03.01-11/18/92-00848

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

NOV 18 1992

4WD-FFB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Byron Brant
Department of the Navy - Atlantic Division
Naval Facilities Engineering Command
Code 1822
Norfolk, Virginia 23511-6287

RE: Marine Corps Base Camp Lejeune NPL Site
Sites 2, and 74
Jacksonville, North Carolina

Dear Mr. Brant:

EPA has reviewed the document titled "Draft Remedial Investigation and Feasibility Study Work Plan for Operable Unit No.5 (Sites 74 and 2) and associated documents. Comments on the draft documents are enclosed. Comments provided for OU1 (sites 78, 21 and 24) concerning field methods and sample collection techniques also apply to these project plans. In addition, no comments were provided concerning the adequacy of the proposed ecological assessment.

If you have any questions or comments, please call me at (404) 347-3016.

Sincerely,

Michelle M. Glenn

Michelle M. Glenn
Senior Project Manager

Enclosure

cc: Peter Burger, NCDEHNR
George Radford, MCB Camp Lejeune

Printed on Recycled Paper

COMMENTS
DRAFT WORK PLAN
Operable Unit Five
(Sites 2 and 74)

GENERAL COMMENTS

1. Further investigation under the format of a second phase of sampling will be necessary to meet the stated objectives of the Draft RI/FS SAP. These objectives include the assessment of the lateral and vertical extent of contamination in the surface and subsurface soils, the groundwater and the surface water/sediment in the drainage ditches. The sampling plans for Sites 2 and 74 in the Draft RI/FS SAP were designed to screen for the presence of a narrowed range of contaminants. The amount of proposed samples and the locations of these samples are insufficient to fully characterize the lateral and the vertical extent of contamination at Sites 2 and 74. To avoid a potentially time-consuming "phased" approach, the documents should be revised to collect sufficient information to support a Record of Decision.

2. The additional sampling may be based upon the initial sampling and upon knowledge of the groundwater characteristics at each of the sites. Data such as the direction of groundwater flow and the depth to groundwater at Sites 2 and 74 should be obtained early in order to design the groundwater monitoring plans at these sites.

3. The surface drainage patterns at Camp Lejeune should be characterized to provide data regarding the potential impact of contamination in the drainage ditches at Site 2 on the New River and its tributaries. The drainage ditches alongside the railroad tracks at Site 2 empty into Overs Creek. If contaminants are found in the furthest downstream samples at Site 2, then additional sampling in the drainage ditches would be required to determine the potential impact of the contaminants on Overs Creek. It should be determined whether these contaminants could ultimately impact the New River or wildlife habitats and ecosystems.

4. The Draft RI/FS Work Plan, page 2-4, states that in some areas of the base the shallow aquifer is contaminated, particularly in the northern and north-central developed areas as a result of waste disposal practices there. The Draft RI/FS Work Plan should present the relevant information regarding groundwater contamination and surface water contamination at sites on the base which are located

in the vicinity of Sites 2 and 74. The design of the groundwater and surface water monitoring programs for Sites 2 and 74 should incorporate this data. If the groundwater or surface water at Sites 2 and 74 are contaminated by chemicals that were disposed at other sites, then these chemicals should be included in the analytical programs for Sites 2 and 74.

5. At a minimum, the surface and subsurface soil, groundwater and surface water/sediment samples at Sites 2 and 74 should be analyzed for the full Target Compound List/Target Analyte List (TCL/TAL). In addition, the samples collected in the vicinity of the disposal trench at Site 74 should be analyzed for Chemical Surety Materials (CSM) and other chemical agents that may have been handled at Site 69 and are suspected to be buried in the trench at Site 74. The history of the waste handling and disposal practices at these two sites is not well documented in the Draft RI/FS SAP and the Draft RI/FS Work Plan and may not be fully known at this time. Additionally, previous investigations that were conducted at these two sites did not include TCL/TAL analysis at all locations.

6. Relevant background data specific to Sites 2 and 74 should be presented in the Draft RI/FS Work Plan. Examples of this background data include well logs and water level data from the existing monitor wells at Sites 2 and 74, direction of groundwater flow at each site a potentiometric map of each site, a topographic map of each site and maps and information that provide greater detail regarding the locations of areas of concern and proposed sampling locations.

