

TA-19

MEMORANDUM

**TO:** File

**FROM:** Julie Wanslow, DOE OB

**DATE:** June 18, 1998

**SUBJECT:** NMED DOE Oversight Bureau Review of RFI Report for PRSs 19-001, 19-003, and C-19-001, Los Alamos National Laboratory, September 1997

**General Comments**

1. Some of the references that were provided in the RFI Work Plan to document the historic information were not provided in the RFI Report. For example, "LASL 1947" and "Montoya 1974" were not provided.

DOE OB recommends that the RFI report include the correct citations for the archival history documentation.

2. All of the site history information that was provided in the RFI Work Plan was not provided in the RFI Report. For example, the RFI Work Plan indicated that the site was established in 1944 for the purpose of testing of electrical equipment but the RFI Report does not mention this.

DOE OB recommends that all the site history information that was provided in the RFI Work Plan be provided in the RFI Report.

3. The site history information did not include sufficient detail. If complete site history cannot be obtained, the SAP or the RFI report should explicitly state this and any future conceptual models should address any uncertainties associated with incomplete site history. For example, a combination of biased sampling and grid sampling could be used to address uncertainties associated with not knowing the exact locations of the sources of contamination. Also, a broader suite of analytical methods could be used to address uncertainties associated with not knowing exactly what chemicals and radionuclides were used at the site.

DOE OB recommends that the site history be revised to include a complete description of the nature and location of all potential sources of contamination. This site history information should include the following, if this information can be obtained:



- a. A complete description of the types of facility processes or activities that were conducted inside and outside of each building or structure that could have contaminated the site.

It is not clear what kinds of processes or activities were conducted during the use and maintenance of the batteries, scintillation studies, the testing of electrical equipment, and the irradiation of monkeys and other items.

It is not clear if PCB-contaminated oil was used in equipment (e.g., hydraulic equipment, electrical equipment, vacuum pumps, X-ray machines) at the site. It is not clear if herbicides and pesticides were used at the site to minimize weeds and pests. It is not clear if diesel fuel or fuel oil was used at the site. If generators were used at the site, it is not clear if they were powered with some kind of fuel or oil.

- b. A complete description of the kinds of equipment that were used inside or outside of each building or structure that could have contaminated the site. For example, it is not clear if lead-lined sinks and pipes, vacuum pumps, X-ray machines were used at the site. It is not clear if generators were used at the site (e.g., to recharge the batteries).
- c. A complete description of the kind of chemicals were used inside or outside the laboratory building or other structures (e.g., solvents, acids, diesel fuel, fuel oil, pesticides, etc.).
- d. A complete description of the cleaning operations (e.g., use of solvents for cleaning electrical equipment) and maintenance activities (e.g., changing vacuum pump oil, use of pesticides) that were performed at the site (inside and outside each building).
- e. A complete description of the waste management practices and storage locations of chemical materials and wastes including biological wastes (i.e., animal tissue and carcasses).
- f. A complete description of the type and amounts of radioactive waste that were generated by the processes and activities conducted at the site. The site history

should indicate the storage and disposal locations for these wastes.

4. The presence of dibenzofuran in one or more samples at each of the three PRSs may indicate that PCB-containing oil, herbicides, or pesticides were managed at the site. Dioxins/furans are a potential contaminant of PCBs and are found in some pesticides and herbicides. Analyses were not performed for PCBs, pesticides, herbicides, or dioxins/furans.

DOE OB recommends that future sampling include analyses for PCBs, pesticides, herbicides, and dioxins/furans.

5. The sampling plan in the RFI Work Plan indicates that the radiological field screening would be used to identify locations for the gamma spectroscopy samples. However, the radiological field screening did not effectively identify radioactive contamination at this site. The field screening did not indicate any radiation above background. However, based on the laboratory analyses, several samples had elevated levels of cesium-137 (one sample exceeded the SAL for cesium-137).

