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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
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NEW YORK, NY 10007-1866

NOV 29 2000

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Christopher T. Penny
Project Coordinator
Installation Restoration Section (South)
Environmental Program Branch
Environmental Division,
Atlantic Division (LANTDIV), Code 182
Naval Facilities Engineering Command
1510 Gilbert Street
Norfolk, VA 23511-2699

Rc: Atlantic Fleet Weapons Training Facility, Vieques Island, PR
EPA I.D.# PRD980536221
1) Draft RCRA Facility Investigation (RFI) "Master Work Plan"; 2) Draft "Site Specific Work Plan" Phase I RFI; 3) "Description of Current Conditions Report"; and 4) Draft Work Plan for [Supplemental] "Groundwater Baseline Investigation".

Dear Mt. Penny:

The United States Environmental Protection Agency (EPA) Region II has completed its review of the Draft RCRA Facility Investigation (RFI) "Master Work Plan" and "Site Specific Work Plan" Phase I RFI, as well as the "Description of Current Conditions Report" and Draft Work Plan for [Supplemental] "Groundwater Baseline Investigation". The four documents were submitted on behalf of the Navy by CH2MHILL's [Mr. Martin Clasen's] letter of September 7, 2000, pursuant to requirements of the RCRA 3008(h) Order on Consent (the Order), which became effective January 20, 2000. This letter is addressed to you as the Navy's designated Project Coordinator, pursuant to Section IX of the Order.

RFI "Master Work Plan" and "Site Specific Work Plan" Phase I RFI

EPA requested our contractor, Booz Allen & Hamilton to review the above two documents, and they have prepared technical review comments for EPA. These comments, which EPA has reviewed and concurs with, are given in the enclosed Technical Review, dated November 21, 2000. In addition, EPA has several further comments, which are given below:

"Site Specific Work Plan" Phase I RFI

1. Section 2.1.2, for SWMU #1, the Camp Garcia Landfill, describes specific landfill cells and trenches as being identified by aerial photographic interpretation done by ERI in 2000 and indicates the overall impacted area was determined to be approximately 55 acres. Figure 2-2 would appear to display those features; however, they are not specifically labeled on the figure, nor is the apparent outline around the landfill specifically labeled, and the basis for establishing that outline is not described. Also, the date of the displayed photograph is not given. These missing details hinder EPA's ability to assess the adequacy of the proposed investigations for this SWMU.
2. Section 2.1.3, the last sentence of the fourth paragraph should be deleted, and replaced with, "The surface soil sample locations are shown on figure 2-3."
3. Section 2.3, SWMU #4, Waste Areas of Building 303:
 - a) A map or figure showing all four waste management areas comprising this SWMU, which are described in Section IV.7 of the Order, must be included in the work plan.
 - b) No samples are proposed for the Catch Basin for Hydraulic Oil (ex "AOC C") or the Cleaning/Degreasing Basin (ex "AOC D), which are included as areas of SWMU #4, as described in Section IV.7 of the Order. The Phase I RFI work plan must be revised to include investigation of both of these areas of SWMU #4 and/or the environmental media potentially impacted by any releases from them.
 - c) The previous investigation analytical results described in Section 2.3.2 must be included with the RFI work plan, in order to support the recommendations as to whether or not additional investigations are warranted based on those results.
 - d) The statement in Section 2.3.3 that "...because only arsenic was detected in surface soil samples **above both background** [emphasis added here] and the residential RBC..., no additional sampling is recommended for SWMU #4", is not acceptable. The purpose of a Phase I RFI is to determine whether or not a release has occurred. If the Navy wishes to ascribe, and can adequately demonstrate that the detected arsenic results from to natural background conditions, then no further sampling may be warranted. However, if the detected arsenic is above **natural background**, then a release is indicated, and the recommendation that no further sampling is required may not be warranted, unless the RFI work plan documents that some other standard, such as acceptable risk based concentration (RBC), such as Region 3's are cited, and those are not exceeded.

4. Section 2.5, SWMU #6 and #7:

a) The previous investigation analytical results described in Section 2.5.4 must be included with the RFI work plan, in order to support the recommendations as to whether or not additional investigations are warranted based on those results.

b) The statement in Section 2.5.5 that "Because only arsenic, cadmium, and lead were detected in surface soil samples **above both background** [emphasis added here] and RBCs..., no additional sampling is recommended for SWMU #6 and 7", is not acceptable. The purpose of a Phase I RFI is to determine whether or not a release has occurred. If the Navy wishes to ascribe, and can adequately demonstrate that the three detected metals results from to natural background conditions, then no further sampling may be warranted. However, if the three metals are above **natural background**, then a release is indicated, and the recommendation that no further sampling is required may not be warranted, unless some other standards, such as acceptable risk based concentrations are not exceeded.

5. Section 2.7, SWMU #10:

a) The previous investigation analytical results described in Section 2.7.2 must be included with the RFI work plan, in order to support the conclusion that the soils of the lagoons would not be classified a characteristic hazardous waste.

6. Section 2.8, SWMU #12:

a) A more complete discussion of the past and present usage of the area constituting this SWMU must be included, along with a map showing the areal extent of the SWMU.

b) The referenced figure in Section 2.8.3 should be Figure 2-11, not 2-12.

7. Section 2.9, AOC A:

a) A map showing the prominent features and areal extent of this AOC must be included.

b) The referenced figure in Section 2.9.2 should be Figure 2-12, not 2-13.

c) A map showing the location of the relevant 1997 sample points in Appendix A must be included. Also, the depth intervals for the samples are not given. Without this information, EPA cannot evaluate the recommendation that no further action is required.

d) Appendix A consists of a report dated April 2000; yet the tank removal and cited sample results are from 1997. Sections 2.9.2 and 2.9.3 must be revised to include a discussion of this apparent discrepancy.

8. Section 2.10, AOC F:

a) A more complete discussion of the past and present usage of the area constituting this AOC must be included, along with a map showing the areal extent of the AOC.

b) The previous investigation analytical results described in Section 2.10.2 must be included with the RFI work plan, in order to support the recommendations as to whether or not additional investigations are warranted based on those results.

c) The statements in Section 2.10.2 and 2.10.3 that only arsenic was detected in surface soil samples **above background** [emphasis added here] and that no additional sampling is required, are not acceptable. If the Navy wishes to ascribe, and can adequately demonstrate that the detected arsenic results from to natural background conditions, then no further sampling may be warranted. However, if the detected arsenic is above **natural background**, then a release is indicated, and the recommendation that no further sampling is required may not be warranted, unless some other standards, such as acceptable risk based concentrations are not exceeded.

d) The referenced figure in Section 2.10.2 should be Figure 2-13, not 2-14.