7. A specific method for establishing soil clean-up goals with respect to ground water should be provided. Soil partitioning coefficients should be determined to evaluate soil clean-up goals that are protective of ground water. The methods and sources used to determine these parameters should be provided.

8. Surface water/sediment samples should be collected in the tributary south of the site that discharges to Wallace Creek. Samples should be collected in the headwaters and in the marsh along the creek.

9. A comprehensive discussion of the hydrogeology should be provided for Site 74 and other sites (i.e., thickness of saturated zone, direction of ground water flow in the surficial and Castle Hayne aquifers, estimated hydraulic

properties, etc.) The text states that shallow ground water flows east at an approximate gradient of 0.014 ft/ft. The data used to determine the flow direction and gradient should be provided as well as a potentiometric surface of the surficial aquifer.

SPECIFIC COMMENTS

1. Page 2-13, 4th paragraph - The Draft RI/FS Work Plan should present data obtained from the existing monitor well installations at Site 2. This information is necessary for the design of the groundwater monitoring plan. For example, the direction of groundwater flow and the depth to groundwater is data that can be obtained from water level measurements collected from the five existing monitor wells at the site. This data can be used to estimate groundwater flow direction which would assist in the design of the groundwater monitoring plan at Site 2.

2. Pages 2-13, 2-14 - Previous investigations that were conducted at Site 2 and 74 are referenced throughout the Draft RI/FS Work Plan, but the documentation is not presented in the Draft RI/FS Work Plan. Documentation and sampling results from these studies sufficient to plan the remedial investigation should be provided in the Draft RI/FS Work Plan or as appendices in the report.

3. Page 2-17 - The text states that water supply wells were sampled for pesticides and herbicides, but the results were not reported. The analytical results from these wells should be provided. The water supply wells should be plotted on a figure that shows the proximity of the wells to site 2. The well construction of these and existing shallow wells should be provided.

4. Page 2-22, Section 2.2.6 - The Maximum Contaminant Level (MCL) for lead is a treatment technique with an action level of 15 ug/l. There is not a MCL for lead of 5 ug/l.

5. Page 2-23, Table 2-4 - There are high fluctuations in concentrations of the compared filtered and non-filtered data. Some of the filtered data had higher concentrations than the non-filtered and vice versa. It should also be noted that this data indicates a high percentage of the sodium detected in the non-filtered analysis [25,300 ug/l vs. 4,780 ug/l (filtered)] is undissolved, which is very unusual. It is questionable how useful this data is. It is recommended that these wells be resampled which has been proposed later in the work plan.

Table 2-4 - The MCL for arsenic is 50 ppb. The MCL for barium (2,000 ppb) became effective July 1991. The action level for lead is 15 ppb.

6. Table 2-6 and Table 2-7 - The MCL for methylene chloride is 5 ppb (effective July 1992). The MCL for barium (2,000 ppb) became effective July 1991.

7. Page 2-30, Section 2.3.6 - The North Carolina Water Quality Standard (NCWQS) for iron is 300 ug/l not 30 ug/l.

8. Page 2-31, Table 2-7 - The NCWQS for iron is 300 ug/l. The MCL for barium is final at 2000 ug/l.

9. Page 3-3, Section 3.1.2 - It is stated that the shallow ground water is not used as a potable water source. It should also be stated that the shallow ground water is a Class II-B aquifer which means it is a potential source of potable water. The classification of the aquifer will be of more significance in the remedial process then the present use of the aquifer.

10. Page 3-10, Section 3.2.2 - Human exposure to ground water should be added to the exposure pathways.

11. Page 5-5, Section 5.3.1.3 - It is stated that a minimum of 10% of all soil samples collected will be analyzed for full scan TCL organics and TAL inorganics. With the limited number of soil samples being taken, it is recommended that at a minimum all surface soil samples should be analyzed for full scan TCL organics and TAL inorganics.

12. Page 5-6, Section 5.3.1.4 - All ground water samples for the first round should be analyzed for full scan TCL organics and TAL inorganics. It should be mentioned that filtered sampling data is not acceptable for use in the risk assessment.

13. Page 5-9 - The proposed locations for surface water/sediment samples in the drainage ditch east of the site are appropriate. An additional surface water/sediment sample should be collected west of Holcomb Boulevard in the drainage ditch that flows off site toward the west.

    Additional monitoring wells may be necessary at Site 2 depending on the direction of ground water flow in the surficial aquifer.