DOE OB recommends that future sampling not use radiological field screening to guide the sampling for gamma-emitting radionuclides or to determine whether to collect a sample for alpha-emitting radionuclides unless site-specific field screening results show a consistent correlation with the offsite laboratory results. In addition, the site-specific field screening results should indicate radioactivity above background levels at those sample locations where the analytical laboratory results are above a SAL or above radiological background UTLs. The RFI Report should demonstrate correlation between the data by providing a table presenting the field screening and analytical laboratory data for each sample location.

6. The RFI Report did not include a data summary that included all nondeductible concentrations, detection limits, and all analyses performed as part of the approved work plan. A data summary table would enable the RCRA Permit Management Program (RPMP) of the Hazardous and Radioactive Materials Bureau, New Mexico Environment Department to evaluate the adequacy of the data. DOE OB recommends the revised report include a data summary table as described above.

7. The analytical results for the QC samples were not provided.

DOE OB recommends that the revised report include a QC data summary table, including at least the following:

- sample numbers, an environmental sample analytical results, detection limits, qualifiers for the environmental samples that were in each QC batch, and
- All the QC results associated with each batch (e.g., method blanks, internal standards, matrix spikes, matrix spike duplicates, performance assessment samples, surrogate recoveries).

This would enable the RPMP to evaluate the adequacy of the data and would eliminate a series of information requests on the subject.

DOE OB recommends the revised report include a QC data summary table as described above.

8. The use of the screening action levels and the screening assessment were not consistent with RPMP policy on screening action levels and screening assessment.

DOE OB recommends that the report be revised to be consistent with RPMP's new policy: the "Use of Human Health Risk-Based Screening Action Levels and Screening-Level Assessment."

9. It is not clear if grab or composite samples were collected during the RFI.

DOE OB recommends that the report specify for each sample whether it was a composite or grab sample.

10. The sampling tools that were used to collect the VOC samples were not described. Sample tools that minimize the volatilization of VOCs should have been selected.

DOE OB recommends that the report describe the sampling tools that were used to collect the VOC samples. In addition, DOE OB recommends that the report indicate how the sampling tools minimize the volatilization of VOCs.

11. Currently, LANL collects a soil or sludge sample for volatile organic analyses by placing the material into a

container and filling it to eliminate head space. This method allows VOCs to be lost and degraded during transit to the laboratory. For solid samples that originally have low concentrations of VOCs, use of this method may result in VOC concentrations that are below SALs or below detection limits. The RFI report indicates that low concentrations of VOCs were detected in the soil at these sites. There is no assurance that these concentrations are representative of the VOC concentrations that are actually at the site.

The DOE OB recommends that SW-846 Method 5000 be used to prepare any future soil or sludge samples collected at these sites. This will assure that representative samples are collected for volatile analyses. This method was designed by the EPA to prevent volatilization and degradation of VOCs after the sample is placed in the container.

**Specific Comments:**

1. Page 1, Section 1.1, General Site History

*"PRS C-19-001 is associated with possibly contaminated soil beneath the former laboratory, battery building, guard house, latrine, retreat building, and shelter building."*

The report does not provide a clear description of the latrine and does not indicate its location. The location of the latrine is not provided on Figure 5.1-1 (p. 27) or Figure 5.2.4.1-1 (p. 80) even though the purpose of the RFI was to determine if there is any contamination below the latrine and other structures. It is not clear if the latrine was a part of the guard building.

DOE OB recommends that the report provide a clear description of the latrine and indicate its location on the figures.

2. Page 1, Section 1.1, General Site History

*"In 1947 the site consisted of a storage hutment and a laboratory building, which was used for a variety of experiments, some of which used radioactive sources and chemicals."*

It is unclear whether PRS C-19-001 includes the possibly contaminated soil beneath the former storage hutment. It seems likely that the storage hutment was used to store radioactive sources and chemicals. However, it is unclear what other activities were conducted in the hutment. LANL did not collect samples below or around the former storage hutment. The location of the storage hutment is not provided on Figure 5.1-1 nor on Figure 5.2.4.1-1.