8. Section 6, Project Schedule: Please adjust the dates shown in Table 6-1 to reflect any revisions necessary to accommodate modifications necessitated by the above comments, as well as those given in the enclosed Technical Review, or if you prefer, the schedule may reflect only anticipated time intervals, rather than identify exact start and end dates. Of course all anticipated time intervals must be in conformance with the requirements of the Order.

Pursuant to Section XI of the Order, within 75 calendar days of your receipt of this letter, please submit an appropriately revised RFI "Master Work Plan" and Phase I RFI "Site Specific Work Plan", addressing both the above comments and those given in the enclosed Technical Review. If you wish to request a meeting, pursuant to Section XI of the Order, to discuss the above comments and/or those in the enclosed Technical Review, please so indicate in writing within 15 calendar days of your receipt of this letter.

"Description of Current Conditions Report"

EPA has also completed its review of the "Description of Current Conditions Report", also submitted by CH2MHILL's [Mr. Martin Clasen's] letter of September 7, 2000. EPA has the following comments:

1. Section 1.4.4, Aerial Photographic Analyses, must either be revised to indicate that the Navy will include in the draft Final Phase I RFI Report, pursuant to requirements given in VI.B.5 of the Order, an acceptable report with fully supported conclusions and recommendations for each of the 23 photo-identified areas or PIs described in Section 1.4.4.2 of the "Description of Current Conditions Report" and listed in Table 1-1 (and shown of Figure 1-4 included with the report), as to whether or not further investigations are warranted for each PI, or such a task must

be included in the Phase I RFI work plan discussed above. The report on conclusions and recommendations for each PI should include the results of the proposed visual inspection of each PI, as described in Section 2.13 of the "Description of Current Conditions Report".

2. In section 1.4.5.1, Personal Interviews, it is stated that "During a site visit conducted in June 2000...four additional potential areas of concern [AOCs] were identified." They are listed in Section 1.4.5.1, and for two of them (former power plant and former paint and transformer storage area), you indicate the structures still exist. Yet none of the four areas of concern, including the two where the structures still exist, are shown on any of the maps or figures included in the "Description of Current Conditions Report". The "Description of Current Conditions Report" must be revised to:

- a) designate the four areas of concern (AOCs) as AOCs I, J, K, and L;
- b) include a map or other figure showing the location, or suspected location, of the four new AOCs [EPA is prepared, if necessary, to issue to the facility a request for this information, pursuant to Section 3007 of RCRA.]; and
- c) indicate that the Navy will include in the draft Final Phase I RFI Report, pursuant to requirements given in VI.B.5 of the Order, an acceptable report with fully supported conclusions and recommendations for each of the above AOCs, as to whether or not further investigations are warranted for each of these AOCs, or include such a task in the Phase I RFI work plan discussed above.

3. In Section 1.4.5.2, it is indicated that "Five small arms ranges are also located at the EMA [Eastern Maneuver Area], outside of the live impact area (LIA)" which is included with the area subject to the requirements of the Order. The Report must include a map or other figure showing the location these five small arms ranges. However, EPA will not require their classification as AOCs at this time, pending development and finalization of a federal "Range Rule" governing clean-up of closed, transferred, and transferring military ranges.

4. Also in Section 1.4.5.2 and on Table 1-2, it is indicated that "...demolition records...identified several structures that could have posed a threat to the environment, including a filling station, several boiler [houses]...However, the location of these structures are uncertain." The "Description of Current Conditions Report" must be revised to:

- a) designate all non-range structures listed on Table 1-2, including the former filling station and boiler houses as AOCs; and
- b) include a map or other figure showing the location, or suspected location, of these additional new AOCs [EPA is prepared, if necessary, to issue to the facility a request for this information, pursuant to Section 3007 of RCRA.]; and

c) indicate that the Navy will include in the draft Final Phase I RFI Report, pursuant to requirements given in VI.B.5 of the Order, an acceptable report with fully supported conclusions and recommendations for each of these AOCs, as to whether or not further investigations are warranted, or include such a task in the Phase I RFI work plan discussed above.

5. Section 1.5, Permits: This section should be revised to also indicate that the facility has an NPDES Permit.

Pursuant to Section XI of the Order, within 75 calendar days of your receipt of this letter, please submit an appropriately revised "Description of Current Conditions Report" addressing the above comments (as well as any applicable comments in the enclosed Technical Review), or revised individual pages and figures addressing the above comments and those given in the enclosed Technical Review. If you wish to request a meeting, pursuant to Section XI of the Order, to discuss the above comments and/or those in the enclosed Technical Review, please so indicate in writing within 15 calendar days of your receipt of this letter.

Draft Work Plan for [Supplemental] "Groundwater Baseline Investigation"

Although the Draft Work Plan for [Supplemental] "Groundwater Baseline Investigation" (the Supplemental Groundwater Work Plan), also submitted by CH2MHILL's [Mr. Martin Clasen's] letter of September 7, 2000, is largely acceptable, EPA is not yet prepared to approve it. However, as discussed with you during a telephone conversation on November 27th, we expect to give such approval if the following are acceptably addressed:

1. Figure 1-3 must be revised to clearly show well RCRA- 4, one of the four wells to be sampled.
2. Since Section 2.1.1 states that Draft [RCRA Facility Investigation (RFI)] Master Work Plan (CH2MHILL, September 2000) will be used for guidance on the activities to be performed for this investigation, the following must be met:
 - a) All necessary revisions in the RFI Master Work Plan made based on comments in the enclosed Technical Review, must of course also apply to work implemented under the Supplemental Groundwater Work Plan; and
 - b) Section 4, References does not list Draft [RCRA Facility Investigation (RFI)] Master Work Plan (CH2MHILL, September 2000), and must be revised to include the RFI Master Work Plan, following its revision based on comments in the enclosed Technical Review.
3. No schedule for implementation and reporting is given, and must be included in the Supplemental Groundwater Work Plan.

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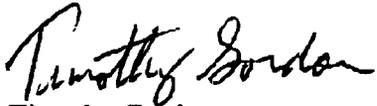
Pursuant to Section XI of the Order, within 75 calendar days of your receipt of this letter, please submit an appropriately revised Supplemental Groundwater Work Plan addressing the above comments (as well as any applicable comments in the enclosed Technical Review), or revised individual pages and figures addressing the above comments and those given in the enclosed Technical Review. If you wish to request a meeting, pursuant to Section XI of the Order, to discuss the above comments and/or those in the enclosed Technical Review, please so indicate in writing within 15 calendar days of your receipt of this letter.