14. Page 5-11, Section 5.3.1.7 - At least 2 background samples are needed in each media to draw any conclusions about background concentrations.

15. Page 5-12, Section 5.3.2.1 - It is stated that a minimum of 10% of all soil samples collected will be analyzed for full scan TCL organics and TAL inorganics. With the limited number of soil samples being taken, it is recommended that at a minimum all surface soil samples should be analyzed for full scan TCL organics and TAL inorganics.

16. Page 5-13, Figure 5-4 - The location for the background soil sample is hydraulically downgradient of the source area. A more appropriate location for a background soil sample would be near monitoring well 74GW3.

17. Page 5-14, Section 5.3.2.2 - All ground water samples for the first round should be analyzed for full scan TCL organics and TAL inorganics. It should be mentioned that filtered sampling data is not acceptable for use in the risk assessment.

18. Page 5-15, Figure 5-5 - A monitoring well should be installed between wells 74GW1 and 74GW2, southeast of the stressed vegetation area. If monitoring well 74GW3 cannot be located a new background well should be installed.

19. Page 5-22, Table 5-1:

    a. SW-846 methods are incomplete without the appropriate extraction/preparation methods.

    b. Sources of the methods should be shown in footnotes.

18. Page 5-23, Section 5.4 - Documents for for data validation need to be updated to "National Functional Guidelines for Organic Data Review," USEPA, 1991, and "National Functional Guidelines for Inorganic Data Review," USEPA, 1988.

COMMENTS
DRAFT FIELD SAMPLING AND ANALYSIS PLAN
SITES 2 AND 74

1. Page 3-1, Section 3.1.2 - It is stated that a minimum of 10% of all soil samples collected will be analyzed for full scan TCL organics and TAL inorganics. With the limited number of soil samples being taken, it is recommended that at a minimum all surface soil samples should be analyzed for full scan TCL organics and TAL inorganics.

2. Page 3-7, Table 3-1:

   a. SW-846 methods are incomplete without the appropriate extraction/preparation methods.

   b. Sources of the methods should be shown in footnotes.

3. Page 3-8, 1st paragraph - Additional surface soil samples should be collected on the west, south and east sides of Building 712 at Site 2. The Draft RI/FS SAP proposes that surface soil samples be collected from only the north lawn of Building 712. At a minimum, at least one sample should be collected on the west and south sides of the building, and two samples should be collected from the parking lot on the east side of the building in the area between Building 712 and the closest concrete mixing/wash pad. These areas surrounding Building 712 should be sampled for contamination unless there is conclusive evidence that wastes have not been handled or disposed in these areas.

4. Page 3-8, 2nd paragraph - An additional sample should be obtained for analysis from the proposed soil borings to more effectively bracket the vertical extent of contamination. The Draft RI/FS SAP proposes that only soil samples collected from the surface and groundwater levels of the soil borings around the mixing/wash pads should be submitted for analysis. An additional sample should be collected if the boring is greater than 10 feet deep and the rig geologist either recorded photoionization detector (PID) readings that indicated contamination or saw visible evidence of contamination. If the boring is deeper than 10 feet, a third split spoon sample should be collected regardless of the PID readings or visible evidence of contamination. Significant contamination may not be visible nor are some contaminants detectible by a PID (e.g., inorganic compounds). This third sample is needed to assist in characterization of the extent of contamination in the interval between the surface and the groundwater level.

5. Pages 3-8, 3-9 - All surface and subsurface soil samples, surface water/sediment samples and groundwater samples collected at Site 2 for this investigation should be analyzed for the full TCL/TAL. The waste handling history at the Former Storage Area at Site 2 is relatively unknown, although contaminants such as ethylene, toluene, DDD, DDE, DDT and naphthalene have been detected in Monitor Well 2GW3. However, the waste handling history at Building 712 and the concrete mixing/wash pads is also relatively unknown and has not been well documented in the report. For that reason, it cannot be assumed that pesticides are the only contaminants of concern in these areas. Additionally, previous sampling programs conducted at the concrete mixing/wash pads, Building 712 and the Former Storage Area did not include the complete TCL/TAL.

6. Page 3-9, 2nd paragraph - The number of soil borings that are proposed in the vicinity of the Former Storage Area at Site 2 should be clarified. The text states that seven soil borings are proposed for the vicinity of the Former Storage Area; however, Figure 3-1 shows that nine soil borings are proposed at this location.