DOE OB recommends that the report provide a description of the site history of the hutment and indicate its location on the figures. Additional sampling may be required to show that there was not a release related to the hutment.

3. Page 1, Section 1.1, General Site History

*"The retreat building was used by East Gate Laboratory personnel for breaks and meals."*

The report did not explain what activities occurred in the retreat building that could have resulted in a concentration of cesium-137 exceeding the SAL in the soil below the septic tank outfall. In addition, F-listed solvent constituents were detected below the septic tank and the inlet and outlet pipes that were connected to the retreat building. The documented use of the building is not consistent with contaminants that were found.

DOE OB recommends that LANL provide documented site history that explains what activities were conducted in the retreat building that could have resulted in contamination at the site and what chemicals and radioactive materials were managed in the building.

4. Page 2, Section 1.1, General Site History

*"...actinides (were) used in microgram quantities for spontaneous fission experiments."*

The specific actinides were not specified. It is not clear if the actinides included plutonium or uranium. It is not clear where the actinides were used or stored.

DOE OB recommends that the report specify exactly which actinides were used and identify where they were used or stored.

5. Page 2, Section 1.1, General Site History

This section does not mention whether alpha- or beta-emitting radioactive materials were used or managed at the site. Analyses were not performed for isotopic plutonium, isotopic uranium, strontium-90, or tritium.

DOE OB recommends that the report specify whether alpha- or beta-emitting radioactive material was used or managed at the site. If so, future sampling should include isotopic analyses for these contaminants.

6. Page 2, Section 1.1, General Site History

*"...a 300-Curie cobalt-60 source (was) used for irradiation at the site as late as 1961."*

The report does not clarify how irradiation experiments with the sources could have impacted the site. It is not clear where the sources were used and stored. In addition, it is not clear where the irradiated items were stored or disposed of. Outdoor storage of irradiated items can result in contamination of the soil.

DOE OB recommends that the report clarify how irradiation experiments with the sources could have impacted the site. In addition, DOE OB recommends that the report describe how the sources were used and where the irradiated items were stored or disposed of.

7. Page 2, Section 1.1, General Site History

*"Sanitary waste may have been discharged from the guard house, retreat building, the septic system, and the drainline from the laboratory."*

The report does not clearly describe how the sanitary waste was discharged from the guard house. The guard house was not depicted on Figure 5.1-1 (p. 27) and Figure 5.2.4.1-1 (p. 80). It is unclear whether there was a septic tank, drain line or outfall area associated with the guard house.

DOE OB recommends that the report describe how the sanitary waste was discharged from the guard house and describe whether any septic tank, drain line, or outfall area was associated with the guard house. If these structures existed, DOE OB recommends that their locations be indicated on the figures and future sampling be conducted to determine if a release has occurred. Nature and extent of contamination associated with these structures should be determined if a release has occurred.

8. Page 6, Section 1.3.3, Structure Removal and Subsurface Sampling

The report states that the septic tank at PRS 19-001 was uncovered during July 1997 and 300 gallons of water were pumped out of the tank into 55-gallon drums. The RFI Work Plan indicates that samples of sludge would be collected from the septic tank and analyzed.

- a. The report does not indicate whether any sludge was present in the septic tank.

DOE OB recommends that the report indicate whether any sludge was present in the septic tank and the amount of sludge, if any.

- b. It is unclear if hazardous or mixed wastes were present in the septic tank at the time it was removed. It is not clear if these wastes were disposed of as hazardous or mixed wastes. It is not clear if the septic tank was decontaminated and if so, it is not clear if the decontamination wastes and the septic tank itself were disposed of as hazardous or mixed wastes.

Certain F-listed solvent constituents (VOCs) were detected in soil samples that were collected below the septic tank and below the inlet and outlet drain line.

Also, manganese-54 was detected above its background screening value in one soil sample collected below the septic tank and cesium-137 was detected above its SAL in one soil sample collected in the outfall area. This suggests that the septic tank handled hazardous or mixed waste.

