



DEPARTMENT OF ENERGY
National Nuclear Security Administration
Los Alamos Field Office
Los Alamos, New Mexico 87544



COPY

Mr. Kevin Pierard, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313



Dear Mr. Pierard:

Reference:

1. NMED letter HWB-LANL-MISC-CO to D. Hintze, EM-LA, and M. Weis, NA-LA, from K. Pierard, NMED HWB, Subject: *Request for Information Potential Newly Discovered Solid Waste Management Unit or Area of Concern Los Alamos National Laboratory EPA ID #NM0890010515*, dated February 28, 2020

Subject: Response to the February 28, 2020 New Mexico Environment Department Request for Information on the Potential Newly Discovered Solid Waste Management Unit or Area of Concern Los Alamos National Laboratory (EPA ID #NM0890010515 HWB-LANL-MISC-CO)

In response to the New Mexico Environment Department (NMED) Request for Information (RFI) dated February 28, 2020, the U.S. Department of Energy's (DOE), National Nuclear Security Administration (NA-LA) and the Office of Environmental Management (EM-LA) Los Alamos field offices, Newport News Nuclear BWXT-Los Alamos, LLC, (N3B), and Triad National Security, LLC (Triad) have prepared this joint response. We are collectively providing NMED the following information to the best of our knowledge concerning potentially hazardous debris discovered by a subcontractor to the Los Alamos County Utilities Department on February 14, 2020.

The "site" in question is defined as the area where the materials were discovered by the subcontractor, along with the adjacent area showing elevated radiological survey results and is referred to as the Middle DP Road Site (Enclosure 1). We are furnishing the following information, which includes all known information collected from the Middle DP Road Site at this time to the best of our knowledge. If new or additional information becomes available, we will promptly notify NMED and provide updated documentation as it becomes available.

In the RFI, NMED requested the following information (verbatim in bold):

1. **All information and documentation on: a) the potential source(s) of contamination including the known site history, b) any previous investigations at the site, and c) when the land was transferred (conveyed) to LAC (Los Alamos County).**

We are including documents most relevant to this request, which include maps of the Middle DP Road Site, Environmental Baseline Survey Reports prepared for the conveyance of the two parcels (A-16-A and A-8-B), quitclaim deeds for the two parcels, and due to its proximity to the site, reports associated with the cleanup and closure of Material Disposal Area B located east of the site on the same parcel of land. Please see:

- Enclosure 1, Map of the Middle DP Road Site;
- Enclosure 2, *Environmental Baseline Survey Report for Land Conveyance of Tract A-16-a (TA-21 West)*;
- Enclosure 3, *Environmental Baseline Survey Report for Land Conveyance of Tract A-8-b Sub-parcel DP Road-1 South Tract*;
- Enclosure 4, *Material Disposal Area B: Process Waste Review, 1945-1948*;
- Enclosure 5, *Investigation Report for Material Disposal Area B, Areas 9 and 10, Solid Waste Management Unit 21-015, at Technical Area 21*;
- Enclosure 6, *Investigation/Remediation Report for Material Disposal Area B, Solid Waste Management Unit 21-015, Revision 2*;
- Enclosure 7, *Parcel A-16-a Quit Claim Deed*;
- Enclosure 8, *Parcel A-8-b Quit Claim Deed*;
- Enclosure 9, Federal Radiological Assistance Program Team (RAP) team survey results;
- Enclosure 10, N3B survey and sampling results;
- Enclosure 11, photographs, weights, and other information on the 55 gallon drums used to containerize materials removed from the site on 02/21/2020;
- Enclosure 12, certification statement.

