph: The sentence that starts "Only 2 of the ..." is unclear in the context used. It would be better to replace it with "All but two (2042 T1 & T2) of the removed tanks have received county closure certification."

Response: The text has been revised as suggested.

Comment 7: Section 2.1.3, Page 16, first paragraph: The last sentence leaves the impression that the data was not validated at all. It is assumed that the data was validated by JMM and EA. The report should state this if it is the case.

Response: The data in question was validated by JMM and EA. The text has been revised to state this.

Comment 8: Section 3.5.4.2, Page 23, second paragraph: Was the data corrected for tidal effects?

Response: Tidal corrections were not necessary because tidal effects were either minimal (Site 2) or absent (Site 12). The main text has been revised to reflect similar statements made in Appendix E. Sections E2.1.1.2 and E1.1.2.2.

Comment 9: Section 4.2, Page 26: It is difficult to compare the discussions in the report with the results shown on Tables 24 through 26, since the text discusses sampling locations, where as the tables list only the number of samples. Also, the tables present data on o-xylene and m- & p-xylene separately where as the text discusses total xylene. These discrepancies should be resolved.

Response: Soil gas analytical results, by boring and sample date, are presented in Appendix G. Tables G1 through G3. For clarity this statement has been added to the text in Section 4.2. The discussion on xylenes detected in soil gas has been modified to clear up any discrepancies between the tables and the text.

Comment 10: Section 4.2.3, Page 27: Why were no maps prepared for BTEX and VOCs?

Response: Soil gas plates were not prepared for BTEX because these compounds were detected in the same general areas where elevated concentrations of Total Hydrocarbons (THCs) were detected. Plates for THCs were prepared (Plates 19 and 20). Plates were also prepared for tetrachloroethene (PCE) and 1,1,1-trichloroethane (1,1,1-TCA) (Plates 21 through 24); other VOCs were not presented on maps because they were detected infrequently and at low concentrations. Therefore, no revisions to the RI relative to this comment were necessary.

Comment 11: Section 4.3, Page 27, first paragraph: If some metals were not detected in background samples, it indicates that the background concentration for these metals is ND (below detection limits). Therefore, any detections at sites should be regarded as an indication of site contamination.

Response: The text has been modified to indicate that any detections of metals not detected in the background samples may potentially indicate site contamination. These results are then evaluated with respect to distribution and potential sources to evaluate whether they represent site contamination or background conditions not previously quantified.

Comment 12: Section 4.3, Page 27, first paragraph: In this section, background is divided into shallow and deep soils. Later, the report discusses deep and shallow NQTP soils. A more thorough discussion is needed.

Response: The text was modified to indicate that the shallow and deep soils are considered NQTP soils at Sites 2 and 12.

Comment 13: Section 4.3.1, Page 27, first paragraph: The fact that Acetone, bis(2-ethylhexyl)phthalate, & methyl chloride are common laboratory contaminants is only relevant if the quality assurance (QA) effort indicated that the results are due to laboratory contamination (i.e., if the compounds were also detected in the accompanying field, equipment, and/or trip blanks. If this is the case, it should be noted, otherwise delete the comment here and throughout the report.

Response: During data evaluation, if a common laboratory contaminant was not detected in a method blank or field related blank, associated sample results were not qualified as nondetect. However, the absence of a common laboratory contaminant in a method blank does not necessarily mean that the common laboratory contaminant detected in a field sample is a site-related chemical. It should not be assumed that laboratory analytical processes that take place after the analysis of a "clean" method blank are free from potential laboratory contamination. For example, method blanks analyzed at the beginning of the analytical sequence (e.g., first analyses of the day) may be free from contamination, but subsequent sample analyses that occur later in the day (after commencement of laboratory operations that use organic solvents) may also be impacted by contamination present in the analytical laboratory environment.

Based on an evaluation of Fort Ord and site-specific analytical data and of site-specific historical information, it was concluded that these analytes, acetone and methylene chloride, were likely laboratory contaminants and likely did not represent site conditions; the rationale is as follows. A significant number of the method blanks generated for the Fort Ord project during the period 1991 through 1994 contain low level (e.g., less than five times the reporting limit) detections of acetone and methylene chloride. Specifically, acetone and methylene chloride were detected in EPA Test Method 8240 method blanks at a frequency of 45 and 57 percent respectively. Furthermore, the EPA recognizes the compounds acetone and methylene chloride as common laboratory contaminants (EPA, 1988c). Low level detections of bis(2-ethylhexyl)phthalate and methyl ethyl ketone (MEK), were also observed in method blanks, but at a lower frequency (2.6 percent and 5 percent respectively). Although MEK and bis(2-ethylhexyl)phthalate were detected relatively infrequently in laboratory method blanks, low level detection of these compounds may also be attributable to laboratory (or field) contamination. Site history, along with the site specific project objectives, were considered during data evaluation. The review of the history of Sites 2 and 12 did not indicate a potential for use of the frequently detected common laboratory contaminants acetone and methylene chloride.

A discussion of the frequency of the detections in the method blanks for methylene chloride and acetone has been added to the analytical results discussion of those compounds.