In addition, EPA has not yet completed its review of the data validation reports submitted by Baker Environmental on September 8, 2000 for the analytical results given in the "Results of the Hydrogeologic Investigation, Vieques Island, PR" (the Hydrogeologic Report), dated November 1999, but submitted to EPA on March 16, 2000. As indicated in EPA's letter of April 17, 2000, approval of the November 1999 Hydrogeologic Report is conditioned on the data validation reports being judged acceptable and the analytical results in being determined to be usable (i.e., valid).

As discussed above, please submit revised documents and/or written responses within 75 calendar days of your receipt of this letter, addressing both the above comments as well as those in the enclosed Technical Review. If you wish to request a meeting, pursuant to Section XI of the Order, to discuss the above comments and/or those in the enclosed Technical Review, please so indicate in writing within 15 calendar days of your receipt of this letter.

Please telephone me at (212) 637- 4167 if you have questions regarding any of the above.

Sincerely yours,



Timothy Gordon
Acting Chief, Caribbean Section
RCRA Programs Branch

Enclosure

cc: Mr. J. J. Lajara, PREQB, w/encl.
Ms. Madeline Rivera, NAVSTA Roosevelt Roads, w/encl.
Mr. Martin Clasen, CH2MHILL, w/encl.
Ms. Connie Crossley, Booz Allen & Hamilton, w/o encl.

TECHNICAL REVIEW**SEPTEMBER 2000
DRAFT MASTER WORK PLAN
AND
DRAFT SITE SPECIFIC WORK PLAN
FOR PHASE I RCRA FACILITY INVESTIGATION****ATLANTIC FLEET WEAPONS TRAINING FACILITY (AFWTF)
VIEQUES ISLAND, PUERTO RICO****NOVEMBER 21, 2000
REPA2-0202-006****GENERAL COMMENTS**

1. The Master Field Sampling Plan (FSP) contained in the September 2000, Draft Master Work Plan (Master Work Plan) provides an overview of tasks that may be performed in completing the RCRA Facility Investigation (RFI). However, in some cases where multiple alternative procedures are presented, the FSP fails to describe the circumstances under which each procedure will be followed. For example, the FSP indicates that monitoring wells will be sampled by either bailers or low flow procedures. However, it is unclear under which circumstances a bailer will be used versus the low flow procedure. The FSP should be expanded to include selection criteria when multiple alternatives are listed. Wherever possible, only a single procedure should be identified to ensure comparability and reproducibility of data over the course of the projects. The standard operating procedures (SOPs) pertinent to each task should be referenced by title and number in the FSP.
2. The Quality Assurance Project Plan (QAPP) contained in the Master Work Plan is generic and lacks sufficient detail. Although more detailed information can often be found in the associated documents (e.g. the Master Field Sampling Plan, the Project Management Plan, and/or the Site Specific Work Plan) this information needs to be incorporated into the QAPP. Since field and laboratory personnel rely on the QAPP for project-specific quality assurance/quality control (QA/QC) requirements, they must be able to readily access this information. The QAPP should be revised to include specific references, such as section and page numbers to other documents, where additional pertinent information can be found. For each section of the QAPP that has information in an associated document, revise the document to include a specific reference to the location of the information.

Furthermore, it is recognized that the QAPP is meant to be an "all encompassing" document and that not all relevant information is available at this time. For example, the QAPP has not identified the actual laboratories or subcontractors that will be used

during the Phase I RFI. Atlantic Fleet Weapons Training Facility (AFWTF) should submit addendums to the QAPP as new and pertinent information becomes available. AFWTF must ensure that all designated laboratories and other subcontractors are able to meet the standards and objectives identified in the QAPP.

3. The September 2000, Site Specific Work Plan provides a clear presentation of the proposed RFI work. However, the proposed RFI work does not appear adequate to evaluate potential releases at some of the Solid Waste Management Units (SWMUs) and Areas of Concern (AOC). In particular, the majority of the sampling proposed is surface soil sampling. Surface soil samples will not be adequate for assessing releases where system components and/or disposed materials reside below ground surface. Samples should be collected beneath landfill contents, retention basins, storage areas, and fuel tanks and piping. As-built drawings should be used to identify likely release points such as joints, valves, and elbows. In addition, site maps should clearly show proposed sample locations in relation to these features. Furthermore, surface sampling may not provide a reliable indication of contamination at other release areas. Most notably, those areas involving the release of volatile organic compounds (VOCs) and petroleum products may require subsurface sampling as contaminants at the surface may easily attenuate through volatilization, degradation, or other mechanisms.

SPECIFIC COMMENTS**DRAFT PROJECT MANAGEMENT PLAN****Section 1.5., Contaminant Source Characterization (Nature and Extent of Contamination), Page 1-7**

1. Table 1-1 identifies 12 SWMUs requiring investigation. Figure 1-2 depicts the location of the majority of these SWMUs; however, SWMUs 3, 9, and 11 are not included on the Figure. Table 1-1 indicates that SWMUs 3, 9, and 11 are active and currently excluded from the corrective action activities, and therefore presumably not included on Figure 1-2. However, since contaminants may have dispersed from these units, it is recommended that SWMUs 3, 9, and 11 be included on the Figure so that their location relative to the other SWMUs can be easily determined.

Section 1.5.2, Documentation of Release, Page 1-10

2. The first sentence in the second paragraph should be corrected to state that "...only limited environmental sampling has been conducted..."

Section 2.1.1, Historical Aerial Photograph Analysis, Page 2-1

3. According to the Description of Current Conditions Report, the aerial photograph analysis has been performed, and 23 sites have been identified that require visual site inspections (VSIs) during the Phase I RFI. This section should clarify what has already been done, including preliminary results, and describe the activities that will be conducted during this project.

Table 2-1, Summary of Objectives and Technical Approaches of RFI Activities, Page 2-2

4. The table lists six general tasks to be accomplished during this project, and the objectives that each task will fulfill. For clarity, an additional column should be added to identify the specific SWMUs where each task will be performed.

The VSIs that will be performed at the photo-identified sites should be included as a seventh general task in the table.

Section 2.1.3, SWMU-1—Camp Garcia Landfill, Page 2-3

5. The first paragraph appears to indicate that the landfill is not located where the RCRA Facility Assessment (RFA) stated, rather it is located two miles east of Camp Garcia. However, Figure 1-2 shows the landfill as being only about 3,000 ft east of Camp Garcia. Additional discussion should be included here and in Section 2.1.1 of the Site Specific Work Plan to clarify the landfill's location and ensure that the area identified in the RFA, if different, does not warrant further evaluation. Aerial photograph analysis should be used to support this discussion.

