



**N3B-Los Alamos**  
1200 Trinity Drive, Suite 150  
Los Alamos, New Mexico 87544  
(505) 257-7690



**Environmental Management**  
Los Alamos Field Office  
P.O. Box 1663, MS M984  
Los Alamos, New Mexico 87545  
(505) 257-7950/FAX (505) 606-2132

*Date:* April 10, 2020  
*Refer To:* N3B-2020-0109

Steve Pullen, Section Manager  
Ground Water Quality Bureau  
New Mexico Environment Department  
P.O. Box 5469  
Santa Fe, NM 87502-5469

**Subject: Notice of Intent to Conduct a Moisture Monitoring Pilot Study Near  
Material Disposal Area T at Technical Area 21**

Dear Mr. Pullen:

In accordance with Subsection A of 20.6.2.1201 New Mexico Administrative Code, the U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) are filing this notice of intent (NOI) to perform a moisture monitoring pilot study at Technical Area 21, just west of Material Disposal Area (MDA) T.

The purpose of the study is to collect data sufficient to evaluate several vadose zone moisture monitoring techniques and instrument deployment methods in a noncontaminated setting before deploying an approach within the footprint of MDA T. Three angled boreholes will be drilled to allow for moisture monitoring instrumentation to be installed. A trench will be dug above the angled boreholes into the bedrock (Bandelier Tuff) that will be approximately 20 ft long by 3 ft wide by 2 ft deep. Angled boreholes will be drilled to access the trench area to allow for moisture monitoring instrumentation to be deployed. Potable water will then be applied to the trench for a period of about 14 days in order to collect the required data for the pilot study.

Enclosed is a completed New Mexico Environment Department Ground Water Quality Bureau NOI form. Attachment 1 provides information to support the NOI.

If you have questions, please contact Christian Maupin at (505) 695-4281 (christian.maupin@em-la.doe.gov) or Cheryl Rodriguez at (505) 257-7941 (cheryl.rodriguez@em.doe.gov).

Sincerely,



Elizabeth Lowes  
Program Manager  
Environmental, Safety and Health  
N3B-Los Alamos

Sincerely,

David  
Nickless

Digitally signed by David  
Nickless  
Date: 2020.04.10  
11:28:34 -06'00'

David Nickless, Acting Director  
Office of Quality and Regulatory Compliance  
Environmental Management  
Los Alamos Field Office

Enclosure(s): Completed New Mexico Environment Department Ground Water Quality Bureau  
Notice of Intent to Discharge form (EM2020-0139) and attachment to the form

cc (letter and enclosure[s] emailed):

Laurie King, EPA Region 6, Dallas, TX  
Chris Catechis, NMED-DOE-OB  
Steve Yanicak, NMED-DOE-OB  
Patrick Longmire, NMED-GWQB  
Andrew Romero, NMED-GWQB  
Kevin Pierard, NMED-HWB  
Shelly Lemon, NMED-SWQB  
Lee Bishop, EM-LA  
Sara Eli Gilbertson, EM-LA  
Thomas McCrory, EM-LA  
Cheryl Rodriguez, EM-LA  
Hai Shen, EM-LA  
William Alexander, N3B  
Emily Day, N3B  
David Diehl, N3B  
Danny Katzman, N3B  
Kim Lebak, N3B  
Joseph Legare, N3B  
Frazer Lockhart, N3B  
Elizabeth Lowes, N3B  
Christian Maupin, N3B  
Bruce Robinson, N3B  
Bradley Smith, N3B  
emla.docs@em.doe.gov  
n3brecords@em-la.doe.gov  
Public Reading Room (EPRR)  
PRS Website

**Pamela T. Maestas**

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**From:** Romero, Andrew C, NMENV <AndrewC.Romero@state.nm.us>  
**Sent:** Monday, April 13, 2020 8:55 AM  
**To:** Pamela T. Maestas  
**Subject:** Re: Submittal to NMED on 4/10/2020 of MDA T NOI

Good morning Pamela,

GWQB acknowledges receipt of this email. Hope all is well!

