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ENCLOSURE



**National Nuclear Security Administration**  
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Date: June 20, 2008  
 Refer To: EP2008-0305

James P. Bearzi, Bureau Chief  
 Hazardous Waste Bureau  
 New Mexico Environment Department  
 2905 Rodeo Park Drive East, Building 1  
 Santa Fe, NM 87505-6303



**Subject: Submittal of the Response to the Notice of Disapproval for the Delta Prime Site Aggregate Area Investigation Report, Revision 1**

Dear Mr. Bearzi:

Enclosed please find two hard copies with electronic files of the response to the notice of disapproval for the Delta Prime Site Aggregate Area Investigation Report, Revision 1.

If you have any questions, please contact Mark Thacker at (505) 665-5342 (mthacker@lanl.gov) or Woody Woodworth at (505) 665-5820 (lwoodworth@doeal.gov).

Sincerely,

Susan G. Stiger, Associate Director  
 Environmental Programs  
 Los Alamos National Laboratory

Sincerely,

David R. Gregory, Project Director  
 Environmental Operations  
 Los Alamos Site Office



SS/DG/AC/MT:sm

Enclosure: 1) Two hard copies with electronic files – Response to the Notice of Disapproval for the Delta Prime Site Aggregate Area Investigation Report, Revision 1 (EP2008-0305)

Cy: (w/enc.)

Mark Thacker, EP-TA-21, MS C349  
RPF, MS M707 (with two CDs)  
Public Reading Room, MS M992

Cy: (Letter and CD only)

Laurie King, EPA Region 6, Dallas, TX  
Steve Yanicak, NMED-OB, White Rock, NM  
Woody Woodworth, DOE-LASO, MS A316  
Peggy Reneau, WES-DO, MS M992  
EP-TA-21 File, MS C349

Cy: (w/o enc.)

Tom Skibitski, NMED-OB, Santa Fe, NM  
Alison Bennett, DOE-LASO (date-stamped letter emailed)  
Susan G. Stiger, ADEP, MS M991  
Alison M. Dorries, WES-DO, MS M992  
Allan Chaloupka, EP-TA-21, MS C349  
IRM-RMMSO, MS A150

**Response to the "Notice of Disapproval for the Investigation Report for the  
Delta Prime Site Aggregate Area at Technical Area 21, Revision 1,  
Los Alamos National Laboratory EPA ID No: NM0890010515, HWB-LANL-08-008,"  
Dated May 23, 2008**

**INTRODUCTION**

To facilitate review of this response, the New Mexico Environment Department's (NMED's) comments are included verbatim. Los Alamos National Laboratory's (LANL's or the Laboratory's) responses follow each NMED comment. This response contains data on radioactive materials, including source, special nuclear, and byproduct material. Information on radioactive materials and radionuclides, including the results of sampling and analysis of radioactive constituents, is voluntarily provided to NMED in accordance with U.S. Department of Energy (DOE) policy.

**SPECIFIC COMMENTS**

**NMED Comment**

**1. Section 8.1, Recommendations, Investigation Sites, page 58**

**1a. Permittees' Statement:** *"The results of investigation activities conducted at AOC 21 002(b), SWMUs 21-009, and 21-013(c), in accordance with the approved work plan, revealed that limited additional sampling is necessary to determine extent of contamination. A letter work plan outlining the additional sampling needed will be submitted to NMED."*

*The Permittees must provide a proposed schedule for submittal of the Phase II Work Plan with the response to this NOD.*

**LANL Response**

1a. Upon NMED's approval of the comment responses and revised report, the Laboratory will prepare the Phase II investigation work plan (IWP) that will include Area of Concern (AOC) 21-002(b) and Solid Waste Management Units (SWMUs) 21-009 and 21-013(c). The Phase II IWP will be submitted to NMED on September 30, 2008.

**NMED Comment**

**1b. Permittees' Statement:** *"It is recommended that a PCB remediation under TSCA and confirmatory sampling be conducted at Consolidated Unit 21-003-99 and 21-024(c). A corrective action plan will be submitted to EPA and NMED."*

*Polychlorinated biphenyls (PCBs) are hazardous constituents that must be addressed under the March 1, 2005 Order on Consent (Order). PCB remediation may be conducted under the Toxic Substances Control Act (TSCA), but it must also meet the requirements of the Order. The Permittees must include additional sampling and/or remediation activities for Consolidated Unit 21-003-99 and SWMU 21-024(c) in the Phase II IWP.*

## LANL Response

- 1b. Upon NMED's approval of the comment responses and revised report, the Laboratory will prepare the Phase II IWP that will include Consolidated Unit 21-003-99 and SWMU 21 024(c). The Phase II IWP will be submitted to NMED on September 30, 2008.