2. All sampling and analytical data related to the site itself and material removed off-site.

The timeline (see response to request number 6, below) includes additional information associated with this request. On February 21, 2020, N3B conducted surveys and collected samples from the site; Enclosure 10 provides those results including:

- N3B-ER-00587, radiological protection survey results of eight locations at the site (see page 1 of 7): [(1) south soils pile, (2) yellow soil, (3) metal sheeting, (4) filter media with glass fragments, (5) metal sheeting, (6) soil in walkway, (7) broken glass, and (8) crucible];
- Radiological surface contamination (smear) sample results from the crucible and other recovered metal (see page 2 of 7; results are reported in Los Alamos National Laboratory Health Physics Analysis Laboratories (HPAL) Analysis Report for six smear samples: smear IDs 1 and 2 for the crucible and smear IDs 3 through 6 for metal items);

- A map providing general locations of the items/areas surveyed (see page 3 of 7);
- Results of isotopic analyses for smear number 6 (see page 4 of 7; note that only plutonium (Pu)-239 could be quantified due to insufficient activity);
- Results of isotopic analyses from a soil sample taken from location number 2 shown on the map in Enclosure 10 (results are those indicated in HPAL Analysis Report for "Soil Sample ID 2," see page 5 of 7); and
- Results of isotopic analyses from a mixed soil/media sample taken from location number 4 shown on the map in Enclosure 10. Media were separated by the laboratory into two fractions for analysis. These results are reported separately in HPAL Analysis Report; (1) see page 6 of 7 for "soil and metal fragments Sample ID 3 results" and (2) see page 7 of 7 for "glass and paper fragments from Sample ID 3.1" results).
- As part of this effort, the three 55-gallon drums were used to containerize materials removed from this site on February 21, 2020 (Enclosure 11). These three 55 gallon drums were transported to Technical Area 21 and compliantly stored in an N3B enclosure. No buried drums were encountered during excavation, but excavated materials were placed into three new, clean drums for characterization and ultimate dispositioning. Pictures of these drums, information on the materials placed into them and their weights are included in Enclosure 11. As described in response to request number 4, one of the 55-gallon drums was conservatively characterized as hazardous waste based on the potential for the item placed within it to be lead containing. This determination is currently being evaluated, with characterization planned in mid-March. This drum stored in a Central Accumulation Area compliant with Resource Conservation and Recovery Act (RCRA) requirements. The other two 55-gallon drums are considered low-level waste and are stored in a secure area marked for low-level waste.
- On February 28, 2020, Triad performed nondestructive analysis (NDA) measurements of the three 55-gallon drums (Serial #194, Serial #012, and Serial #010). Portable gamma-ray spectroscopy equipment was deployed to Technical Area 21 February 28, 2020 to identify and quantify the gamma-emitting radionuclides present in the three containers. The full results of these analyses, including analysis techniques and processes, are provided in Enclosure 11 and are summarized below:

Serial #194

- Waste Material: Approximately nine (9) pounds (lbs) of soil
- Assay Summary:
 - Uranium-235 and -238 (U-235 and U-238) were detected above background values. The relative concentrations of U-235 and U-238 reported are the same isotopic ratio as found in nature.
 - Values reported for Plutonium 239 (Pu-239) and Uranium-234 (U-234) are the minimum detectable activities (MDA).

Serial #012

- Waste Material: approximately 150.6 lbs of metal debris
- Assay Summary:
 - No radionuclides were detected above background concentrations.
 - Values reported for Pu-239, U-234, -235, and -238 are minimum detectable activities (MDA).

Serial #010

- Waste Material: Crucible (~5 in x 8 in) at the bottom of the drum
- Assay Summary:
 - No radionuclides were detected above background concentrations.
 - Values reported for Pu-239, U-234, -235, and -238 are minimum detectable activities (MDA).

NOTE: Pu was not detected in any of the drums during non-destructive assay; however, Pu-239 minimum detectable activities are reported because HPAL identified Pu in samples from the site using gamma spectroscopy.

For more information regarding request number 2, please see the timeline prepared below in response to request number 6.

3. A summary of any future sampling and analytical plans, including work plans based on a conceptual site model, analytical data, and risk assessments.

Characterization of the materials in the three drums stored at Technical Area 21 will assist DOE in determining the approach to the site. Likely next steps will include sampling and analysis to determine the extent of the site. We will provide a more detailed schedule and timeframe for conducting these activities once the materials in the drums have been characterized. Characterization of the drums will be conducted in mid-March 2020 after which DOE will have information to determine the path forward for the site. This information will be conveyed to NMED.

4. All documentation related to the management of any and all materials removed from the site, including waste determination documentation, waste management/storage documentation, waste disposal documentation.

