Los Alamos
NATIONAL LABORATORY
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Date: FEB 0 9 2017
Refer To: ADESH-17-016
LAUR: 17-20783; 17-20784
Locates Action No.: n/a

Paulette Johnsey, Chief
Water Enforcement Branch (6EN-WS)
Compliance Assurance and Enforcement Division
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Subject: NPDES Permit No. NM0030759 - Analytical Results for Site Monitoring Area(s) ACID-SMA-2 and ACID-SMA-2.1 from the First Measurable Storm Event after Certification of Installation of Enhanced Controls

Dear Ms. Johnsey:

These documents are being submitted in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) Permit No. NM0030759 for Los Alamos National Laboratory, issued to Los Alamos National Security, LLC, and the U.S. Department of Energy, effective November 1, 2010. As specified in Part I, Section E.l(c):

> Permittees shall certify completion of installation of control measures under this subsection to EPA within 30 days of completion of all such measures at the Site and, where applicable shall provide sampling results within 30 days of receipt of analytical results from the first measurable storm event after completion of such measures....

Accordingly, the analytical results from a sample collected during the first measurable storm event received for two site monitoring areas (ACID-SMA-2 and ACID-SMA-2.1) in the last 30 days are enclosed (Attachment 1). The results had previously been submitted electronically to the U.S. Environmental Protection Agency on January 5, 2017. This certified document can be accessed at the following website http://www.lanl.gov/ and searching under the key words "Individual Permit."

Table 1
Confirmation Samples Collected at SMAs from the First Measurable Storm Event after Certification of Installation of Enhanced Controls

Watershed	Priority	Site Number	SMA Number	Permitted Feature	Sample Collection Date	Data Receipt and Validation Date
Los Alamos/Pueblo	Moderate	01-002(b)-00 45-001 45-002 45-004	ACID-SMA-2	P002	11/4/2016	12/12/2016 01/27/2017
Los Alamos/Pueblo	Moderate	01-002(b)-00	ACID-SMA-2.1	P003	11/5/2016	12/12/2016 01/27/2017

If you have any questions, please contact Terrill Lemke at (505) 665-2397 (tlemke@lanl.gov) or David Rhodes at (505) 665-5325 (david.rhodes@em.doe.gov).

Sincerely,

John C. Bretzke, Division Leader
Environmental Protection & Compliance
Los Alamos National Laboratory

Sincerely,

David S. Rhodes, Director
Office of Quality and Regulatory Compliance
Environmental Management
Los Alamos Field Office

JB/DR/BR/SV:sm

Attachments: One hard copy with electronic files – Analytical results from the first measurable storm event following installation of control measures at two site monitoring areas (see individual document for LA-UR number)

Cy: (w/att.)
Sarah Holcomb, NMED-SWQB, P. O. Box 5469, Santa Fe, NM 87502

Cy: (w/electronic att.)
Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-DOE-OB, MS M894
emla.docs@em.doe.gov
Terrill Lemke, ADESH-EPC-CP
Public Reading Room (EPRR)
ADESH Records
PRS Database

Cy: (w/o att./date-stamped letter emailed)
Robert Houston, EPA Region 6
Brent Larsen, EPA Region 6
lasomailbox@nnsa.doe.gov
Kimberly Davis Lebak, DOE-NA-LA
Peter Maggiore, DOE-NA-LA
David Rhodes, DOE-EM-LA
Steve Veenis, ADEM ER Program
Bruce Robinson, ADEM ER Program
Mike Saladen, ADESH-EPC-CP
John Bretzke, ADESH-EPC-DO
Michael Brandt, ADESH
William Mairson, PADOPS
Craig Leasure, PADOPS

Analytical Results from the First Measurable Storm Event Following Certification of Enhanced Control Measures at ACID-SMA-2

February 9, 2017

NPDES PERMIT NO. NM0030759

LA-UR-17-20783

NPDES PERMIT NO. NM0030759 **LA-UR-17-20783**

LOS ALAMOS NATIONAL LABORATORY
CERTIFICATION OF ANALYTICAL RESULTS

PF: P002 **ACID-SMA-2** **Sites: 01-002(b)-00, 45-001 45-002, 45-004**

The following certification of analytical results received from the confirmation monitoring samples collected after the completion of the installation of enhanced controls was performed in accordance with NPDES Permit No.NM0030759, Part I.E.1.