Comment 14: Section 4.3.2, Page 29, last paragraph: There is insufficient data outside of the anomalous area to allow conclusions to be drawn about the lateral extent of contamination.

Response: We disagree with the above-cited EPA review statement. Based on the results of the geophysical survey, trenching, soil boring, and soil gas investigations, the horizontal and vertical limits of the debris have been defined to a maximum thickness of approximately 1-foot at the outer margin of the geophysical anomaly. Analytical results of the samples collected during the investigations show that elevated (i.e., detected organic compounds and inorganics above maximum background levels) concentrations of both organic and inorganic compounds are confined to/or immediately below the debris material. Therefore, no revisions to the RI relative to this comment were necessary.

Comment 15: Section 4.4.1, Page 33: What are the constituents for which the HydroPunch samples were analyzed? This information should be added to the text.

Response: Analytical methods used on groundwater samples collected with the HydroPunch sampling tool were discussed in Sections 2.1.1.6, 2.1.2.1, 2.1.2.2, and 2.1.2.3. Therefore, no revisions to the RI were necessary.

Comment 16: Section 4.4.1, Page 33, first paragraph: Plate 32 would be more useful if it was expanded to include all organic constituents detected. It could be split into two or more plates if needed for clarity. Without this information, the conclusions of this section are can not be verified.

Response: The compound TCE was selected for posting because it was the compound most commonly detected and at the highest concentrations in both HydroPunch and groundwater (monitoring wells) samples. The HydroPunch data was used

qualitatively to facilitate the placement of and determination of the screen intervals of monitoring wells. Table 38 presents a summary of the maximum and minimum concentrations of all organic compounds detected in HydroPunch and grab groundwater samples. Appendix G, Table G13 presents the results for all HydroPunch and grab groundwater samples by location and depth. Therefore, no revisions to the RI relative to this comment were necessary.

Comment 17: Section 4.4.2, Page 35, third bullet: It is assumed that the report meant "installation" rather than "distribution."

Response: The text has been changed to say "installation" rather than "distribution."

Comment 18: Section 5.3.1, Page 40: Were the contaminated soil samples collected from within (i.e. on top of) the asphalt basins, or immediately below the asphalt? The earlier discussion left the impression that they were below rather than within the basins, as is stated here.

Response: Maximum background concentrations were exceeded in samples collected from both within and below the asphalt-lined sludge drying beds. However, only two priority pollutant metals (zinc and chromium) were detected at concentrations above maximum background levels in soil samples collected below the beds.

Comment 19: Section 5.3.3, Page 40: The discussion in this section is incomplete and inconsistent with the text on Page 30.

Response: The above cited comment was nonspecific and unclear as to its intent. Minor revisions were made to the text for additional clarity.

Comment 20: Section 5.3.3, Page 41: The bullets should include a discussion of the Tank 2754 Area.

Response: A brief discussion of the Tank 2754 area was in Section 5.3.3, first bullet. Since the delivery of the Draft RI, additional chemical data associated with the removal of Tank 2754 (UST program) has been collected. This data has been reviewed and is included in this Draft Final document.

Comment 21: Section 5.3.3, Page 41: The information presented in the report does not support the conclusion that there is no indication of significant continuing sources. The high concentrations for soil gas results indicate sources exist. The investigation simply did not locate them.

Response: We disagree with the above-cited EPA review statement. See response to EPA Analysis of Conclusions and Recommendations Comment 1.

Comment 22: Table 14: Several inaccuracies were noted on this table, such as: the screen interval for PZ-02-01-180U should probably be 4.9 to -5.1 and the sand pack interval and seal interval appear to be reversed for PZ-02-01-180M

Response: Table 14 has been revised.

Comment 23: Table 15: This table would be more useful if it differentiated between the different basewide monitoring rounds.

Response: The footnotes in Tables 15 and 17 have been modified to help differentiate between the two basewide sampling rounds.

Comment 24: Plate 2: This plate should include sample location OF-15.

Response: The plate has been revised, as suggested.

II. U.S. ENVIRONMENTAL PROTECTION AGENCY DATA VALIDATION COMMENTS

The applicable sections of the subject documents, prepared by Harding Lawson Associates and dated July 13 and 25, 1994, respectively, were reviewed. The review was based on the criteria outlined in the EPA documents "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses" (February 1988) and "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses" (Draft, July 1988) and the data validation procedures outlined in the Basewide Quality Assurance Project Plan (QAPjP) for Fort Ord, dated August 1991. The June 12, 1992 document for the Fort Ord investigation, "Draft site Characterization, Site 34 - Fritzsche Airfield Fueling Facility," was not available for review. However, it is not expected that the information presented in this document will affect the conclusions of this review.

The conclusions presented in Volume II (Sites 2 and 12), Appendix F (Data Validation) appear to adequately describe the results of a quality assurance review which follows the EPA protocols and meets the objectives for data validation presented in the basewide QAPjP. The comments presented below address areas of the data validation report in which further clarification is recommended.

