Los Alamos National Laboratory
PO Box 1663, MS-M969
Los Alamos, NM 87545
505-667-8160

Environmental Protection and Compliance Division

Symbol: EPC-DO-23-377
Date: December 6, 2023
LA-UR-23-33488

Mr. Ricardo Maestas, Acting Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6313

Subject: 15-Day Notification of Newly Detected Constituent in Vapor Monitoring Well, Technical Area 63, Transuranic Waste Facility

Dear Mr. Maestas:

This letter provides the New Mexico Environment Department-Hazardous Waste Bureau (NMED-HWB) notification of detection of a new constituent in soil vapor laboratory analytical results from vapor monitoring wells at the Los Alamos National Laboratory (LANL), Technical Area 63 (TA-63), Transuranic Waste Facility (TWF) operated by Triad National Security, LLC (Triad) on behalf of the U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Field Office. The LANL Hazardous Waste Facility Permit (EPA ID# NM0890010515) (Permit), Part 3, Section 3.14.3 requires written notification within fifteen days after review of analytical data when sample results indicate "detection of a contaminant in a vapor monitoring well if that contaminant has not been previously detected in the well." Sampling for the calendar year 2023 fourth quarter occurred November 1, 2023, and sample analytical results were received November 29, 2023.

Samples collected from vapor monitoring wells VMW-2 (63-2010) 5-foot port and VMW-5 (63-2013) at both the 25-foot port and the 60-foot port field duplicate sample indicate the presence of new constituents for the first time since vapor sampling began. The constituents detected include chloroform, bromodichloromethane, carbon disulfide, and benzene.

Soil vapor monitoring well VMW-2 is located within the permitted unit on the western edge of the unit, close to the utility corridor on Pajarito Road, and east of the TA-50 Material Disposal Area C Solid Waste Management Unit 50-009 (MDA C). The vapor monitoring well has one sampling port at 5 feet nominal depth below the building foundation. Soil vapor monitoring well VMW-5 is located outside the permitted unit, across Puye Road to the north and closer to MDA C. There are two sampling ports in this well at depths of 25 and 60 feet below the ground surface.

Chloroform, carbon disulfide and benzene are listed in Permit, Part 3, Tables 3.14.3.1 and 3.14.3.3, Current Soil Gas Screening Levels for Selected VOCs, at sampling ports located 5 feet and 60 feet below ground surface as constituents of concern. Bromodichloromethane is not listed as a constituent of concern in the Permit Current Soil Gas Screening Levels tables.

Analysis of the soil vapor sample from VMW-2, 5-foot port indicates an estimated concentration of 4.6 micrograms per meter cubed ($\mu g/m^3$) for chloroform, which is below the analytical report detection limit

of 35 µg/m^3 and well below the Permit soil gas screening level of 1.08E+04 µg/m^3. This is the first time chloroform is detected in this well; however, results from wells within the permitted unit have indicated the presence of chloroform in previous sampling events.

The soil vapor sample collected at VMW-5, 25-foot port indicates an estimated concentration of 6.2 µg/m^3 for bromodichloromethane, which is below the report detection limit of 52 µg/m^3. Bromodichloromethane is not listed in the Permit tables; therefore, this constituent cannot be compared to a screening level.

Analysis of the soil vapor sample for VMW-5, 60-foot port field duplicate indicates an estimated concentration of 12 µg/m^3 for carbon disulfide and 3.5 µg/m^3 for benzene, both of which are below their respective report detection limits of 96 µg/m^3 and 25 µg/m^3 and well below their respective soil gas screening levels of 2.59E+07 µg/m^3 and 1.54E+05 µg/m^3.

There are no known issues with the sample quality for any of the samples collected during this field campaign.

Triad proposes to continue to sample and track the presence of these constituents in the subsurface through continued vapor monitoring and reporting.

The next monitoring report is due to NMED-HWB no later than January 1, 2024. The information presented in this notification will be included in the full report.

Enclosure 1 provides the following permit-required information: date or dates of the sampling event; well designation, location of the well, any known issues with sample quality, and the specific category for which the data is reported under Permit, Part 3, Section 3.14.3.

If you have any questions or comments concerning this notification, please contact Jason Hill, Triad, at (505) 551-2218, jshill@lanl.gov.