CERTIFICATION STATEMENT OF AUTHORIZATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with 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 there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

Associate Directorate of Environmental Management
Los Alamos National Laboratory

2/6/2017
Date

for DR

Environmental Management Los Alamos Field Office
U.S. Department of Energy

2/9/2017
Date

LOS ALAMOS NATIONAL LABORATORY
CERTIFICATION OF ANALYTICAL RESULTS

PF: P002 **ACID-SMA-2** **Sites: 01-002(b)-00, 45-001 45-002, 45-004**

Tables 1 and 2 present the analytical results received from the confirmation monitoring samples collected from the first measurable storm event following the installation and subsequent certification of enhanced controls at site monitoring area (SMA) ACID-SMA-2. The analytical results were received and validated on December 12, 2016, and January 27, 2017. The descriptions and photographs of each enhanced control installed at ACID SMA-2 were provided to the U.S. Environmental Protection Agency on October 14, 2016 (ADESH-16-127/LA-UR-16-27055). Table 3 presents each applicable target action level (TAL) for the analytes monitored.

Table 1
Radiochemical Analytical Results from the First Measurable Storm Event
Collected on November 4, 2016, following the Installation of Enhanced Controls at ACID-SMA-2

Sample ID	Analyte	Field Preparation	Detect Status	Result (pCi/L)	TAL Exceedance Ratio	Minimum Detectable Activity (pCi/L)	Uncertainty (pCi/L)	Qualifier[a]	Data Validation Date
WT_IPC-16-127205	Radium-226 and Radium-228	Unfiltered	Detect	7.57	0.25	1.668	n/a[b]	NQ	12/12/2016
WT_IPC-16-127205	Gross alpha	Unfiltered	Detect	65.3	4.4	3.78	2.72	NQ	12/12/2016

Note: TAL exceedance ratio is the result divided by the applicable TAL.

[a] Qualifier: NQ = Result is not qualified.

[b] n/a = Not applicable.

LOS ALAMOS NATIONAL LABORATORY
CERTIFICATION OF ANALYTICAL RESULTS

PF: P002 **ACID-SMA-2** **Sites: 01-002(b)-00, 45-001 45-002, 45-004**

Table 2
Metals and Inorganic Analytical Results from the First Measurable Storm Event Collected on November 4, 2016, Following the Installation of Enhanced Controls at ACID-SMA-2

Sample ID	Analyte	Field Preparation	Detect Status	Result (µg/L)	TAL Exceedance Ratio	Report Method Detection Limit (µg/L)	Report Quantitation Limit (µg/L)	Validation Qualifier[a]	Data Receipt and Validation Date
WT_IPC-16-127201	Aluminum	Filtered	Detect	359	0.48	15	50	NQ	12/12/2016
WT_IPC-16-127201	Antimony	Filtered	Nondetect	1	0.0016	1	3	U	12/12/2016
WT_IPC-16-127201	Arsenic	Filtered	Nondetect	1.7	0.19	1.7	5	U	12/12/2016
WT_IPC-16-127201	Boron	Filtered	Detect	20.3	0.0041	15	50	J	12/12/2016
WT_IPC-16-127201	Cadmium	Filtered	Nondetect	0.3	0.3	0.3	1	U	12/12/2016
WT_IPC-16-127201	Chromium	Filtered	Nondetect	3	0.014	3	10	U	12/12/2016
WT_IPC-16-127201	Cobalt	Filtered	Detect	1.14	0.0011	1	5	J	12/12/2016
WT_IPC-16-127201	Copper	Filtered	Detect	11.9	2.8	0.35	1	NQ	12/12/2016
WT_IPC-16-127201	Lead	Filtered	Detect	1.7	0.1	0.5	2	J	12/12/2016
WT_IPC-16-127205	Mercury	Unfiltered	Detect	0.138	0.18	0.067	2	J−	01/27/2017
WT_IPC-16-127201	Nickel	Filtered	Detect	2.15	0.013	0.5	2	NQ	12/12/2016
WT_IPC-16-127205	Selenium	Unfiltered	Detect	2.69	0.54	2	5	J	01/27/2017
WT_IPC-16-127201	Silver	Filtered	Nondetect	0.4	0.8	0.4	1	U	12/12/2016
WT_IPC-16-127201	Thallium	Filtered	Nondetect	0.6	0.095	0.6	2	U	12/12/2016
WT_IPC-16-127201	Vanadium	Filtered	Detect	2.48	0.025	1	5	J	12/12/2016
WT_IPC-16-127201	Zinc	Filtered	Detect	29.7	0.71	3.3	10	NQ	12/12/2016
WT_IPC-16-127205	Cyanide, weak acid dissociable	Unfiltered	Nondetect	1.67	0.32	1.67	5	U	12/12/2016
WT_IPC-16-127205	Total PCBs[b]	Unfiltered	Detect	0.0341	53	n/a[c]	n/a	NQ	12/09/2016

Note: TAL exceedance ratio is the result divided by the applicable TAL.

[a] Qualifier: NQ = Result is not qualified; U = result is not detected; J = result is estimated; J− = result is estimated and is likely to have a low bias.

[b] PCBs = Polychlorinated biphenyls.

[c] n/a = Not applicable.