The Description of Current Conditions Report indicates that a cap composed of compacted soil was installed on the landfill in 1978. Therefore, the proposed surface soil sampling is inappropriate. In order to assess the contents of the landfill and the potential that a release has occurred, soil borings and/or test pits seem warranted.

The last paragraph describes the presumed remedial alternative, should remediation be required. Identification of an alternative at this point is premature, when the existence or nature of any release is unknown. Similar text is used repeatedly in Sections 2.1.3 through 2.1.14 and should be eliminated. Identification of potential remedies should be postponed until the Corrective Measures Study (CMS).

Section 2.1.4, SWMU-2, Fuels Off-Loading Site, Page 2-4

6. Considering that the storage tanks were operational between 1953 and 1978, it seems likely that leaded gasoline would have been stored there. The reference to unleaded gasoline in the second paragraph should be verified.

The last paragraph indicates that only surface soil samples will be collected. Subsurface samples appear necessary. Although surface releases have been documented, higher concentrations are likely to be present at depth. Large releases may collect at the water table where volatilization and oxidation of the organic constituents is less prevalent than at the surface. In addition, subsurface soils samples are required to evaluate releases from beneath the tanks and associated piping.

Section 2.1.12, AOC A—Diesel Fuel Fill Pipe Area (Observation Post I), Page 2-8

7. The discussion in this section of the Master Work Plan indicates that no further action is required for the underground storage tank (UST) located in this AOC. However, no information on the actual confirmatory samples have been included in the discussion. Review of the Site Specific Work Plan indicates that these results are provided in Appendix A of the document. For clarity, since this document is subject to public review, a reference to the location of this data and/or discussion should be included in the Master Work Plan.

Section 2.1.15, Long-Term Groundwater Monitoring Program, Page 2-9

8. This section appears out of place, as long-term monitoring is not generally considered part of a Phase I RFI Field Investigation. For clarity and ease of review, this information and similar information regarding a Corrective Measures Report, should be moved to a new section at the end of the Project Management Plan. The new section should provide a preliminary framework for subsequent phases of investigation and monitoring, consistent with the requirements of the Consent Order. Interim measures and a full RFI should be evaluated as possible next steps and decision logic should be presented for determining which sites require these additional actions.

Section 2.4, Task RF—Phase I RCRA Facility Investigation Report, Page 2-12

9. The last paragraph describes draft, draft final, and final submissions of the RFI report. However, Table 3-1 only provides a schedule for draft and final submissions. The draft final submission should be incorporated into the schedule.

Section 2.5, Task PP—Project Planning, Page 2-12

10. The section regarding project planning is limited to one paragraph that lists the elements of project planning. However, no supporting information has been included to describe how these elements will be accomplished. This section should be expanded to describe the overall management approach for the project. Specific items that should be addressed here or in Section 3, Schedule, or Section 4, Project Team, include: personnel responsible for each management task; the reporting/documentation requirements for each management task; and the circumstances where the EPA will be notified of technical or management changes/issues.

Section 4, Project Team, Page 4-1

11. The Master Work Plan indicates that the organization chart is presented in Figure 5-1. The organization chart is actually presented in Figure 4-1. The reference in the first paragraph should be corrected.

Section 4 should be expanded to include thorough descriptions of the roles and responsibilities of each person identified in the organization chart. With the exception of the support staff (e.g., Drafting, Word Processing) the Final Site Specific Work Plan should include the name and telephone number of the responsible person (including subcontractors).

Figure 4-1, Project Organization, Page 4-2

12. The United States Environmental Protection Agency (USEPA) and the Puerto Rico Environmental Quality Board (PREQB) representatives should be added to the project organization chart as has been done in Figure 3-1 of the Master QAPP.

MASTER FIELD SAMPLING PLAN

Section 2.1.1, Field Measurements, Page 2-1

13. This section is inconsistent with Section 2.22, Field Tests, which indicates that a wider range of field measurements may be performed, including x-ray fluorescence and immunoassay screening. Furthermore, Section 2.4, Soil Gas Survey, indicates that gas chromatography analyses may be performed in the field. This section should be expanded to include all potential field analyses, and SOPs should be referenced for each.

Section 2.2.1, Blanks, Page 2-2

14. The last paragraph indicates that a temperature blank will be included only with samples for contract laboratory program (CLP) analyses. However, Section 1.0, Introduction,

indicates that samples will also be analyzed using SW-846 methods. A temperature blank should be included in each cooler where samples require temperature preservation, regardless of the selected analytical method.

Section 2.2.2, Duplicates, Page 2-2

15. The last sentence indicates that field duplicate samples will be used to evaluate the accuracy of the analytical data. Since the true concentration of the field duplicate samples is unknown, they cannot be used to effectively assess accuracy. The field duplicates should be used to assess precision.

This section should also describe how representative duplicate samples will be collected for both solid and water matrices.

Section 2.2.3, Matrix Spike/Matrix Spike Duplicate (MS/MSD), Page 2-2

16. The last sentence indicates that MS/MSD samples will be used to assess accuracy. They also should be used to assess precision through comparison of the duplicate spike results.

This section should specify whether the laboratory will use an aliquot from the field sample container or if additional sample volume will be collected for preparation of the MS/MSD. Typically triple sample volume is submitted to the laboratory.

Section 2.5.2, Sediment Sampling, Page 2-5

17. The second paragraph indicates that alternative sampling techniques and their applicability are described in Table 2-1. However, Table 2-1 presents sample container and preservation requirements. The alternative sediment sampling techniques are addressed in the text on Page 2-8. The discrepancy should be corrected.

Table 2-1, Required Containers, Preservatives, and Holding Times for Water Samples, Page 2-6

18. The preservation requirements for liquid toxicity characteristic leaching procedure (TCLP) samples should be clarified. According to Method SW-1311, liquid samples containing less than 0.5 percent solids are not extracted using the leaching procedure. In this case, the preservation requirements in Table 2-1 for the TCLP methods are appropriate. However, if the liquid samples contain greater than 0.5 percent solids, the solid portion is separated and carried through the leaching procedure. Field acidification of samples will bias the leaching procedure. Therefore, samples should not be acidified in the field if greater than 0.5 percent solids are anticipated.

Preparation and analysis method numbers should be specified for each type of analysis. For CLP methods, the Statement of Work (SOW) number should be specified.

Table 2-2, Required Containers, Preservatives, and Holding Times for Soil and Sediment, Page 2-7

19. The table specifies collection of volatile soil samples in EnCore samplers. When practical, field preservation of the samples in methanol or sodium bisulfate is recommended. Field preservation will minimize the potential for loss of volatile constituents and eliminate the 48 hour holding time for preservation at the laboratory, which is often missed when shipping delays occur.