Sincerely,

STEVEN STORY
(Affiliate)

Digitally signed by STEVEN STORY (Affiliate)
Date: 2023.12.06 13:50:59 -07'00'

Steven L. Story
Division Leader
Environmental Protection and Compliance Division
Triad National Security, LLC
Los Alamos National Laboratory

SLS:JSH

Enclosure: *15-Day Notification of Newly Detected Constituent in Vapor Monitoring Well, Technical Area 63, Transuranic Waste Facility*

Copy: Laurie King, USEPA/Region 6, Dallas, TX, king.laurie@epa.gov
Rick Shean, NMED, Santa Fe, NM, rick.shean@env.nm.gov
Ricardo Maestas, NMED-HWB, Santa Fe, NM, ricardo.maestas@env.nm.gov

Neelam Dhawan, NMED-HWB, Santa Fe, NM, neelam.dhawan@env.nm.gov
Siona Briley, NMED-HWB, Santa Fe, NM, siona.briley@env.nm.gov
Mitchell Schatz, NMED-HWB, Santa Fe, NM, mitchell.schatz@env.nm.gov
Theodore A. Wyka, NA-LA, theodore.wyka@nnsa.doe.gov
Stephen Hoffman, NA-LA, stephen.hoffman@nnsa.doe.gov
Jason Saenz, NA-LA, jason.saenz@nnsa.doe.gov
Karen E. Armijo, NA-LA, karen.armijo@nnsa.doe.gov
Adrienne L. Nash, NA-LA, adrienne.nash@nnsa.doe.gov
Robert A. Gallegos, NA-LA, robert.gallegos@nnsa.doe.gov
Steven Coleman, Triad, ALDESHQ, scoleman@lanl.gov
Jennifer E. Payne, Triad, ALDESHQ, jpayne@lanl.gov
Jeannette T. Hyatt, Triad, EWP, jhyatt@lanl.gov
Steven L. Story, EPC-DO, story@lanl.gov
Andie McLaughlin-Kysar, Triad, EPC-DO, andiek@lanl.gov
Deepika Saikrishnan, Triad, EPC-DO, deepika@lanl.gov
Jessica L. Moseley, Triad, EPC-WMP, jmoseley@lanl.gov
Jason S. Hill, Triad, EPC-WMP, jshill@lanl.gov
Cecilia Trujillo, Triad, EPC-WMP, ceciliat@lanl.gov
Kristen Van Horn, Triad, EPC-WMP, klv@lanl.gov
John M. Quintana, Triad, TA55-WF, johnq@lanl.gov
Michael J. Furman, Triad, EPC-WMP, mfurman@lanl.gov
Christian Maupin, N3B, christian.maupin@em-la.doe.gov
rcra-prr@lanl.gov
eshq-dcrm@lanl.gov
locatesteam@lanl.gov
epccorrespondence@lanl.gov
lasomailbox@nnsa.doe.gov

Los Alamos
NATIONAL LABORATORY

Environmental Protection and Compliance Division

Los Alamos National Laboratory
PO Box 1663, MS-M969
Los Alamos, NM 87545
505-667-8160

Symbol: EPC-DO-23-377
Date: December 7, 2023
LA-UR-23-33488

Mr. Ricardo Maestas, Acting Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6313

Subject: 15-Day Notification of Newly Detected Constituent in Vapor Monitoring Well, Technical Area 63, Transuranic Waste Facility

Dear Mr. Maestas:

This letter provides the New Mexico Environment Department-Hazardous Waste Bureau (NMED-HWB) notification of detection of a new constituent in soil vapor laboratory analytical results from vapor monitoring wells at the Los Alamos National Laboratory (LANL), Technical Area 63 (TA-63), Transuranic Waste Facility (TWF) operated by Triad National Security, LLC (Triad) on behalf of the U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Field Office. The LANL Hazardous Waste Facility Permit (EPA ID# NM0890010515) (Permit), Part 3, Section 3.14.3 requires written notification within fifteen days after review of analytical data when sample results indicate "detection of a contaminant in a vapor monitoring well if that contaminant has not been previously detected in the well." Sampling for the calendar year 2023 fourth quarter occurred November 1, 2023, and sample analytical results were received November 29, 2023.

Samples collected from vapor monitoring wells VMW-2 (63-2010) 5-foot port and VMW-5 (63-2013) at both the 25-foot port and the 60-foot port field duplicate sample indicate the presence of new constituents for the first time since vapor sampling began. The constituents detected include chloroform, bromodichloromethane, carbon disulfide, and benzene.