## NMED Comment

### 2. **Section 8.2, Recommendations, Facility-Unimpacted Corrective Action Sites, page 58:**

**Permittees' Statement:** "The results of investigation activities conducted at SWMUs 21-012(b), 21-024(a), 21-024(e), 21-024(g), Consolidated Unit 21-024(l)-99, SWMU 21-024(o), Consolidated Unit 21-026(a)-99, and SWMU 21-027(c), in accordance with the approved work plan, revealed that limited additional sampling is necessary to determine extent of contamination. A letter work plan outlining the additional sampling needed will be submitted to NMED."

See specific comment #1a.

## LANL Response

2. Upon NMED's approval of the comment responses and revised report, the Laboratory will prepare the Phase II IWP to include SWMUs 21-012(b), 21-024(a), 21-024(e), 21-024(g); Consolidated Unit 21 024(l)-99; SWMU 21-024(o); Consolidated Unit 21-026(a)-99; and SWMU 21-027(c). The Phase II IWP will be submitted to NMED on September 30, 2008.

## NMED Comment

### 3. **Section 8.3, Recommendations, Facility-Impacted Corrective Action Sites, page 59:**

**Permittees' Statement:** "The results of investigation activities conducted at Consolidated Unit 21 006(c)-99, SWMU 21-022(f), Consolidated Unit 21-022(h)-99 and 21-023(a)-99, and SWMUs 21-024(b), 21 024(d), 21-024(h), 21-024(i), 21-024(j), 21-024(k), 21-024(n), and 21-027(a), in accordance with the approved work plan, revealed that limited additional sampling is necessary to determine the extent of contamination. A letter work plan outlining the additional sampling needed will be submitted to NMED."

See specific comment #1a.

## LANL Response

3. Upon NMED's approval of the comment responses and revised report, the Laboratory will prepare the Phase II IWP to include Consolidated Unit 21-006(c)-99; SWMU 21-022(f); Consolidated Units 21-022(h)-99 and 21-023(a)-99; and SWMUs 21-024(b), 21-024(d), 21-024(h), 21-024(i), 21-024(j), 21-024(k), 21-024(n), and 21-027(a). The Phase II IWP will be submitted to NMED on September 30, 2008.

#### **NMED Comment**

#### **4. Tables 3.1-1 through 3.5-12, pages 175 - 229:**

*The Permittees must revise Tables 3.1-1 through 3.5-12 to identify the analytical method(s) (e.g., 8260 for VOCs) used for analyses of the constituents listed in these tables. Please provide replacement pages for the Report with the response to this NOD.*

#### **LANL Response**

4. Tables 3.1-1 through 3.5-12 are in the format provided in recent investigation reports and are consistent with previous reports. The following text has been added to the end of section 3.0, on page 24: "Analytical methods used are summarized in Appendix E. In addition, analytical methods used are listed for each specific sample analytical result in tables provided on the data DVD (Appendix F)."

#### **NMED Comment**

#### **5. Appendix C, Section C-6.3, Deviations for the Approved Work Plan, Facility-Impacted Corrective Action Sites, page C-5, bullet 1 and bullet 4:**

**5a. Permittees' Statement:** "At Consolidated Unit 21-006(c)-99, one subsurface sample from location 21-600391 was not analyzed for volatile organic compounds (VOCs) by the laboratory, although it was ordered on the SCL."

*Because the sample collected at location 21-600391 was not analyzed for VOCs in accordance with the approved work plan, the Permittees must analyze the additional samples proposed for CU 21 006(c)-99 in the Phase II Work Plan for VOCs.*

#### **LANL Response**

- 5a. The Laboratory proposes to collect the subsurface sample again from location 21-600391 and analyze it for volatile organic compounds (VOCs) as previously directed in the approved IWP. Extent of VOCs is defined at the site for all other locations. If VOCs are detected above the estimated quantitation limits in this sample, additional samples will be collected to determine the nature and extent for VOCs, as necessary.

#### **NMED Comment**

**5b. Permittees' Statement:** "At SWMU 21-024(b), 19 samples were not analyzed for strontium because the strontium analysis was inadvertently not requested on the sample collection log. These sampling locations are location 21-600498 through 21-600505 and location 21 600512."