DOE OB recommends that the report provide analytical results for the water, sludge (if any) that were removed from the septic tank and any decontamination wastes, if any. In addition, DOE OB recommends that the report specify if these wastes were classified as hazardous or mixed waste for disposal purposes.

- c. The report did not provide a physical description of the septic tank, such as the dimensions, capacity, design, construction, and the integrity at the time it was uncovered.

DOE OB recommends that the report provide a physical description of the septic tank, including the dimensions, capacity, design, construction, and the integrity at the time it was uncovered.

- d. The report states that two samples were collected below the former location of the septic tank. However, the location of these samples in relation to the bottom of the septic tank is not provided.

DOE OB recommends that the report specify the location of these samples in relation to the bottom of the septic tank (i.e., how many inches or feet below the bottom of the septic tank).

9. Page 15, Section 3.1.2, Data Validation

*"Laboratory contaminants are sometimes found in method blanks used by the analytical laboratories during organic analyses. When this occurs, there is a potential for samples to also be contaminated. To account for method blank contamination in samples, the "ten times" and "five times" rules are applied as described in the EPA document "Contract Laboratory Program National Functional Guidelines for Organic Data Review (EPA 1994, 1205). The "10 times" rule states that when a common laboratory contaminant is found in the method blank, any values of that analyte detected in the samples at levels less than 10 times the method blank concentration should be considered nondetected and a U qualifier should be added to the data. ...The "5 times" rule states that when an analyte that is not a common laboratory contaminant is found in the method blank, any values of that analyte detected in the samples at levels less than 5 times the method blank concentration should be considered nondetected and a U qualifier should be added to the data."*

Acetone was found in the method blank associated with all the soil samples submitted for volatile organic analysis and was also found in every soil sample. LANL considered any value of acetone at levels less than 10 times the method blank concentration to be nondetected and added a U qualifier to the data. The data was qualified as nondetected even though some of the soil samples had levels of acetone greater than 10 times the method blank concentration which indicates that acetone is present in the soil at the sites. (Acetone was considered detected in six soil samples above 10 times the blank level in the following samples: three out of 10 samples from PRS 19-001, two out of two samples from PRS 19-003, and one out of six samples from PRS C-19-001.) Site history indicates that solvents were used at this site and LANL commonly used acetone as a solvent.

DOE OB believes that qualifying the acetone data as undetected is not appropriate because it is unclear if the

acetone was the result of laboratory contamination or if the it was the result of contamination at the PRSs. Therefore, the data cannot be used to determine whether the acetone is present or absent at the sample locations.

DOE OB recommends that the U-qualified acetone data be considered unusable and additional samples be collected to determine the presence or absence of acetone.

Note: Methylene chloride, another common laboratory contaminant, was detected in samples collected from the sites. Methylene chloride was detected in eight out of ten samples from PRS 19-001, two out of two samples from PRS 19-003, and one out of six samples from PRS C-19-001. However, these values were considered detected because methylene chloride was not detected in the method blank.

10. Page 16, Section 3.2.1, Inorganic Chemicals

*"These background screening values are derived from LANL-wide soil, sediment, and/or tuff background data, and details on the calculation of these values are presented in Longmire et al. (1995, 1266)."*

The use of tolerance intervals is conditional upon review of the background data set and approval of the procedure by RPMP. The Longmire report has been recently revised and is being reviewed by RPMP. The revised report is titled "Inorganic and Radionuclide Background Data for Soils, Canyons Sediments and Bandelier Tuff at Los Alamos National Laboratory" and was written by Rytty, R.T., P.A. Longmire, D.E. Broxton, S.L. Reneau, and E.V. McDonald. After RPMP approval, the UTLs in the revised report should be used.

DOE OB recommends that LANL revise the RFI Report, if necessary, to include the new UTLs after the RPMP has approved the revised report.