Preparation and analysis method numbers should be specified for each type of analysis.

Section 2.7, Soil Borings, Page 2-9

20. A boring log form should be included either in the FSP or in the appropriate SOP. Both the form and the SOP should be referenced in this section.

Section 2.8, Subsurface Soil Sampling, Page 2-9

21. This section should describe the circumstances under which direct-push sampling will be performed in lieu of hollow-stem auger/split spoon sampling.

Section 2.9.1, Monitoring Well Construction, Page 2-10

22. The text indicates that the well diameter will be 2 or 4 inches, with a 10 to 15 foot long screened interval and a 10- to 20-slot screen width. The text should be revised to specify a single standard (e.g., 2-inch well diameter, 10-ft screen length, and 10-slot screen width) and the conditions under which the installation will differ from the standard.

A well construction diagram should be included either in the FSP or in the appropriate SOP. Both the diagram and the SOP should be referenced in this section.

This section should be expanded to indicate that a permanent water level measurement mark will be made on the top outside edge of the riser by cutting a notch in the casing and describe how well numbers will be assigned and permanently inscribed on the well and/or pad.

Section 2.9.2, Monitoring Well Development, Page 2-11

23. The second paragraph indicates that development will continue "until the water clears..." This description is ambiguous. A specific turbidity goal of 5 nephelometric turbidity units (NTUs) should be specified.

The third paragraph indicates that wells will be redeveloped if 10 percent or more of the screen length has silted in. Redevelopment should also be attempted if consistent turbidity problems are encountered during sampling.

The last paragraph indicates that distilled water may be used to develop direct-push sampling points. Any water introduced to the sampling point should be verified as contaminant-free through analysis of blank samples.

Section 2-10, Monitoring Well Abandonment, Page 2-12

24. This section indicates that wells will be abandoned by either overdrilling, removal of casing, and grouting of the borehole or by simply filling the well itself with grout. The text should be expanded to describe the circumstances under which each procedure will be followed and describe any local requirements for abandoning wells.

Section 2.11, Groundwater Sampling from Monitoring Wells, Page 2-12

25. SOPs have been included for both traditional purging and low-flow purging of monitoring wells. Similarly, this section indicates that samples may be collected with either a bailer or a low-flow pump. This section should describe the circumstances under which each procedure and sampling equipment will be used. However, it should be noted that sampling using a procedure substantively equivalent to the U.S. EPA Region 2 Ground Water Sampling - Low Stress (Low Flow) Purging and Sampling is generally required. This procedure includes protocols for sampling low yielding wells and does not include the use of bailers. Consequently, extenuating circumstances will be required before the use of bailers for sampling groundwater will be found to be acceptable.

This section of the Master Work Plan similarly indicates that samples may be filtered. Circumstances under which filtering may occur should be identified. However, AFWTF should be aware that analytical results from field filtered groundwater samples are generally not accepted by USEPA.

Section 2.13.1 Slug Testing, Page 2-13

26. The procedures describing slug testing should be expanded to indicate the method(s) of analysis that will be used to evaluate test results.

Section 2.16, Biota Sampling, Page 2-14

27. The first paragraph indicates that both the presence of a salt wedge and the magnitude of tidal influence will be considered when selecting biota sampling locations. The text should be expanded to describe how these items will be considered.

Section 2.18, Land Surveying, Page 2-16

28. The coordinate system/reference datum that will be used for the land surveying should be specified.

Section 3.1, Sample Designation, Page 3-2

27. This section indicates that a "P" will be used to identify duplicate samples. Field duplicates should be submitted blind to the laboratory to eliminate any potential bias in the sample analysis. Also, if additional sample volume will be submitted for the MS/MSD, labeling requirements for these samples should be included.

Section 3.2, Sample Shipping Procedures, Page 3-2

28. The first paragraph indicates that "clean first-quality containers" will be used for samples. The text should be expanded to specify how containers will be cleaned and what is meant by first-quality.

An example chain of the custody form is included in the Master QAPP and should be referenced in this section.

DRAFT MASTER QUALITY ASSURANCE PROJECT PLAN

30. Although the Master Work Plan indicates that explosives will be analyzed for in the sampling events, the Master QAPP does not make any reference to the analysis of explosives. The QAPP simply indicates that characteristics of the wastes will be tested for (ignitability, reactivity, and corrosivity). Clarify whether explosive wastes will be sampled and analyzed. In addition, revise the QAPP to clearly identify all sampling and analytical methods that will be used. Furthermore, identify the specific explosive compounds of interest and indicate the quantitation limits for analysis.

31. The Master QAPP does not include a list of all the persons designated to receive copies of the QAPP. It is recommended that all individuals and their organizations who will receive copies of the approved plan and subsequent revisions be identified. This list will help the project manager ensure that all key personnel in the implementation of the plan have up-to-date copies.

In addition, the QAPP does not include a list of individuals who have approved the QAPP. Clarify if multiple personnel have reviewed the document and if so, identify the key personnel along with their signatures to indicate their approval.

32. Discuss how the results obtained from the project will be reconciled with the requirements defined by the data user. Also, discuss how issues will be resolved and discuss how limitations on the use of the data will be reported to the project management.

Figure 3-1, Project Organization, Page 3-1

33. The figure is inconsistent with the organization chart presented in the Project Management Plan, and does not provide adequate detail regarding quality assurance (QA)/quality control (QC) structure. This figure should be deleted and Figure 4-1 of the Project Management Plan should be referenced for overall project structure. This section of the QAPP should focus on defining the roles and responsibilities of QA/QC functions not addressed in the Project Management Plan. In particular, this section

should identify personnel who are responsible for verification of field and laboratory data, validation of laboratory data, review and approval of documents, performance of technical audits, and review and approval of field and laboratory corrective actions. Names of these personnel should be provided in the QAPP. In addition, all of the responsibilities of the key personnel who will be involved with performing the sampling and analysis for the projects should be included in the QAPP. These personnel should include the QA/QC person who will be responsible for the QA of the data.

Section 4, Quality Assurance Objectives, Page 4-1

34. The reference for Data Quality Objectives Guidance should be updated to reference the Guidance for the Data Quality Objectives Process, EPA OA/G-4.

Section 4.1, High Level DQOs, Page 4-1

35. The discussion/assessment of DQOs is inadequate. The last sentence states that, "the detection limits achieved by the EPA's SW-846 organics and inorganics analyses are adequate to meet the DQOs except for groundwater." However, no DQOs are identified for the detection limits and no resolution to this problem is provided. Furthermore, accuracy and precision DQOs have not been addressed at all. Revise the QAPP to include this information

The discussion of DQOs should identify screening criteria to which the analytical results will be compared. Method detection and quantitation limits should be compared to the pertinent screening criteria. This comparison should be presented in the QAPP, and alternative analytical methodology should be evaluated for all analytes where the quantitation limit is greater than the screening criteria.