Immediate efforts were taken to secure the area, which included removal and containerization of potentially contaminated materials identified at the site. In accordance with RCRA requirements and N3B-Policy 409, Waste Management, waste management procedures and protocol, N3B used acceptable knowledge (AK) for initial characterization of materials. As indicated above in the response to request number 3, additional material characterization will be performed prior to disposition, which will be documented in accordance with regulatory requirements and appropriate facility procedures. Items recovered from the area included metal sheeting and a potentially lead-containing crucible, as well as incidental soils. The following summarizes the initial characterization and containerization performed by N3B to support safe retrieval and storage:

- Based upon visual inspection indicating that the soil and metal sheeting did not have any visible staining, coupled with the radiation protection surveys, the metal and

associated incidental soils were characterized as low level waste (see also response to request number 2). These materials were placed into one, 55-gallon drum and relocated to an established Radiological Controlled Area/Radioactive Materials Area (RCA/RMA) inside an enclosure Technical Area 21. This drum contains 4 pieces of metal sheeting (~18" x 24") and incidental soils.

- The potential lead-containing crucible (~5" x 8") was packaged into one 55-gallon drum and conservatively marked with a Hazardous Waste Label denoting a D008 hazardous waste code. Due to the potential for radiological contamination based on initial survey data (see response to request number 2), this container is being managed as mixed low level waste until a final waste determination is completed. A Central Accumulation Area was established at Technical Area 21 within an enclosure to ensure safe and compliant storage of the waste.
- A third 55-gallon drum was used in the field in an attempt to containerize one of the metal sheets. Since the sheet was too large to fit within the drum, it was wrapped in visqueen, posted as a radiological contamination area, and remains at the site. The third drum contains a small amount of incidental soil and is being managed as low-level radioactive waste based on AK as indicated above. It is being stored in the established RCA/RMA inside an enclosure in Technical Area 21.

5. A timeline of all site activities undertaken from the discovery by LAC (February 14, 2020) through the date of response to this Request for Information.

Timeline:

02/14/2020:

- ✓ Los Alamos County Utilities notified DOE of the discovery of unknown material and provided photographs of material with a request to review and respond. The unknown materials were situated 7 to 8 feet below the soil surface.

02/15/2020:

- ✓ Los Alamos County contacted the Los Alamos National Laboratory (LANL) Emergency Operations Center to report a concern of potential radiological material discovered during excavation activities on Los Alamos County property.
- ✓ Los Alamos Fire Department (LAFD) and Los Alamos Police Department (LAPD) investigated the report of the suspicious material.
- ✓ Reportedly, LAPD removed an item from the site and brought it to the LAPD Station on Trinity Drive. The officer put the item into a dumpster. The Parker Construction worker went to the LAPD station and retrieved the item from the dumpster and returned it to the site. Reportedly, this item was the crucible, which was later placed in one of the drums now at Technical Area 21.
- ✓ LAPD and LAFD released the area back to Parker Construction within a few hours of the report.
- ✓ Los Alamos County made further notifications to NA-LA and the Emergency Operations Center. The Federal RAP Team was notified and was provided details.

02/18/2020

- ✓ EM-LA reviewed historical documents and responded to Los Alamos County that the location is not within any known solid waste management unit (SWMU) or area of concern (AOC).

02/20/2020:

- ✓ DOE authorized RAP Team activation and the LANL Emergency Operations Center was activated.
- ✓ The RAP team completed contamination surveys of LAFD and LAPD vehicles, the LAPD dumpster, and the home of an LAPD officer. All samples collected were sent to HPAL and the results of the surveys were no detectable activity (NDA).
- ✓ DOE notified NMED via phone call that Los Alamos County Department of Public Utilities subcontractors found debris and a crucible while excavating a utility trench on property previously owned by DOE.

02/21/2020:

- ✓ N3B conducted surveys and sampling detailed in Enclosure 10, worked to control the site, moved three 55-gallon drums used to remove some materials from the site to Technical Area 21, covered materials left at the site with Visqueen, and locked the gate into the area.
- ✓ The LANL Emergency Operations Center was deactivated and the area was turned back over to Los Alamos County officials.
- ✓ The RAP team continued to survey construction equipment in the area.