*Because sample locations 21-600498 through 21-600505 and location 21-600512 were not analyzed for strontium in accordance with the approved work plan, the Permittees must analyze the additional samples proposed for 21-024(b) in the Phase II Work Plan for strontium. Although NMED considers compliance with approved work plans mandatory, we choose not to issue an enforcement action for this transgression at this time.*

## **LANL Response**

- 5b. In order to meet DOE requirements, the Laboratory will analyze the additional nature and extent determination sample(s) for strontium. In accordance with DOE policy, results of this sampling will voluntarily be provided to NMED.

In conclusion, the Laboratory would like to request a working session with the NMED technical staff in July 2008 at NMED's convenience to review the format and content of the Phase II IWP.

- beneath the south perimeter road to the mesa edge. The CMP extends approximately 3 ft over the mesa edge (LANL 1991, 007529, p. 15-69).
- 1994—Outfall was permitted as outfall EPA03A031 under NPDES Permit No. NM0028355 (EPA 1994, 065280).
- 1994–1995—Building 21-003, its drains and the pipes beneath, and the cooling tower were removed during D&D activities. The 4-in.-diameter pipe beneath the paved area was left in place, as was the storm drain, which collects runoff from nearby parking lots.
- 1995—Outfall removed from Laboratory's NPDES permit, effective July 11, 1995.

### Summary of Previous Investigations

- 1992—RFI activities included a radiological survey and the collection of surface samples at 12 locations (LANL 1994, 031591).
- 1993—Two 20-ft boreholes were advanced south of the cooling tower and samples were collected (LANL 1994, 031591, pp. 10-1–10-15).
- 2004—Radiological and geophysical surveys were completed. The geophysical survey located a pipe beneath the paved area, corresponding to the expected path of the 12-in.-diameter storm drain (LANL 2004, 087461).

## 2.6 Facility-Impacted Corrective Action Sites Historical Nature and Extent of Contamination

The evaluation of historical investigation results indicated the nature of contamination was not defined at any of the sites and additional data were needed to define the extent of contamination. The supporting information for these conclusions and the analytical results of historical sampling are presented in the approved work plan (LANL 2004, 087461; NMED 2005, 089314; LANL 2005, 090225).

## 3.0 SCOPE OF ACTIVITIES

This section describes the scope of the investigation at the investigation and corrective action sites at TA-21 from 2006 to 2008. As specified in the approved DP Site investigation work plan (LANL 2004, 087461; NMED 2005, 089314; LANL 2005, 090225), one sample from each site was selected for extended suite analyses, including dioxins, furans, explosive compounds, and PCBs (if not already part of the requested analytical suites). Data were submitted to NMED to determine whether additional extended suite analyses were necessary.

The standard operating procedures (SOPs) used during the 2006–2008 sampling are summarized in Appendix C. The most current versions of all SOPs were used for implementing the approved work plan (LANL 2004, 087461; NMED 2005, 089314; LANL 2005, 090225). Deviations from the approved work plan are also presented in Appendix C.

A total of 374 samples (including field duplicates, trip blanks, and rinsate blanks) were collected during the investigation site activities. Table 3.0-1 shows the number and types of samples collected at each of the investigation sites. Analytical results from samples collected at the sites are summarized in section 6.0 and provided on DVDs (Appendix F).

A total of 591 samples (including field duplicates, trip blanks, and rinsate blanks) were collected during the facility-unimpacted corrective action site activities. Table 3.0-2 shows the number and types of samples collected. Analytical results from samples collected at the sites are summarized in section 6.0 and provided on DVDs (Appendix F).

A total of 761 samples (including field duplicates, trip blanks, and rinsate blanks) were collected during facility-impacted corrective action site activities. Table 3.0-3 shows the number and types of samples collected. Analytical results from samples collected at the sites are summarized in section 6.0 and provided on DVDs (Appendix F).

Analytical methods used are summarized in Appendix E. In addition, analytical methods used are listed for each specific sample analytical result in tables provided on the data DVD (Appendix F).