11. Pages 17-18, Section 3.2.2, Radionuclides

*"The radionuclide background data used in this RFI Report are from the following sources:*

- *soil, sediment, and/or tuff samples collected throughout Los Alamos County for which chemical analyses were performed for certain naturally occurring radioactive chemicals (Longmire et al. 1995 1142; Longmire et al. 1995, 1266).*
- *background concentrations of radioactive chemicals associated with global fallout from atmospheric nuclear testing (plutonium, cesium, strontium, and tritium) reported in LANL Environmental Surveillance reports (Purtymun et al. 1987, 0211; ESG 1988, 0408, ESG 1989, 0308, Environmental Protection Group 1990, 0497; Environmental Protection Group 1992, 0740).*

*Comparisons between site data and background data are initially performed by comparing each observed concentration datum with a radionuclide-specific background screening value that is either the UTL or the maximum reported activity....Certain radionuclides in certain media have no LANL-wide background data. For these exceptions, PRS sample-specific minimum detectable activities are used as nominal background screening values. In this report, radionuclides that lack background data include americium-241, plutonium-238, plutonium-239/240, tritium, uranium-234, uranium-235, and uranium 238 that were detected but do not have a background screening value."*

- a. RPMP has not approved the documents that were used for the basis of the background screening values. RPMP is currently reviewing a draft LANL document that includes proposed UTLs for many common isotopes, including americium-241, plutonium-238, plutonium-239/240, tritium, uranium-234, uranium-235, and uranium 238. This document is titled "Inorganic and Radionuclide Background Data for Soils, Canyons Sediments and Bandelier Tuff at Los Alamos National Laboratory" and was written by Ryti, R.T., P.A. Longmire, D.E. Broxton, S.L. Reneau, and E.V. McDonald.

DOE OB recommends that after RPMP approval, the revised RFI Report use the UTLs (in the above mentioned Ryti et al. document) as the background screening values.

- b. This section states that PRS sample-specific minimum detectable activities were used as nominal background screening values for those radionuclides that lack background data including americium-241, plutonium-238, plutonium-239/240, tritium, uranium-234, uranium-235, and uranium 238. It further states that these isotopes were detected but did not have a background screening value.

If these isotopes were detected, it is not clear why their concentrations were not provided in the report nor in the data summary tables.

It is not clear what is meant by minimum detectable activity. It is not clear if minimum detectable activity means any concentration above the calculated MDA (greater than 3 times the analytical uncertainty) or if it means the concentration that was reported by the laboratory.

DOE OB recommends that the report provide all the radiochemical data including the analytical results for americium-241, plutonium-238, plutonium-239/240, tritium, uranium-234, uranium-235, and uranium 238. In addition, DOE OB recommends that report clearly define "minimum detectable activity" and describe its relation to the calculated MDA, if any.

12. Page 23 & 24, Sections 4.2.1 & 4.2.2, Volatile Organic Compounds and Semivolatile Organic Compounds and Page B-2, Table B-1, Summary Table of Quality Control Results for TA-19

- a. The organic qualifiers described in this section and in Table A-1 are not consistent with the qualifiers provided in the Summary Table B-1. For example, all analytes associated with Sample Request Number 3385R, Sample ID 0119-97-0061 should have been qualified with an "R" because the surrogate had 0% recovery. Also, all the sample results that should have been qualified with a J- or a J+ as discussed in Sections 4.2.1 & 4.2.2 and Table B-1 were not qualified with a J- or a J+ in Table A-1 nor in the appropriate Tables in Section 5 (e.g., Table 5.1.7.1-1).

DOE OB recommends that the report be revised to clearly indicate the appropriate qualifiers in the tables (e.g., Table A-1, the Tables in Section 5, etc.).

- b. Numerous organic and inorganic sample results were biased low due to matrix interferences.

When so much of the data is qualified as biased low, conclusions cannot be made regarding the absence of contamination or the extent of contamination at a site.

DOE OB recommends that future sampling plans for these PRSs provide details that specify how the matrix interference problems will be reduced or eliminated for samples collected for VOC, SVOC, and metal analyses. For example, additional extraction and clean up techniques could be used to reduce certain interferences.