Soil vapor monitoring well VMW-2 is located within the permitted unit on the western edge of the unit, close to the utility corridor on Pajarito Road, and east of the TA-50 Material Disposal Area C Solid Waste Management Unit 50-009 (MDA C). The vapor monitoring well has one sampling port at 5 feet nominal depth below the building foundation. Soil vapor monitoring well VMW-5 is located outside the permitted unit, across Puye Road to the north and closer to MDA C. There are two sampling ports in this well at depths of 25 and 60 feet below the ground surface.

Chloroform, carbon disulfide and benzene are listed in Permit, Part 3, Tables 3.14.3.1 and 3.14.3.3, Current Soil Gas Screening Levels for Selected VOCs, at sampling ports located 5 feet and 60 feet below ground surface as constituents of concern. Bromodichloromethane is not listed as a constituent of concern in the Permit Current Soil Gas Screening Levels tables.

Analysis of the soil vapor sample from VMW-2, 5-foot port indicates an estimated concentration of 4.6 micrograms per meter cubed ($\mu g/m^3$) for chloroform, which is below the analytical report detection limit

ENCLOSURE

15-Day Notification of Newly Detected Constituent in Vapor Monitoring Well, Technical Area 63, Transuranic Waste Facility

Date: December 6, 2023

EPC-DO-23-377
LA-UR-23-33488

U.S. Department of Energy,
National Nuclear Security Administration Los Alamos Field Office, and
Triad National Security, LLC

15-Day Notification of Newly Detected Constituent in Vapor Monitoring Well, Technical Area 63, Transuranic Waste Facility

Table 1. Additional Constituent Detected in TA-63 Transuranic Waste Facility Soil Vapor Monitoring Wells

Date of Sampling Event	November 1, 2023
Well Designation	VMW-2 (63-2010), 5-foot port
Location of Well	Los Alamos National Laboratory, Technical Area 63 Transuranic Waste Facility Structure Number 63-2010 Northing: 1768222.4051 Easting: 1627089.5057
Know Issues with Sample Quality	None
Reporting Data Category for LANL Hazardous Waste Facility Permit Part 3, Section 3.14.3	Additional compound not previously detected in the soil vapor monitoring well.
Date of Sampling Event	November 1, 2023
Well Designation	VMW-5 (63-2013), 25-foot port
Location of Well	Los Alamos National Laboratory, Technical Area 63 Transuranic Waste Facility Structure Number 63-2013 Northing: 1768398.7080 Easting: 1627039.3635
Know Issues with Sample Quality	None
Reporting Data Category for LANL Hazardous Waste Facility Permit Part 3, Section 3.14.3	Additional compound not previously detected in the soil vapor monitoring well.
Date of Sampling Event	November 1, 2023
Well Designation	VMW-5 (63-2013), 60-foot port field duplicate
Location of Well	Los Alamos National Laboratory, Technical Area 63 Transuranic Waste Facility Structure Number 63-2013 Northing: 1768398.7080 Easting: 1627039.3635
Know Issues with Sample Quality	None
Reporting Data Category for LANL Hazardous Waste Facility Permit Part 3, Section 3.14.3	Additional compounds not previously detected in the soil vapor monitoring well.

Table 2. Soil Vapor Monitoring Well Analytical Data

Well ID	Sample ID	Port Depth (feet)	Constituent	Listing in Permit Table	Result (µg/m^3)	Data Qualifier	Report Detection Limit (µg/m^3)	Soil Gas Screening Level (µg/m^3)	Percent of SGSL (%)
VMW-2 (63-2010)	TWF63-23-304076	5	Chloroform	Chloroform	4.6	J	35	1.08E+04	<0.1
VMW-5 (63-2013)	TWF63-23-304080	25	Bromodichloromethane	N/A	6.2	J	52	N/A	N/A
VMW-5 (63-2013) Field Duplicate	TWF63-23-304082	60	Carbon Disulfide	Carbon Disulfide	12	J	96	2.59E+07	<0.1
VMW-5 (63-2013) Field Duplicate	TWF63-23-304082	60	Benzene	Benzene	3.5	J	25	1.54E+05	<0.1

EPA Data Qualifier “J” indicates the constituent is present but estimated.
Not applicable indicates that the constituent is not listed in Permit, Part 3 Tables.