02/24/2020:

- ✓ RAP Team continued to survey construction equipment in the area.
- ✓ DOE provides a second notification to NMED. At a meeting, NMED was notified that the debris was near former solid waste management units, and that the land had previously been conveyed from DOE to Los Alamos County. DOE stated that radiological contamination was identified (plutonium) at the site, but that the extent of contamination or presence of hazardous waste constituents had not yet been identified, and that investigations were ongoing.

02/25/2020:

- ✓ RAP Team completed surveys in the area and deactivated.
- ✓ Triad continued to post and cover the area.

02/26/2020:

- ✓ LANL held a fact-finding on the Middle DP Road Recovery effort.
- ✓ LANL reactivated DP Air Monitoring Station 326.

- ✓ LANL deployed a high volume air sampler at DP Air Monitoring Station 326.

02/28/2020:

- ✓ DOE/NNSA and EM Los Alamos field offices sent an initial written notification to NMED regarding this issue.
- ✓ NMED sent DOE/NNSA and EM a Request for Information on the Potential Newly Discovered Solid Waste Management Unit or Area of Concern Los Alamos National Laboratory (EPA ID #NM0890010515 HWB-LANL-MISC-CO).
- ✓ Portable gamma-ray spectroscopy equipment was deployed to Technical Area 21 to identify and quantify the gamma-emitting radionuclides present in the three drums.

03/02/2020 – present:

- ✓ Work to post and control the site with additional fencing is completed and meetings with Los Alamos County and the Los Alamos County Department of Public Utilities have been held. Examination of sampling results, radiological non-destructive assay of the three drums stored at Technical Area 21, and an analysis of the history of this area continue.

6. A schedule and timeframe for the investigation activities at the site, including waste characterization activities, and any potential voluntary corrective actions or remedies.

Characterization of the materials in the three drums will assist DOE in determining the approach to the site. Likely next steps will include sampling and analysis to determine the extent of the site. We will provide a more detailed schedule and timeframe for conducting these activities once the materials in the drums have been characterized. Characterization of the drums will be conducted in mid-March 2020 after which DOE will have information to determine the path forward for the site. This information will be conveyed to NMED.

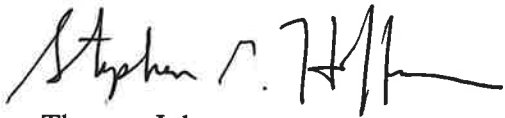
7. Weekly status emails summarizing activities and information gathered during the previous week.

DOE will provide weekly email updates/summaries every Monday beginning March 16, 2020.

As requested, all documents and information provided in this response is certified (see Enclosure 12). If you have any questions regarding the information provided, please contact Peter Maggiore at (505) 665-5025 or peter.maggiore@nnsa.doe.gov or Cheryl Rodriguez at (505) 257-7941 or cheryl.rodriguez@em.doe.gov.

Sincerely,

For:



Thomas Johnson
Acting, Manager
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Los Alamos Field Office



Michael J. Weis
Manager
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Enclosures

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 Official Contract File, NA-LA

MAI: 08PM-2020-001227

CERTIFICATION


I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Michael Weis
Manager
National Nuclear Security Administration
Los Alamos Field Office
U.S. Department of Energy