In addition, project-specific DQOs should be established for accuracy and precision. Use of method-specified criteria, as indicated in Table 4-1 should not be used for this purpose because the method-specified limits do not take into account project-specific requirements for data quality. Table 4-1 should be revised to specify limits of accuracy and precision, and this section should describe the basis for the selection.

Table 4-1, Precision, Accuracy and Completeness Objectives, Page 4-3

36. The table should specify method numbers for each type of analysis and project-specific accuracy criteria for each method.

Section 4.3.2, Completeness, Page 4-3

37. Calculation of an overall completeness value may be misleading in instances where specific constituents of concern have individually poor completeness results. For example, all benzene results for groundwater could be rejected at a fuel spill site, but overall completeness could be greater than 85 percent due to the number of other valid analyte results. In order to ensure that all potential data gaps are adequately assessed, completeness should be calculated on a per analyte, per site, and per matrix basis.

Section 6.1, Field Custody, page 6-1:

38. Revise the QAPP to specifically discuss field custody procedures. Specifically the following should be included:
- A discussion of how the samples are packaged, labeled and shipped to the laboratory (i.e., sample labels, tags, a custody seal on the coolers, etc.)
 - A discussion of the documentation that is included (airbills)
 - A discussion of how sample integrity is maintained in the coolers.

The QAPP states that "the essential components of the CoC are described in the FSP." However, the discussion should be expanded to include the information listed above as well as a specific reference to the actual location of the information in the FSP.

Section 6.3, Laboratory Custody, Page 6-1

39. This section describes how the laboratory will log in samples but provides no information regarding custody within the laboratory. Describe the general internal laboratory custody requirements. Either provide a laboratory QAPP or provide the specific requirements for sample custody (i.e., identification of a custodian), sample storage and documentation of internal custody transfers. Once a laboratory has been selected for the analysis, a QAPP addendum which references and includes a laboratory QAPP may be provided for the information. Also, once a laboratory is selected, the QAPP should be revised to include the name and address of the laboratory.

Section 6.4, Sample Disposal, page 6-1

40. Clarify how long AFWTF will wait before sample disposal. Ensure that the samples are offered to EPA prior to disposal.

Section 7.1, Field Equipment Calibration, Page 7-1

41. The list of field equipment requiring calibration does not include all of the equipment described in the FSP. For example, the FSP indicates that field analyses may be made using gas chromatography and an x-ray fluorescence instruments. This section should be expanded to address calibration requirements for all field instruments identified in the FSP.

Section 7.2, Laboratory Equipment Calibration, Page 7-1

42. The laboratory QAPP is referenced for calibration procedures, but is not included for review. Either summary tables of laboratory QC analyses (including calibrations), frequency of analysis, acceptance criteria, and corrective actions for each method should be added to this QAPP, or the laboratory QAPP(s) containing such information should be submitted for review.

Table 8-1, Analytical Procedures, Page 8-1

43. Two newer CLP SOWs exist for low concentration organics OLC02.1 (February 1996) and OLC03.1 (July 2000). The most current CLP SOW in use at the time of the analyses should be referenced.

The FSP indicates that samples will be analyzed for explosives. However, the QAPP does not indicate the specific explosives compounds that will be tested nor does the document indicate which test methods will be used. For example, indicate whether SW-846 Method 8330 or 8332 will be used. Revise Table 8-1 to specify the method(s) to be used for explosives analyses and include the reporting limits in Table 8-2.

Table 8-2, Analytical Parameters and Reporting Limits, Page 8-2

44. The table presents "detection limits" for each constituent. However, it is unclear whether this refers to an actual method detection limit (MDL) or a estimated quantitation limit. It is recommended that the table be revised to provide both MDLs and estimated quantitation limits (EQLs). As discussed above, EQLs should be verified to be below project screening criteria or alternative methodology should be evaluated.

There are several redundant entries on the table and CAS Registry Numbers are missing for some compounds. Revise Table 8-2 to eliminate multiple entries and provide all missing CAS Registry Numbers.

Table 8-2 provides the quantitation limits for SW-846 Method 8240A. However, SW-846 Method 8260B has been identified as the analytical method for VOCs. Clarify and indicate when one method is chosen over another. Also, provide the quantitation limits for all compounds, not just the 8240A and Appendix IX semivolatiles and inorganic compounds. The QAPP should be revised to provide the limits for all of the compounds identified in Table 8-1.

In addition, some Appendix IX constituents are missing from the table (e.g., polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and dioxins/furans). If the intent is to analyze samples for all Appendix IX constituents, the table should be revised to include a complete list of all Appendix IX compounds. Justify the exclusion of any of the Appendix IX compounds.

Section 9, Data Reduction, Validation, and Reporting, Page 9-1

45. This section fails to address how data will be reduced, verified, and reported. The QAPP provides very general information regarding laboratory data reduction. Data reduction is the process of converting raw analytical data to final results in proper reporting units. Since this summarizing process produces only a few values to represent a group of many data points, its validity should be well documented in the QAPP. Clearly discuss how the laboratory will perform data reduction to report the final data results. For example, analytical procedures will contain the equation(s) used to calculate results. The QAPP may reference applicable sections of the laboratory SOPs where equations may be found.

Ensure that the reduction procedures include the equations applicable for each matrix to be analyzed.

The referenced data validation guidance is outdated. For organic data review the Functional Guidelines were updated in September 1999. For inorganic data review the Functional Guidelines were updated in February 1994. The most recent update should be referenced here and in Section 3.3 of the Site Specific Work Plan. The QAPP also references the "NFESC QA guidance" for validation procedures. Provide this document for review and also indicate when this document is used for the validation over the referenced EPA Functional guidelines. In addition discuss how field generated data will be validated. Provide any specific guidance and/or checklists that will be used to validate such data.

Indicate who will perform the validation of the data. Ensure that the party who performs the validation is a third party entity who is independent from the data-generating parties.

Finally discuss the contents of the data validation report. Identify all components of the report and ensure that the report is consistent with "CLP" format since "CLP" laboratories will be designated to perform the analyses.

Section 9.5, Data Records, Page 9-3

The second bullet in this section should state that all entries will be made in indelible ink, and corrections will be made by crossing out mistakes with a single line so that the original entry remains legible. Changes should be initialed and dated.