### **3.1 Investigation Sites—Surface Investigation**

Surface samples were collected in 2006–2007 at a depth of 0 to 0.5 ft bgs at various sampling locations. All samples were immediately screened for radioactivity and organic vapors to ensure worker safety and to identify locations for additional sampling (section 6.2). The field-screening process is described in Appendix C, Table C-1.0-1. The field-screening results are presented in section 6.2 and in Tables 6.2-1 through 6.2-6. Surface samples were collected at SWMUs 21-013(c) and 21-024(c) for extended suite analyses (explosive compounds and dioxin/furans) based on field-screening results.

A stainless-steel scoop and bowl were used to homogenize each sample, which was then transferred to sterile sample collection jars (SOP-06.09, Rev. 2). Appendix C, Table C-1.0-1, details the sampling procedure followed in collecting surface samples.

The Sample Management Office (SMO) sent surface samples to an off-site analytical laboratory for analysis (SOP-01.03, Rev. 4). The laboratory analyses requested on the surface samples collected are presented in Tables 3.1-1 through 3.1-6. The following sections present the surface investigation information for each site. Rinsate blank, trip blank, and field duplicate samples are not included in the sample counts presented below.

#### **3.1.1 AOC 21-002(b)**

Eighteen surface samples were collected at AOC 21-002(b) (Table 3.1-1 and Figure 1.2-2). All surface samples were analyzed for target analyte list (TAL) metals, perchlorate, nitrate, cyanide, semivolatile organic chemicals (SVOCs), pH, americium-241, gamma-emitting radionuclides, isotopic plutonium, isotopic uranium, strontium-90, and tritium (Table 3.1-1).

#### **3.1.2 Consolidated Unit 21-003-99**

Nine surface samples were collected in 1994, and 38 surface samples were collected in 2006 at Consolidated Unit 21-003-99 (Table 3.1-2 and Figure 1.2-3). Surface samples collected in 1994 were analyzed for TAL metals, uranium, gamma-emitting radionuclides, tritium, isotopic plutonium, isotopic uranium, and strontium-90. Surface samples collected in 2006 were analyzed for TAL metals, perchlorate, nitrate, cyanide, SVOCs, pH, americium-241, gamma-emitting radionuclides, isotopic plutonium, isotopic uranium, tritium, strontium-90, and PCBs. Surface samples from five locations were also analyzed for explosive compounds (Table 3.1-2).

#### **3.1.3 SWMU 21-009**

Eight surface samples were collected at SWMU 21-009 (Table 3.1-3 and Figure 1.2-4). All surface samples were analyzed for TAL metals, perchlorate, nitrate, cyanide, SVOCs, pH, americium-241, gamma-emitting radionuclides, isotopic plutonium, isotopic uranium, tritium, and strontium-90 (Table 3.1-3).

- beneath the south perimeter road to the mesa edge. The CMP extends approximately 3 ft over the mesa edge (LANL 1991, 007529, p. 15-69).
- 1994—Outfall was permitted as outfall EPA03A031 under NPDES Permit No. NM0028355 (EPA 1994, 065280).
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### Summary of Previous Investigations

- 1992—RFI activities included a radiological survey and the collection of surface samples at 12 locations (LANL 1994, 031591).
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## 3.0 SCOPE OF ACTIVITIES

This section describes the scope of the investigation at the investigation and corrective action sites at TA-21 from 2006 to 2008. As specified in the approved DP Site investigation work plan (LANL 2004, 087461; NMED 2005, 089314; LANL 2005, 090225), one sample from each site was selected for extended suite analyses, including dioxins, furans, explosive compounds, and PCBs (if not already part of the requested analytical suites). Data were submitted to NMED to determine whether additional extended suite analyses were necessary.

The standard operating procedures (SOPs) used during the 2006–2008 sampling are summarized in Appendix C. The most current versions of all SOPs were used for implementing the approved work plan (LANL 2004, 087461; NMED 2005, 089314; LANL 2005, 090225). Deviations from the approved work plan are also presented in Appendix C.

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Analytical methods used are summarized in Appendix E. In addition, analytical methods used are listed for each specific sample analytical result in tables provided on the data DVD (Appendix F).

### **3.1 Investigation Sites—Surface Investigation**

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#### **3.1.2 Consolidated Unit 21-003-99**

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#### **3.1.3 SWMU 21-009**

Eight surface samples were collected at SWMU 21-009 (Table 3.1-3 and Figure 1.2-4). All surface samples were analyzed for TAL metals, perchlorate, nitrate, cyanide, SVOCs, pH, americium-241, gamma-emitting radionuclides, isotopic plutonium, isotopic uranium, tritium, and strontium-90 (Table 3.1-3).