Regards,

**Andrew Romero, Environmental Scientist**

New Mexico Environment Department  
Ground Water Quality Bureau  
1190 St. Francis Dr, Santa Fe, NM 87505

(505) 827-0076   
<https://www.env.nm.gov/gwqb/>

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**From:** Pamela T. Maestas <pamela.maestas@em-la.doe.gov>  
**Sent:** Friday, April 10, 2020 3:45 PM  
**To:** Pullen, Steve, NMENV  
**Cc:** Romero, Andrew C, NMENV; Emily M. Day; Regulatory Documentation; Martinez, Cynthia, NMENV; Danny Katzman; cheryl.rodriguez@em.doe.gov  
**Subject:** [EXT] Submittal to NMED on 4/10/2020 of MDA T NOI

Attached for submittal is a pdf of the following:

- Notice of Intent to Conduct a Moisture Monitoring Pilot Study Near Material Disposal Area T at Technical Area 21

Please acknowledge receipt of this submittal by responding to this email.  
Let me know if you have any questions.  
Thank you.

**Pamela T. Maestas**

**Regulatory Documentation Manager**

Newport News Nuclear BWXT-Los Alamos, LLC

c. 505-927-7882   
[regdocs@em-la.doe.gov](mailto:regdocs@em-la.doe.gov)



1200 Trinity Drive, Suite 150  
Los Alamos, NM 87544



For Department use Only:

Agency Interest Number \_\_\_\_\_  
PRD Assigned \_\_\_\_\_

**1. Name and mailing address of person proposing to discharge (Responsible Person):**

Jack S. Grow  
Newport News Nuclear BWXT-Los Alamos, LLC  
1200 Trinity Drive, Suite 150  
Los Alamos, NM 87544

Work Phone: (505) 257-7617  
Cell/Home Phone: (505) 695-3308  
Fax: Not Applicable  
Email: jack.grow@em-la.doe.gov

**2. Name and Position of person Completing Form:**

Christian T. Maupin  
Regulatory Compliance  
Environmental Professional

Work Phone: (505) 695-4281  
Cell/Home Phone: (505) 695-4281  
Fax: Not Applicable  
Email: christian.maupin@em-la.doe.gov

**3. Name of facility:**

Los Alamos National Laboratory (LANL)

**4. Physical location of the discharge (if applicable, give street address, township, range, section, distance from closest town or landmark, directions to facility, location map):**

LANL Technical Area 21 (TA-21) in Township 19N, Range 6E, Section 14. Attachment 1 contains a location map of the project site.

**5. Type of operation generating the discharge (e.g., agricultural facility, domestic wastewater discharge, industrial discharge, mining operation, etc.):**

A moisture monitoring pilot study will be performed at TA-21, just west of Material Disposal Area (MDA) T (Attachment 1). The purpose of the study is to collect data sufficient to evaluate several vadose zone moisture monitoring techniques and instrument deployment methods in a noncontaminated "pilot" setting before deploying a preferred approach within the footprint of MDA T. Three angled boreholes will be drilled to allow for moisture monitoring instrumentation to be installed. A trench will be dug above the angled boreholes into the bedrock (Bandelier Tuff) approximately 20 ft long by 2 ft deep by 3 ft wide using a backhoe or excavator. The location of the trench has approximately 6 ft of overlying fill material that will be excavated to access the underlying bedrock. The exact location of the trench is still to be determined but will be within the dashed polygon shown in Attachment 1. Following excavation of the trench, water will be applied to the trench for a period of about 14 days. A constant pond depth of about 1 ft will be maintained within the trench either using a float valve or by manually adding water. The water level within the trench may vary between 6 in. to 1.5 ft deep. Up to 12,000 gal. of potable water will be added to the trench over the 14-day period. To test and calibrate the deployed moisture monitoring instruments, data will be collected over the 14-day period when water is in the trench.



For Department use Only:

Agency Interest Number \_\_\_\_\_  
PRD Assigned \_\_\_\_\_

6. Source(s) of the discharge. Describe how the wastewater, sludge, or other discharges processed and/or disposed at your facility are generated. Identify all sources. Attach additional pages if needed:

Up to 12,000 gal. of potable water may be applied to the trench within the pilot study test area at TA-21.

7. Expected contaminants in the discharge (e.g., nitrate-nitrogen, metals, organic compounds, salts, etc.) Include estimated concentration if known, and copies of results of laboratory analyses, if available:

No contaminants will be present in the water applied to the trench.

8. Describe all components of wastewater processing, treatment, storage, and disposal system (e.g., pre-treatment units, impoundments(s), septic tank/leach field, etc.). Include sizes, site layout map, plans, and specifications, etc. if available:

Potable water from the Los Alamos County municipal supply.