Indicate the location where the data will be maintained in a secure, limited access area; and, the length of time (as mandated by the USEPA) that the file will be maintained. Ensure that the file is offered to the USEPA prior to disposal

Section 10.2, Laboratory Analytical Procedures, 10-2

46. As described above, either this QAPP or the laboratory QAPP should identify the QC samples, frequency of analysis, acceptance criteria, and corrective actions for each method. In addition to those described in this section, blank spikes (i.e., laboratory control samples) are recommended to evaluate analytical accuracy independently from sample matrix interferences.

Section 11.1, Laboratory Performance and System Audits, Page 11-1

47. This section indicates that, "the laboratories are subject to external audits by the Navy and CH2MHill." This statement is too ambiguous. The Navy or it's contractor should audit each laboratory prior to submission of samples. The audit should cover all analytical methods that are deemed critical to the project. In addition, performance evaluation samples should be submitted to the laboratory for analysis using these critical methods.

Audit reports, including documentation of corrective actions, should be included in the final technical report for the project. If such audits have been performed for the laboratory in question within the past year, documentation of these audits may be submitted in lieu of repeating them.

Section 12, Preventative Maintenance, page 12-1

48. The preventative maintenance procedures are designed to minimize the occurrence of instrument failure and other system malfunctions. Simply stating that the "manufacturers's instruction manuals" will be used is insufficient. The information provided on the preventative maintenance procedures must be expanded to include the following detailed information:
- Discuss how frequently the maintenance checks are documented
 - List the critical spare parts such as tape, pH probe, etc for all equipment, not just a select few (a tabular format is recommended)
 - Provide the laboratory's schedule for maintenance for each piece of equipment
 - Revise the text of the document to also indicate how an inventory of the spare parts is monitored and maintained
 - Include the prescribed corrective action procedures for addressing unacceptable inspection results.

Section 14, Corrective Actions, Page 14-1

49. A standard form for documenting corrective actions and their resolution should be included in the QAPP. The form should require identification of the problem, responsible parties, resolution of the problem, and signatures to verify that the problem has been adequately resolved.

Section 15, Quality Assurance Reports, Page 15-1

50. Distribution of QA reports should include the EPA representative, and copies of the corrective action forms described above should be attached. Clarify how any information regarding QA problems or corrective action problems that may arise during the project are provided to the key project personnel. It is recommended that a QA report which provided data results and other pertinent information is provided the management are regular intervals throughout the project (e.g., quarterly or monthly).

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Section 2.2, Liquid IDW, Page 2-3

51. The second paragraph indicates that purge water from background wells will not be contained, because they are expected to be free of contamination. Water from all wells should be contained until such time that the area has been confirmed to be free of contamination. Also, this paragraph should specify that purge water that is not

contained will be discharged to ground-surface at a point that will not affect the well being sampled or adjacent sampling locations.

STANDARD OPERATING PROCEDURES

Low-Flow Groundwater Sampling From Monitoring Wells, Page 6.3-3

52. The SOP for low-flow groundwater sampling is not consistent with the Region 2 Low-Flow Guidance. For example, the Region 2 guidance identifies the field parameters as stabilized when pH measurements are within 0.1 units, turbidity within 10%, and specific conductance within 3%. The AFWTF SOP indicates that the field parameters will be considered stabilized when pH is within 0.5 units and specific conductance is within 10 percent. The Region 2 guidance also requires monitoring of water level and stabilization parameters every five minutes during purging; that drawdown not exceed 0.3 feet; that the flow through cell be detached prior to sampling; and that the pump not be removed between purging and sampling. In addition, the Region 2 guidance stipulates that the QAPP must specify the depth to which the pump intake will be lowered into each well, and that this depth correspond to the mid-point of the most permeable zone in the screened interval. These discrepancies should be corrected and the AFWTF SOP revised to be consistent with the Region II guidance.

DRAFT SITE SPECIFIC WORK PLAN PHASE I RCRA FACILITY INVESTIGATION

Figure 1-2, Site Map Showing Camp Garcia, the AFWTF, and EMA, Page 1-4

53. The figure is missing and should be added.

Section 2.1.3, SWMU 01 Sampling Rationale, Page 2-3

54. As discussed above, surface soil sampling appears inadequate to determine whether a release has occurred from the landfill, because a compacted soil cap was installed in 1978. Soil borings or test pits should be sampled to verify the contents of the landfill, determine the depth of landfill contents with respect to groundwater, and assess potential releases from the landfill contents.

The Site Specific Work Plan indicates that four monitoring wells will be installed to sample groundwater quality. However, the Work Plan has not identified the zone of interest in which the screens will be set. The Work Plan should clearly indicate the target zone of interest (e.g., shallow water immediately below the water table) for setting the screens for the proposed monitoring wells.

Figure 2-2, SWMU 01 Sample Locations, Camp Garcia Landfill, Page 2-4

55. The trenches identified from the aerial photograph analysis only address disposal during the first ten years of use, 1954 to 1964. No disposal locations have been identified for the 14 year period between 1964 and the landfill's closure in 1978. As a result it seems likely that other, unidentified disposal areas exist. The geophysical survey should be

expanded to identify other potential disposal areas that were not identified by the aerial photograph analysis.

Section 2.2.1, SWMU 02 Site Summary, Page 2-5

56. The description of the site is inadequate to support the sample design. Piping joints, elbows, and valves are the most common sources of releases from these types of systems. As-built drawings should be reviewed and pertinent copies included in the Work Plan, and piping runs from the tanks to the off-loading area should be shown on Figure 2-3. Subsurface soil samples should be collected along the piping, focusing on areas beneath joints, valves, elbows, and areas of known releases. Borings should be advanced to the water table to evaluate the presence of free-product or a smear-zone in the soil near the water table.

Section 2.3.1, SWMU 04 Site Summary, Page 2-8

57. The description of the former AOCs is incomplete and inconsistent with the Consent Order. The cleaning/degreasing basin is identified in the Consent Order as AOC D, and the rags, absorbent, and grease storage area as AOC E. This discussion identifies AOC D as the rags, absorbent, and grease storage area, and does not describe the cleaning/degreasing basin. The discrepancy regarding the former AOC designations should be resolved, a paragraph should be added to describe the cleaning/degreasing basin operations, and the location of the four areas and associated sampling locations should be shown on a single site map.

Section 2.3.2, SWMU 04 Previous Investigation Results, Page 2-8

58. The AOC designations in this section are inconsistent with both Section 2.3.1 and the Consent Order. The discrepancies should be resolved. Furthermore, it does not appear that adequate samples were collected to assess potential releases at the site. The text and figures do not indicate that any samples were collected in the vicinity of the cleaning/degreasing basin, and the sample locations in the vicinity of the hydraulic oil catch basin are not shown on the associated figures. As noted above, the location of the four areas and associated sampling locations should be shown on a single site map.