7. Page 3-10, Section 3.1.4 - All ground water samples for the first round should be analyzed for full scan TCL organics and TAL inorganics. It should be mentioned that filtered sampling data is not acceptable for use in the risk assessment.

8. Page 3-10, 5th paragraph - The Draft RI/FS SAP proposes that samples be collected from only existing Monitor Wells 2GW1 and 2GW4 to test for contamination resulting from waste handling operations at Building 712 and the mixing/wash pads. There are five existing monitor wells at Site 2, and all five monitor wells should be sampled to provide complete information on current site conditions. Any contaminant plumes likely would have migrated, and previous sample results may not reflect current conditions. Therefore, all five existing monitor wells should be sampled for the full TCL/TAL to assist in characterization of the contamination in the shallow aquifer.

9. Page 3-11, 3rd paragraph - The design and placement of the proposed shallow and deep monitor wells should be based on knowledge of the groundwater characteristics of Site 2. For analysis of groundwater contamination at the Former Storage Area, the Draft RI/FS SAP proposes that samples be collected from existing Monitor Well 2GW3, from three

proposed shallow wells -- each screened at less than 25 feet below land surface (bls) -- and from one proposed deeper well screened at 50 feet bls. Groundwater data from previous investigations, such as the depth to groundwater and the direction of groundwater flow, should be provided for the existing five monitor wells at Site 2 in order to properly justify the proposed downgradient monitor well locations.

10. Pages 3-11, 3-15 through 3-18 - All surface soil, subsurface soil and groundwater samples at Site 74 should be analyzed for the full TCL/TAL list because of the wide range of contaminants that may have been handled at this site. Furthermore, the background history for the Former Pest Control Area and other areas of concern is not well documented in the Draft RI/FS SAP and the Draft RI/FS Work Plan and may not be fully known. Previous sampling programs conducted at the Former Pest Control Area and other areas of concern at Site 74 were designed for a narrowed range of contaminants and did not include the complete TCL/TAL list. Consequently, previous parameter suites may have been too limited to detect all site contaminants. Additionally, the subsurface soil samples from the soil borings around the disposal trench, the soil and waste samples from the test pits and the groundwater samples collected near the trench should be analyzed for chemical surety agents (such as nerve gas and mustard gas). These samples should also be analyzed for any other chemical agents or compounds that are suspected to have been handled at Site 69.

11. Page 3-13, 3rd paragraph - Additional surface water/sediment samples should be collected in the drainage ditches in the vicinity of the two concrete pads at Site 2 since this is the most likely location for wastes to have been released to the ditches. Surface water/sediment sampling is proposed at five sampling locations along the drainage ditch on the southwest side of the railroad tracks. Only one sampling location is proposed in the drainage ditch near each of the two concrete mixing/wash pads. Waste materials from the washing and mixing operations would likely have washed into the drainage ditch at each of these locations. At a minimum, two surface water/sediment samples should be collected in the ditch near each of the pads.

12. Page 3-13, 5th paragraph - Additional surface water/sediment samples should be collected at the drainage ditch on the east side of the railroad tracks where the railroad siding was located at the Former Storage Area. This drainage ditch may have become contaminated by waste handling operations at the Former Storage Area. Only two surface water/sediment sample locations are proposed downgradient of the Former Storage Area. A minimum of two additional surface water/sediment samples should be collected in the ditch near this area.

13. Page 3-16 (also, figure A3-1, draft RI/FS work plan) Additional geophysical surveys should be conducted at Site 74 to assist in locating any other drum or waste disposal areas that may be present at the site. The Draft RI/FS SAP, Figure 3-4, shows a stressed area and an area where surface metal was observed. These two areas are located on the east side of the dirt road directly across from the disposal trench. A geophysical survey should be conducted in these two areas and any other areas at Site 74 where there is visible evidence of disturbed soil, drum fragments or contamination.

    Another geophysical survey should be conducted to locate the Mess Hall Grease Pit. This pit may have been used for disposal of other contaminants besides the mess hall grease. Records indicate a volatile substance may have been used to burn the grease and aerial photographs show evidence of possibly four separate burial trenches. Baker personnel were unable to locate this pit during a site inspection, and a geophysical investigation also failed to locate this pit. However, Figure A3-1 shows that the traverse lines were widely spaced and did not completely cross the reported area of the mess hall grease pit. Another geophysical survey should be conducted using traverse lines that are more closely spaced and that completely cross the reported area.