LOS ALAMOS NATIONAL LABORATORY
CERTIFICATION OF ANALYTICAL RESULTS

PF: P002 **ACID-SMA-2** **Sites: 01-002(b)-00, 45-001 45-002, 45-004**

Table 3
Applicable TALs

Analyte	Units	CAS No.	MQL	ATAL	MTAL
Radium-226 and Radium-228	pCi/L	n/a*	n/a	30	n/a
Gross alpha	pCi/L	n/a	n/a	15	n/a
Aluminum	µg/L	7429-90-5	2.5	n/a	750
Antimony	µg/L	7440-36-0	60	640	n/a
Arsenic	µg/L	7440-38-2	0.5	9	340
Boron	µg/L	7440-42-8	100	5000	n/a
Cadmium	µg/L	7440-43-9	1	n/a	0.6
Chromium	µg/L	7440-47-3	10	n/a	210
Cobalt	µg/L	7440-48-4	50	1000	n/a
Copper	µg/L	7440-50-8	0.5	n/a	4.3
Lead	µg/L	7439-92-1	0.5	n/a	17
Mercury	µg/L	7439-97-6	0.005	0.77	1.4
Nickel	µg/L	7440-02-0	0.5	n/a	170
Selenium	µg/L	7782-49-2	5	5	20
Silver	µg/L	7440-22-4	0.5	n/a	0.4
Thallium	µg/L	7440-28-0	0.5	6.3	n/a
Vanadium	µg/L	7440-62-2	50	100	n/a
Zinc	µg/L	7440-66-6	20	n/a	42
Cyanide, weak acid dissociable	µg/L	57-12-5	10	5.2	22
Total PCBs	µg/L	1336-36-3	n/a	0.00064	n/a

Notes: CAS = Chemical Abstracts Service; MQL = minimum quantification level;
ATAL = average TAL; MTAL = maximum TAL.

*n/a – Value is not applicable.

Analytical Results from the First Measurable Storm Event Following Certification of Enhanced Control Measures at ACID-SMA-2.1

February 9, 2017

NPDES PERMIT NO. NM0030759

LA-UR-17-20784

NPDES PERMIT NO. NM0030759 **LA-UR-17-20784**

LOS ALAMOS NATIONAL LABORATORY
CERTIFICATION OF ANALYTICAL RESULTS

PF: P003 **ACID-SMA-2.1** **Site: 01-002(b)-00**

The following certification of analytical results received from the confirmation monitoring samples collected after the completion of the installation of enhanced controls was performed in accordance with NPDES Permit No.NM0030759, Part I.E.1.

CERTIFICATION STATEMENT OF AUTHORIZATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with 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 there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

Associate Directorate of Environmental Management
Los Alamos National Laboratory

2/6/2017
Date

for DR

Environmental Management Los Alamos Field Office
U.S. Department of Energy

2/9/2017
Date

NPDES PERMIT NO. NM0030759 **LA-UR-17-20784**

LOS ALAMOS NATIONAL LABORATORY
CERTIFICATION OF ANALYTICAL RESULTS

PF: P003 **ACID-SMA-2.1** **Site: 01-002(b)-00**

Tables 1 and 2 present the analytical results received from the confirmation monitoring samples collected from the first measurable storm event following the installation and subsequent certification of enhanced controls at site monitoring area (SMA) ACID-SMA-2.1. The analytical results were received and validated on December 12, 2016, and January 27, 2017. The descriptions and photographs of each enhanced control installed at ACID-SMA-2.1 were provided to the U.S. Environmental Protection Agency on October 14, 2016 (ADESH-16-127/LA-UR-16-27055). Table 3 presents each applicable target action level (TAL) for the analytes monitored.

Table 1
Radiochemical Analytical Results from the First Measurable Storm Event
Collected on November 5, 2016, following the Installation of Enhanced Controls at ACID-SMA-2.1

Sample ID	Analyte	Field Preparation	Detect Status	Result (pCi/L)	TAL Exceedance Ratio	Minimum Detectable Activity (pCi/L)	Uncertainty (pCi/L)	Qualifier[a]	Data Validation Date
WT_IPC-16-127204	Radium-226 and Radium-228	Unfiltered	Detect	2.01	0.067	1.608	n/a[b]	NQ	12/12/2016
WT_IPC-16-127204	Gross alpha	Unfiltered	Detect	13.2	0.88	3.05	1.36	NQ	12/12/2016

Note: TAL exceedance ratio is the result divided by the applicable TAL.

[a] Qualifier: NQ = Result is not qualified.

[b] n/a = not applicable.