Surface soil samples adjacent to the two basins (i.e., hydraulic oil catch basin, cleaning/degreasing basin) are not adequate to assess releases from the basins. Samples should be collected at selected depths below the bottom of the basin to assess potential leaks in the basins themselves. If chlorinated solvents were used for degreasing, at least one monitoring well should be installed adjacent to the basin to assess potential releases to groundwater.

Figure 2-7, SWMU 05 Sample Locations, Page 2-12

59. The figure shows sample locations on a picture of the site. While this is informative, the picture does not include any permanent landmarks that can be used to identify the location. A site map should be added that shows the location of the site with respect to

permanent landmarks and includes a scale that allows evaluation of sample spacing. Similar maps should be added to Sections 2.5 through 2.11.

Section 2.5.1, SWMU 06 and 07 Site Summary, Page 2-13

60. As described above, a map should be included to better portray the site with respect to permanent landmarks. In this section the map should show the locations of SWMU 06, SWMU 07 and the lubricating oil storage area that was formerly part of AOC H. The latter was identified in the Consent Order as requiring investigation along with these two SWMUs but has not been discussed in the text. The map should show the location of the samples with respect to each SWMU/AOC and areas of stained soil that were identified in the RFA.

Figure 2.8, SWMU 06 and SWMU 07 Previous Sample Locations, Page 2-14

61. Based on the sample locations presented on the figure and those in Figure 2-11 pertaining to SWMU 12, it appears that samples were collected from locations around rather than beneath locations where the wastes were stored. The Navy should ensure that samples were or will be collected from soil beneath the storage areas where spills would be most likely.

Section 2.5.5 SWMU 06 and 07 Sampling Rationale, Page 2-15

62. The Site Specific Work Plan has recommended no further sampling at SWMU 06 and 07. However, staining has previously been observed at this site and arsenic, cadmium, and lead have been found above both background levels and RBCs. This evidence clearly indicates a potential release that requires further investigation. As noted above, the sampling locations do not appear adequate to reliably detect any release. Moreover, due the nature of the potential releases (waste oil) at these SWMUs, subsurface sampling throughout the soil horizon will be necessary to fully characterize the nature and extent of contamination at this release are. A program of additional surface and subsurface soil sampling should be developed for SWMU 06 and 07.

Section 2.6.3 SWMU 08 Sampling Rationale, Page 2-16

63. The collection of five surface soil (0 to 6 inches) samples are planned to investigate waste oil releases at SWMU 08. Waste oil releases have been observed at SWMU 08 in the past. Residual waste oil may not be retained in the top six inches of the soil column but may be present at depth. Consequently, additional subsoil sampling should be included in the Phase I Investigation at SWMU 08.

Section 2.7.3, SWMU 10 Sampling Rationale, Page 2-17

64. The text indicates that four monitoring wells will be installed, but Figure 2-10 shows five proposed monitoring well locations. The text should be corrected. In addition, the Work Plan has not identified the zone of interest in which the screens will be set. The Work Plan should clearly indicate the target zone of interest (e.g., shallow water

immediately below the water table) for setting the screens for the proposed monitoring wells.

The text indicates that 16 soil borings will be advanced in the lagoons. The discussion should be expanded to describe the depth at which samples will be collected with respect to the clay/plastic liner and describe how the liner will be repaired upon completion of sampling.

Section 2.9.1, AOC A Site Summary, Page 2-22

65. The confirmation sample results included in Appendix A indicate that contaminated soil was removed when Tank 1005 was replaced. However, this section does not specify the tank number for AOC A or provide a map showing the sample locations. As a result, it is not clear whether the tank at AOC A has been properly closed. The tank number should be referenced in this section and a figure should be included that shows the location of the confirmation samples.

Table 3-2, Required Containers, Preservatives, and Holding Times for Soil and Ground Water Samples, Page 3-5

66. Multiple analytical methods are listed for each organic groundwater analysis, some of which are not applicable to the associated analysis. In addition, the methods listed are SW-846 methods, which are acceptable, but are inconsistent with the Master QAPP. The method numbers should be corrected.

Table 3-4, Sample Designation Scheme, Page 3-6

67. The scheme presented in this section is inconsistent with the scheme presented in Section 3.1 of the Master FSP. The discrepancies should be corrected.

Section 3.5, Task 5: Investigation Reports, Page 3-11

68. The Project Management Plan indicates that a Draft Final RFI report will be prepared, whereas this section and the schedule in Section 6 indicate that only Draft and Final versions will be prepared. The discrepancies should be resolved. Also, an outline for the Phase I RFI report should be presented in this section.

Section 4, Project Management and Staffing, Page 4-1

69. The key project team members, their roles, and telephone numbers should be listed in this section. This list should not be limited to upper management, but should also include technical managers such as a project chemist, field team leader, QA officer, and/or health and safety officer. A similar list should be included that identifies subcontractors and the name and telephone number of the primary contact for each subcontractor.

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70. Reporting limits were compared to U.S. Environmental Protection Agency (EPA) Region III Risk-Based Concentrations (RBCs) for residential and industrial exposure scenarios and toxicity characteristic leaching procedure action levels. In general, the reporting levels are less than the regulatory criteria. The following exceptions were noted.
- The residential RBC for most polychlorinated biphenyls (PCBs) is 0.32 mg/kg, and the industrial RBC is 2.9 mg/kg. The reporting limits for PCB analyses at SWMUs 6 and 7 range from 1.7 to 2.13 mg/kg. As a result, it is unclear whether these samples contain PCB concentrations in excess of the residential RBC.
 - The residential RBC for benzo(a)pyrene is 0.087 mg/kg, and the industrial RBC is 0.78 mg/kg. The reporting limits for benzo(a)pyrene range from 0.333 to 3.14 mg/kg. As a result, it is unclear whether these samples contain concentrations in excess of the residential, and in some cases, industrial RBC. Similar issues were observed for other polycyclic aromatic hydrocarbons (PAHs).

The data should be evaluated further to determine whether additional sample cleanup to reduce matrix interferences or use of alternative analytical methods would achieve reporting limits less than the corresponding regulatory criteria.

71. In general, field duplicate precision is acceptable. High relative percent difference (RPD) values were observed for lead, zinc, DDE, and DDT in the field duplicate pair for sample CGSWMU06/07SS006. Such results are common in analysis of soil samples where heterogeneity plays a significant factor in field duplicate precision. These results should not significantly affect decisions regarding the site.