9. Estimated maximum daily discharge volume in gallons per day. Provide water usage records or system sizing criteria if available:

Total discharge into the trench will be up 12,000 gal. of potable water over approximately a 14-day period. This equates to discharging up to approximately 860 gal. of water into the trench per day for the 14-day period. Depending on infiltration rate into the trench, water may need to be applied longer than the anticipated 14 days, but the overall volume of water discharged will not exceed 12,000 gal.

10. Estimated depth to ground water (ft): ~1270 ft Source of information: Intellusnm.com

11. Current Total Dissolved Solids Concentration in Groundwater: about 97 mg/L

Signature: Elizabeth Lowes

Date: April 1, 2020

Printed name: Elizabeth Lowes

Title: Environment, Health and Safety  
Program Manager

Please return this form to:

NMED Ground Water Quality Bureau  
P.O. Box 5469  
Santa Fe, New Mexico 87502-5469

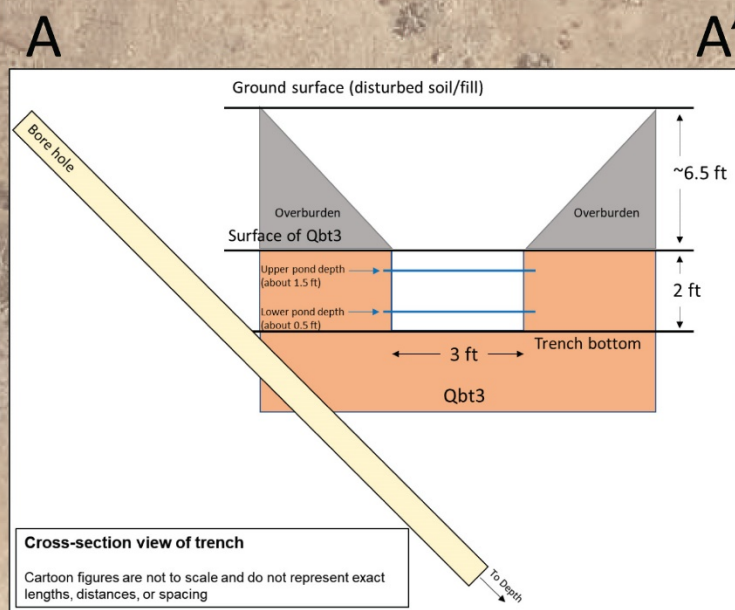
Telephone: 505-827-2900  
Fax: 505-827-2965

# **Attachment 1**

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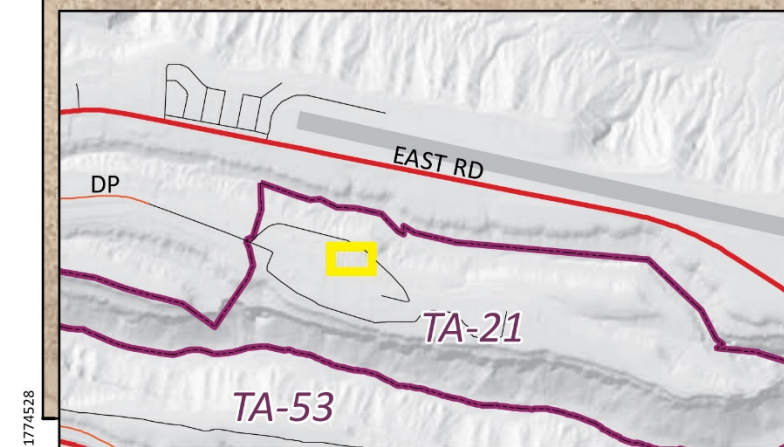
*Location Map of Project Site*

## MDA T Moisture Monitoring Pilot Study



Exact location of the water trench is to be determined. The trench will be excavated in the best location in the depicted polygon to the 20-ft-long by 3-ft-wide spatial footprint. Thus the location and layout shown are for illustrative purposes only.

MDA T



GIS: Joshua Sammons  
joshua.sammons@em-la.doe.gov

NM State Plane Coordinate System Central Zone (3022)  
North American Datum, 1983 (NAD 83)

DISCLAIMER: This map was created for work processes associated with the LLCC. All other uses for this map should be confirmed with N3B staff.

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Q:\20-Projects\20-0009\mxd\20-0009-02-MDAT\_Well.mxd

- Well Head
- Projected Borehole Path
- Fenceline
- Trench
- Technical Area Boundary
- Arterial Rd
- Collector Rd
- Local Rd

0 12.5 25 50 Feet



Vadose zone moisture-monitoring pilot study area