13. Pages 27 and 80, Figures 5.1-1 and 5.2.4.1-1

Figure 5.1-1 did not depict all of the buildings associated with PRS C-19-001. Figure 5.2.4.1-1 did not depict all of the buildings or identify the names of the buildings associated with PRS C-19-001.

DOE OB recommends that Figure 5.1-1 be revised to depict all of the buildings associated with PRS C-19-001 and Figure 5.2.4.1-1 be revised to depict all of the buildings and the building names associated with PRS C-19-001.

14. Page 29, Section 5.1.4, Field Investigation of Aggregate 19-A and Page 78, Section 5.2.4, Field Investigation

The extent of contamination was not defined for PRSs 19-001, 19-003, and C-19-001. The horizontal and vertical extent of contamination must be defined before a risk-based screening assessment is conducted. According to RPMP policy, the extent of contamination will be considered determined once concentrations of inorganic and organic constituents have been defined relative to background upper tolerance limits (UTLs) and practical quantitation limits, respectively. LANL can petition RPMP to waive this requirement by demonstrating the protection of human health and the environment. According to RPMP, they will consider, at least, the following factors when evaluating a waiver:

- contaminant concentration gradient  
contaminant migration potential (geology, hydrogeology,  
topography, etc.),
- site history,
- adequate number and location of sampling,
- contaminant characteristics which influence transport,
- detection limits,
- media evaluated,
- type of PRS and source term, and
- PRS integrity.

DOE OB recommends that LANL either obtain an "extent of contamination" waiver from RPMP or collect additional samples to define the horizontal and vertical extent of contamination at these three PRSs and in their associated drainages.

Note: As discussed in Comment #17 below, future investigations at PRS 19-003 should include PRS 19-002 (i.e., they should be investigated as one aggregate).

15. Page 34, Section 5.1.4.2, Deviations and Page 81, Section 5.2.4.2, Deviations

There was one and possibly two major deviations between the RFI Report and the RFI Work Plan. These deviations were not approved by RPMP.

- Because the site survey did not reveal the location of all buried structures (i.e., the septic system associated with the guard house), a geophysical survey should have been conducted.
- The RFI Work Plan stated that one sludge sample would be collected from the retreat building septic tank, but the RFI Report did not indicate that the sample had been collected and did not provide any

analytical results for the sludge (see Specific Comment #8).

DOE OB recommends that the revised RFI report include a description of the geophysical survey that was performed to reveal the location of the septic system associated with the guard house. In addition, DOE OB recommends that the revised report provide the analytical results for the sludge that was collected from the retreat building septic tank (see Specific Comment #8).

16. Pages 38 & 41, Figure 5.1.5-1, Inorganics and radionuclides above background screening values at PRS 19-001 and Figure 5.1.5-2, Inorganics and radionuclides above background screening values at PRS 19-003

These figures do not include all the contaminants that were identified at these PRSs (i.e., VOCs and SVOCs).

DOE OB recommends that these figure be revised to include all contaminants that have been identified at these PRSs (i.e., organics).

17. Page 47, Section 5.1.6.3, Evaluation of Radionuclides at PRS 19-003

*"When MDAs are not reported, a value of three times the measurement uncertainty (3 sigma or three standard deviations) is used to calculate a sample-specific MDA, which is then employed in the same manner as a detection limit."*

It would be appropriate to use a calculated MDA as a detection limit if the laboratory provided QC data that showed that the samples were always "in control". However, if the laboratory did not provide the supporting QC data, then the validity of using the calculated MDA as a detection limit cannot be demonstrated.

DOE OB recommends that the revised report demonstrate the validity of using the calculated MDA as a detection limit by providing the supporting QC data that shows that the samples were "in control".