Comment 1: [Volume II (Sites 2 and 12), Appendix F, Data Validation, Section F2.1, Organic Analyses, EPA Test Method 8010 - Halogenated Volatile Organics; Section F2.2, EPA Test Method 8020 - Aromatic volatile Organics; Section F2.5, Modified EPA Test Method 8080 - Polychlorinated Biphenyls (PCBs)] Based on the information presented in Sections F2.1, F2.2, and F2.5, it was not possible to determine whether second column confirmation analyses were performed on samples with positive results. Second column confirmation analyses are generally required for all gas chromatography methods to reduce the possibility of reporting false positive results. If second column confirmation analyses were performed, it is recommended that the discussion presented in Sections F2.1, F2.2, and F2.5 be expanded to address these analyses. If positive results were not confirmed, these results should be considered tentative and the analytes to be presumptively identified.

Response: Second column confirmation is a method requirement for GC analyses for the Fort Ord project. Second column confirmation analyses were performed by the laboratory for all GC methods involving the analysis and detection of discrete peaks. However, second column confirmation results are not reviewed as part of the routine data validation performed for the Fort Ord program. Second column confirmation results were provided by the laboratory and reviewed by HLA as part of the detailed data validation effort. Approximately ten percent of the total number of sample delivery groups (SDGs) generated for the Fort Ord program were subjected to detailed data validation.

In response to this comment, HLA proposes the following:

- Discussion of second column confirmation results will not be included unless data was subjected to detailed data validation
- A statement will be added regarding the acceptability of second column confirmation analysis to the data validation reports that contain SDGs for which second column confirmation data is available (i.e., SDGs for which detailed data validation packages have been provided).

Comment 2: [Volume II (Sites 2 and 12), Appendix F, Data Validation, Section F2.3, Organic Analyses, EPA Test Method 8240 - Volatile Organic Compounds (VOCs)] It is unclear why separate criteria were applied in qualifying analyte results on the basis of method blank contamination problems and field-generated (e.g., equipment, source water, and trip) blank contamination problems from compounds considered to be common laboratory contaminants. Sample results for methylene chloride and acetone were qualified if the concentration of these contaminants was less than 10 times the concentration in the associated method blank. However, sample results for methylene chloride were qualified if the methylene chloride concentration was less than 5 times the concentration in the associated field-generated blanks. Generally, it is recommended that a uniform approach be applied in qualifying results based on blank contamination, regardless of the type of blank involved. Based on the approach used in the RI/FS report, it is possible that certain sample results for methylene chloride were reported without qualification when actually these results could have been attributed to contamination problems. Since the sample delivery group (SDG) identification numbers, which were used to identify the sample results associated with the contaminated field-generated blanks, were not included with the results listed in Appendix G (Tables of Organic and inorganic and Chemicals Detected in Samples), results for methylene chloride that were possibly affected could not be determined.

Response: HLA concurs that the same criteria should be used when evaluating sample results associated with method blank or field blank contamination. In fact, the same criteria (i.e., ten times rule) were used by HLA during data validation and data qualification when assessing the impact of method blank and field blank contamination. Reference to a five times rule for qualifying analytical results associated with field blank contamination for methylene chloride is due to a typographical error. This error has been corrected in the RI/FS report. Because no error was made during data validation or data qualification, no change to the data tables or data interpretation is necessary.

Comment 3: [Volume II (Sites 2 and 12), Appendix F, Data Validation Section F2.5, Organic Analyses, Modified EPA Test Method 8080 - PCBs; Section F3.2, EPA Test Method 6010, TCLP (Toxicity Characteristic Leaching Procedure) Lead] The discussions of data validation presented in Sections F2.5 and F3.2 do not address instrument calibration. Instrument calibration verification is listed in Section 2.0 of the Introduction to Volume II as part of the detailed validation that was to be performed on 10% of the data, but not as part of the routine validation that was to be performed on 100% of the data. Based on the information provided in Sections F2.5 and F3.2, it was not possible to determine whether a detailed validation was performed on a portion of the data for PCBs and TCLP lead.

Response: Verification of instrument calibration is only addressed during detailed data validation. Neither of the two SDGs selected for detailed data validation for this site report included analyses for EPA Test Method 8080 (PCBs) or EPA Test Method 6010 (TCLP for lead). Therefore, no discussion of instrument calibration for EPA Test Method 8080 or TCLP lead is included in Sections F2.5 and F3.2.

Comment 4: [Volume II (Sites 2 and 12), Appendix F, Data Validation, Section F2.5, Organic Analyses, Modified EPA Test Method 8080 - PCBs; Appendix G, Tables of Organic and Inorganic and Chemicals Detected in Samples] The header for Section F2.5 indicates that PCBs were the only target analytes for EPA Method 8080 analyses. However, the data presented in Appendix G includes results for 4,4'-DDT. This discrepancy should be clarified.

Response:

Comment acknowledged. The header for Section F2.5 is inaccurate and has been revised to reflect the fact that the target analyte list for certain samples analyzed using EPA Test Method 8080 included PCBs as well as organochlorine pesticides. The information presented in Section F2.5 does not require revision because the error in the section header does not affect the fact that data validation was performed on all target analytes reported using EPA Test Method 8080.