3/9/2020

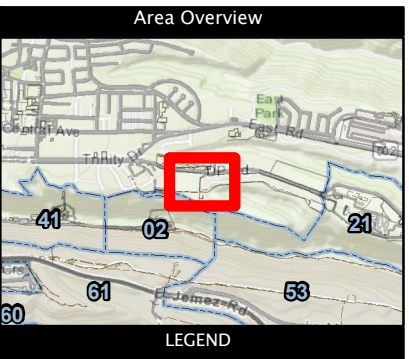
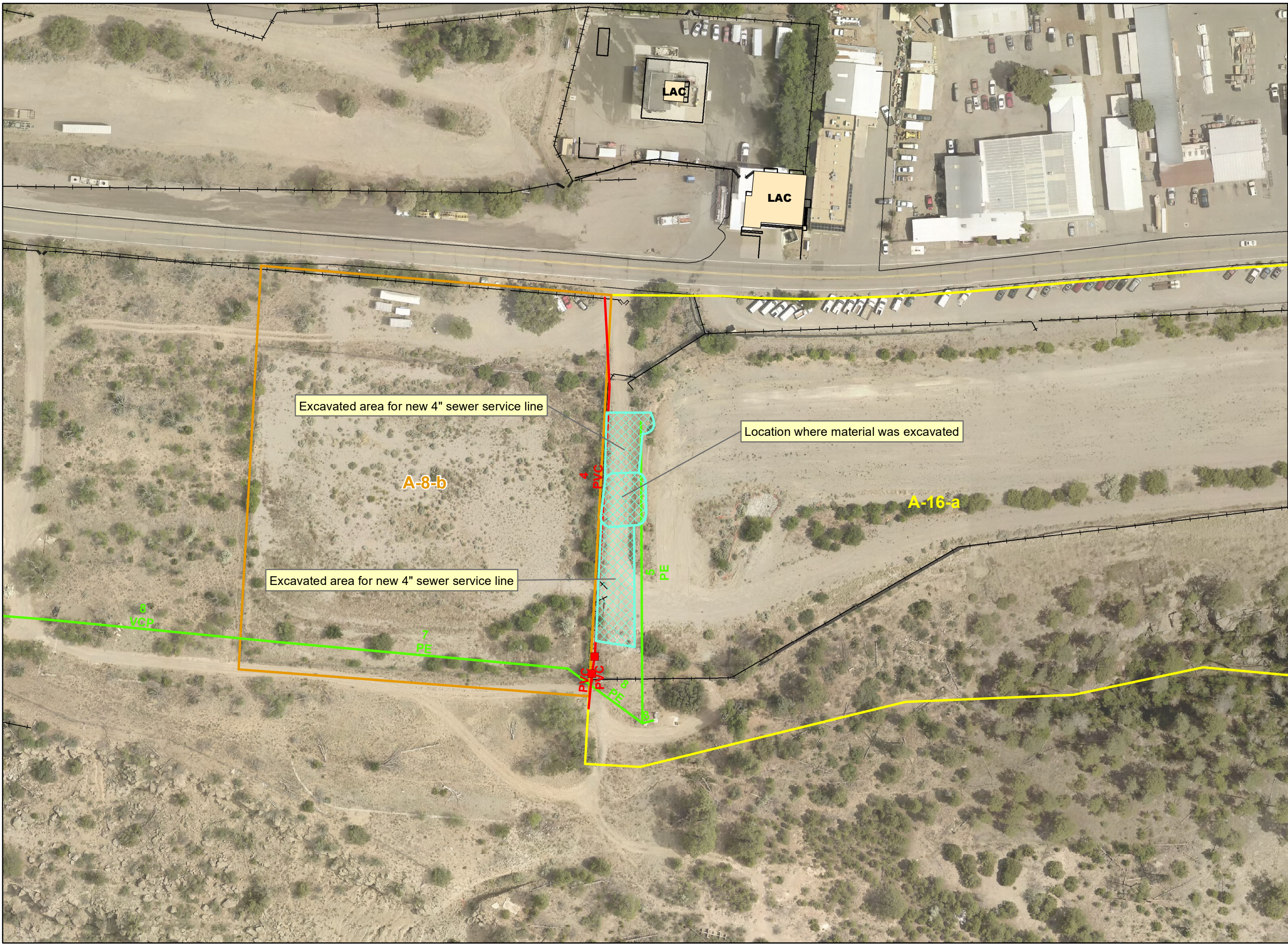
Date Signed

For: 

Thomas Johnson
Acting, Manager
Environmental Management
Los Alamos Field Office
U.S. Department of Energy

3/9/2020

Date Signed



- Buffered Excavation Area (LAC-GIS)
- Electric Switch (LAC-GIS)
- Electric Conduit (LAC-GIS)
- Sewer Line (LAC-GIS)
- Land Conveyance and Transfer Tract (LANL-GIS)
- A-16-a
- A-8-b
- Structures
- Operating Building

Middle DP Road Site

20-028

LOS ALAMOS NATIONAL LABORATORY

Classification: Unclassified
Document Name: Middle DP Road Site

Date: 3/5/2020

0 30 60 120 Feet

GIS Program

Los Alamos NATIONAL LABORATORY
EST. 1945