18. Page 71, Section 5.1.9.2, Human Health Risk Assessment for PRS 19-003 Mesa Slope

*"As can be seen on Figure 5.1.4.1-1, the outfall area of 19-003 is contained within the battery disposal area identified for PRS 19-002. A VCA was conducted for PRS 19-002 in 1995 which involved removal of battery debris. Soil was not removed at that time, as nothing was detected greater than the SALs in use at that time...However, based on the results of the current samples in the 19-003 outfall (0119-97-0066 and 0119-97-0067) which are located in the battery debris area, it appears that the extent of contamination may not have been adequately defined for 19-002..."*

PRS 19-002 appears to have received contamination from PRS 19-003 (see comment #19 below). However, the RFI report does not provide a complete description of PRS 19-002 and the VCA that was conducted. In addition, the report provides the information regarding PRS 19-002 in the wrong section (i.e., it is described in Section 5.1.9.2 (Human Health Risk Assessment for PRS 19-003 Mesa Slope) instead of in Section 5.1.3 (Previous Investigations). Also, the report did not label PRS 19-002 on any of the figures.

DOE OB recommends that LANL revise Section 5.1.3 to include a complete description of PRS 19-002 and the VCA that was conducted, including the site history, the analytical methods used, the analytical results that were obtained, the number of samples that were collected, the sample depth intervals, sample type, and the sample locations. DOE OB recommends that this information be presented in a table format. Also, all the figures should be revised to include the name (i.e., Building Debris and Battery Disposal Area) and number of PRS 19-002.

Note: The RFI Work Plan identifies PRS 19-002 as a surface disposal area which includes building debris and battery debris. The RFI Report should specify that PRS 19-002 includes building debris and should provide a detailed description of the building debris (e.g., wood, concrete, asbestos-containing materials, lead-lined sinks, equipment, transformers, ballasts, mercury switches, etc.).

19. Page 71, Section 5.1.9.2, Human Health Risk Assessment for PRS 19-003 Mesa Slope

*"As such, soil contamination relating to the battery disposal area of PRS 19-002 will be revisited and will include the outfall area previously identified as part of PRS 19-003 since the outfall COPCs are associated with batteries and not the drain line."*

DOE OB does not agree that the contaminants found within PRS 19-002 (the battery disposal area) are associated only with batteries and not PRS 19-003 (the drain line). Based on the analytical results of the two samples that were collected from PRS 19-002 during the RFI for PRS 19-003, it appears as though F-listed solvent constituents have been transported from PRS 19-003 onto PRS 19-002.

DOE OB recommends that the report be revised to indicate that contaminants associated with PRS 19-003 were found within PRS 19-002 and that any future investigation of PRS 19-003 will include the battery disposal area (PRS 19-002) (i.e., they will be investigated as an aggregate).

20. Page 78, Section 5.2.4, Field Investigation

The sampling numbers and locations were not sufficient to determine the presence or absence of contamination at PRS C-19-001. LANL did not collect and analyze samples below and around any of the former buildings and did not sample all the drainages that potentially received contaminated run off from the PRS (see Figure 5.2.4.1-1 on page 80).

DOE OB recommends that future sampling include collection and analyses of samples below and around any of the former buildings and all the drainages that potentially received contaminated run off associated with the buildings.

21. Page 83, Figure 5.2.5-1, Inorganics above background screening values and detected organics at PRS 19-001.

There is a typographical error in the title of the Figure and in the Table of Contents: PRS 19-001 should be PRS C-19-001.

DOE OB recommends that the error be corrected.

22. Pages A-1 through A-10, Tables A-1 through A-3

It is not clear if "PRS 19-001" is the same as "PRS 19-001(c)". The RFI Report states that the PRS is 19-001 but

Memorandum to File  
DOE OB Comments on September 1997 RFI Report  
for PRSs 19-001, 19-003, C-19-001  
June 18, 1998

Page 19

the data summary table (Table A-1) presents data for PRS 19-001(c).

DOE OB recommends that the revised report clarify if PRS 19-001 is actually PRS 19-001(c). If so, the PRS number should be corrected throughout the report.

cc: Steve Yanicak, DOE OB, LANL POC  
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