14. Page 3-17 - The design of the groundwater monitoring plan at Site 74 should be based upon knowledge of groundwater characteristics such as the direction of the groundwater flow and the depth to groundwater at the site. Without knowledge of flow direction, the three proposed monitor wells west of the disposal trench may not be located downgradient of the suspected contaminant source. Currently there are only two existing monitor wells in the vicinity of Site 74 and, therefore, flow direction cannot be estimated. It is suggested that Baker install a temporary monitor well west of the disposal trench, obtain

water levels from the temporary monitor well and both existing monitor wells and calculate the flow direction. The three proposed monitor wells on the west side of the trench can then be installed so that they are located downgradient of the disposal trench. These monitor wells should be located close enough to the trench to intercept any a contaminant plume from the trench. The acquisition of groundwater flow direction data prior to permanent monitor well installation should result in cost and time savings.

15. Page 3-17, Section 3.2.2 - It is stated that a minimum of 10% of all soil samples collected will be analyzed for full scan TCL organics and TAL inorganics. With the limited number of soil samples being taken, it is recommended that at a minimum all surface soil samples should be analyzed for full scan TCL organics and TAL inorganics.

16. Page 3-18, Section 3.2.3 - All ground water samples for the first round should be analyzed for full scan TCL organics and TAL inorganics. It should be mentioned that filtered sampling data is not acceptable for use in the risk assessment.

17. Page 3-18, 4th paragraph - The terminology used for the areas of concern in Site 74 has been presented in a confusing manner. The disposal trench is sometimes referred to as the Grease Pit/Disposal Area; however, the disposal trench and the Mess Hall Grease Pit are two different areas of concern. Additionally, the existing Monitor Wells 74GW1 and 74GW2 are referenced as being located near the Grease Pit/Disposal Area. These wells are actually located on the east side of the dirt road that trends north-south across the site. Monitor Well 74GW1 is located approximately 200 feet northeast of the drum disposal trench and Monitor Well 74GW2 is located approximately 300 feet southeast of the disposal trench. These inconsistencies should be corrected.

18. Page 3-19, paragraph 5 - The type of water that will be used for decontamination procedures and for QA/QC samples should be clarified. The Draft RI/FS SAP describes this water as being analyte-free. The water used for decontamination procedures and for QA/QC samples should be organic-free, deionized water.

19. Pages 5-4, 5-5 - The text describes the field methods for excavation of the test pits with a backhoe, but the handling of the spoil materials is unacceptable according to EPA protocol. On page 5-4, the Draft RI/FS SAP states that upon completion the test pits will be immediately backfilled. The spoil material excavated from the pits should not be disposed or put back into the pits until the material has been tested. The material that is taken out of the pits should be treated as investigation derived waste. The material can be temporarily stockpiled on plastic sheeting and should be covered to keep water out of the material until such time as the material has been characterized for contamination. The spoil material should be analyzed for the full TAL/TCL and for chemical agents or compounds that are suspected to have been handled at Site 69.

20. Page 5-6, paragraph 4 - The Draft RI/FS SAP, page 5-6, states that polyvinyl chloride (PVC) rather than stainless steel will be selected for monitor well construction. The justifications for the use of PVC that are presented in the Draft RI/FS SAP, on page A-5-1 should be reviewed by the EPA Region IV Environmental Services Division in Athens, Georgia. Part of the presented justification rests on the assumption that only two contaminants occur in the groundwater at Site 2 and that there are no contaminants of concern in the groundwater at Site 74. These assumptions cannot be substantiated at this time because the nature and extent of groundwater contamination at the two sites cannot be accurately predicted at this phase of the sampling.

21. Page 5-6, paragraph 5 - The Draft RI/FS SAP, page 5-6, states that the screened interval in the monitor wells will be selected to span the water table surface; however, the screen length is not specified.

22. Page 5-6, paragraph 7 -The Draft RI/FS SAP states that a sodium bentonite seal placed above the sand pack for the proposed monitor wells should be at least 1 foot thick. The ECB SOPQAM states that at a minimum, the bentonite seal above the sand pack should be at least 2 feet thick. The Draft RI/FS SAP further states that the bentonite seal will be allowed to hydrate at least 8 hours before further completion of the well. According to the ECB SOPQAM, the bentonite seal should be allowed to hydrate a minimum of eight hours or the manufacturer's recommended hydration time, whichever is longer.