LOS ALAMOS NATIONAL LABORATORY
CERTIFICATION OF ANALYTICAL RESULTS

PF: P003 **ACID-SMA-2.1** **Site: 01-002(b)-00**

Table 2
Metals and Inorganic Analytical Results from the First Measurable Storm Event
Collected on November 5, 2016, Following the Installation of Enhanced Controls at ACID-SMA-2.1

Sample ID	Analyte	Field Preparation	Detect Status	Result (µg/L)	TAL Exceedance Ratio	Report Method Detection Limit (µg/L)	Report Quantitation Limit (µg/L)	Validation Qualifier[a]	Data Receipt and Validation Date
WT_IPC-16-127200	Aluminum	Filtered	Detect	818	1.1	15	50	NQ	12/12/2016
WT_IPC-16-127200	Antimony	Filtered	Nondetect	1	0.0016	1	3	U	12/12/2016
WT_IPC-16-127200	Arsenic	Filtered	Nondetect	1.7	0.19	1.7	5	U	12/12/2016
WT_IPC-16-127200	Boron	Filtered	Detect	50.4	0.01	15	50	NQ	12/12/2016
WT_IPC-16-127200	Cadmium	Filtered	Nondetect	0.3	0.3	0.3	1	U	12/12/2016
WT_IPC-16-127200	Chromium	Filtered	Nondetect	3	0.014	3	10	U	12/12/2016
WT_IPC-16-127200	Cobalt	Filtered	Nondetect	1	0.001	1	5	U	12/12/2016
WT_IPC-16-127200	Copper	Filtered	Detect	5.36	1.2	0.35	1	NQ	12/12/2016
WT_IPC-16-127200	Lead	Filtered	Detect	1.76	0.1	0.5	2	J	12/12/2016
WT_IPC-16-127204	Mercury	Unfiltered	Nondetect	0.067	0.067	0.067	0.2	R	01/27/2017
WT_IPC-16-127200	Nickel	Filtered	Detect	1.48	0.0087	0.5	2	J	12/12/2016
WT_IPC-16-127204	Selenium	Unfiltered	Nondetect	2	0.4	2	5	U	01/27/2017
WT_IPC-16-127200	Silver	Filtered	Nondetect	0.4	0.8	0.4	1	U	12/12/2016
WT_IPC-16-127200	Thallium	Filtered	Nondetect	0.6	0.095	0.6	2	U	12/12/2016
WT_IPC-16-127200	Vanadium	Filtered	Detect	2.99	0.03	1	5	J	12/12/2016
WT_IPC-16-127200	Zinc	Filtered	Detect	19.1	0.45	3.3	10	NQ	12/12/2016
WT_IPC-16-127204	Cyanide, weak acid dissociable	Unfiltered	Nondetect	1.67	0.32	1.67	5	U	12/12/2016
WT_IPC-16-127204	Total PCBs[b]	Unfiltered	Detect	0.0112	18	n/a[c]	n/a	NQ	12/09/2016

Note: TAL exceedance ratio is the result divided by the applicable TAL.

[a] Qualifier: NQ = Result is not qualified; U = result is not detected; J = result is estimated; R= result is rejected.

[b] PCBs = Polychlorinated biphenyls.

[c] n/a = Not applicable.

LOS ALAMOS NATIONAL LABORATORY
CERTIFICATION OF ANALYTICAL RESULTS

PF: P003 **ACID-SMA-2.1** **Site: 01-002(b)-00**

Table 3
Applicable TALs

Analyte	Units	CAS No.	MQL	ATAL	MTAL
Radium-226 and Radium-228	pCi/L	n/a*	n/a	30	n/a
Gross alpha	pCi/L	n/a	n/a	15	n/a
Aluminum	µg/L	7429-90-5	2.5	n/a	750
Antimony	µg/L	7440-36-0	60	640	n/a
Arsenic	µg/L	7440-38-2	0.5	9	340
Boron	µg/L	7440-42-8	100	5000	n/a
Cadmium	µg/L	7440-43-9	1	n/a	0.6
Chromium	µg/L	7440-47-3	10	n/a	210
Cobalt	µg/L	7440-48-4	50	1000	n/a
Copper	µg/L	7440-50-8	0.5	n/a	4.3
Lead	µg/L	7439-92-1	0.5	n/a	17
Mercury	µg/L	7439-97-6	0.005	0.77	1.4
Nickel	µg/L	7440-02-0	0.5	n/a	170
Selenium	µg/L	7482-49-2	5	5	20
Silver	µg/L	7440-22-4	0.5	n/a	0.4
Thallium	µg/L	7440-28-0	0.5	6.3	n/a
Vanadium	µg/L	7440-62-2	50	100	n/a
Zinc	µg/L	7440-66-6	20	n/a	42
Cyanide, weak acid dissociable	µg/L	57-12-5	10	5.2	22
Total PCBs	µg/L	1336-36-3	n/a	0.00064	n/a

Notes: CAS = Chemical Abstracts Service; MQL = minimum quantification level;
ATAL = average TAL; MTAL = maximum TAL.

*n/a = Value is not applicable.