23. Page 5-6, paragraph 8 - The consistency of the cement-bentonite grout as described in the Draft RI/FS SAP is incorrect. Sand should not be added to the grout mix. The ECB SOPQAM states that the grout mix should consist of 6.5 to 7 gallons of water per 94-pound bag of Portland cement (Type I) with 5 to 10 percent bentonite added to the cement grout for elasticity. The ECB SOPQAM states that the grout should be allowed to set for a minimum of 24 hours before the surface pad and protective casing are installed.

24. Page 5-24, paragraph 5 - The Draft RI/FS SAP, page 5-24, states that all newly installed monitor wells will be surveyed. The existing monitor wells at Sites 2 and 74 should also be surveyed if there is no previous survey data for these wells. The top of the well casing where water level measurements will be taken and the ground surface elevation should be surveyed. The survey point at the top of the well casing should be marked.

25. Page 5-27, paragraphs 3 and 4 - The cuttings from the soil borings should be containerized in 55-gallon drums, regardless of PID or other instrument readings. These cuttings should not be placed back in the borehole, spread on the ground or stockpiled. Visual evidence of contamination or instrument readings with a PID would be inadequate to indicate conclusively whether contaminants are present in the material. The drums should be clean, in good condition prior to sampling activities and properly labeled regarding the contents of the drums. The cuttings should be analyzed for the full TCL/TAL.

26. Page 5-27, paragraph 5 - The Draft RI/FS SAP states that development and purge water from monitor well sampling and installation activities will be containerized in tankers or large (250-gallon) containers. However, the Draft RI/FS SAP states that the purge and development water from background wells or wells located upgradient from source areas will not be placed in containers. All water removed from any well should be containerized, regardless of the location of the well. The tanks or drums should be properly labeled with relevant information regarding the contents of the container. The tanks or drums should be clean and in good condition prior to the sampling activities.

27. Page 5-6, paragraph 6 - The Draft RI/FS SAP incorrectly describes the procedures for installing the sand pack. The text states that the annular space above the screen will be

backfilled with well-graded, medium to course sand which will be placed from the bottom of the boring to approximately 2 feet above the top of the screened interval. The Draft RI/FS SAP states further that a lesser distance above the top of the screened interval may be packed with sand if the well is very shallow to allow for placement of the sealing materials.

A well-graded sand is not suitable for use as a filter material in a monitor well. A well-graded sand would have varying particle sizes that would fill the spaces between the larger particles. This would reduce the void spaces in the sand and would thereby increase the resistance to flow into the well. The filter pack material should consist of well-rounded to rounded, hard, insoluble particles of siliceous composition. The particle sizes of the filter pack material should be selected based upon a sieve analysis conducted on the aquifer materials and/or the formation to be monitored. The ECB SOPQAM describes the general steps in designing a filter pack.

The well screen and cap should be placed on approximately 6 inches of sand at the bottom of the borehole to provide a firm footing for the well screen. A minimum of 2 feet of filter pack should be placed above the top of the screen. The Draft RI/FS SAP states on page 5-6 that a #10 slot (0.010 inch) screen will be installed. The size of the well screen slot openings should be selected based upon the slot size that will retain 90 percent or more of the filter pack material.

28. Page 5-8, paragraph 5 - The Draft RI/FS SAP states that all monitor wells will be developed following installation; however, a new monitor well should not be developed for at least 24 hours after the surface pad and outer protective casing is installed. This will allow sufficient time for the well materials to set. The ECB SOPQAM states further that the new monitor well should not be developed until the column of water in the well is free of visible sediment and the pH, temperature and specific conductivity has stabilized. Furthermore, continuous flushing for several days may be necessary to complete the well development.

29. Page 6-7 - The chain-of-custody form that is presented in the Draft RI/FS SAP does not include spaces for remarks regarding the type of analysis (sample method) that will be conducted for each sample. Spaces should be provided for this and all other necessary sample information.

30. Page 6-6, Table 6-1:

a. SW-846 methods are incomplete without the appropriate extraction/preparation methods.

b. Sources of the methods should be shown in footnotes.