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 Los Alamos Field Office
 P.O. Box 1663, MS M984
 Los Alamos, New Mexico 87545
 (505) 665-5658/FAX (505) 606-2132

Date: SEP 26 2019
Refer To: N3B-19-0262

Esteban Herrera, Chief
 Water Enforcement Branch (6EN-WS)
 Compliance Assurance and Enforcement Division
 U.S. Environmental Protection Agency, Region 6
 1201 Elm Street, Suite 500
 Dallas, Texas 75270-2102

Subject: NPDES Permit No. NM0030759 – Analytical Results for Site Monitoring Areas A-SMA-2, DP-SMA-3, and PT-SMA-2 from the First Measurable Storm Event Following Certification of Enhanced Control Measures

Dear Mr. Herrera:

This letter and enclosures are being submitted in accordance with the requirements of the U.S. Environmental Protection Agency's (EPA's) National Pollutant Discharge Elimination System (NPDES) Permit No. NM0030759 for discharges of storm water at Los Alamos National Laboratory. The permit was issued to Los Alamos National Security, LLC (LANS) and the U.S. Department of Energy, effective November 1, 2010, and on April 30, 2018, responsibilities, coverage, and liability transferred from LANS to Newport News Nuclear BWXT-Los Alamos, LLC (N3B). As specified in Part I, Section E.1(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 samples collected during the first measurable storm event received at three site monitoring areas (A-SMA-2, DP-SMA-3, and PT-SMA-2) in the last 30 days are enclosed. The reports provide references to the certificates of completion of the installation of the control measures. Table 1 includes information about the confirmation samples collected at the site monitoring areas. The enclosed certified documents can also be accessed at the following website: <https://ext.em-la.doe.gov/EPRR/>.

Table 1
Confirmation Samples Collected at A-SMA-2, DP-SMA-3, and PT-SMA-2 from the
First Measurable Storm Event after Certification of Installation of Enhanced Controls

Watershed	Priority	Site Number	SMA Number	Permitted Feature	Sample Collection Date	Final Validation Date
Ancho/ Chaquehui	Moderate	39-004(b) 39-004(e)	A-SMA-2	A002	07/25/2019	08/27/2019
Los Alamos/ Pueblo	Moderate	21-013(c) 21-021	DP-SMA-3	D007	07/25/2019	09/03/2019
Water/ Cañon de Valle	Moderate	15-008(f) 36-003(b) 36-004(e)	PT-SMA-2	I004	07/25/2019	08/27/2019

If you have any questions, please contact Steve Veenis at (505) 309-1362 (steve.veenis@em-la.doe.gov) or David Nickless at (505) 257-7933 (david.nickless@em.doe.gov).

Sincerely,



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

Sincerely,



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

Enclosure(s): One hard copy with electronic files –

1. Analytical Results from the First Measurable Storm Event Following Certification of Enhanced Control Measures at A-SMA-2 (EM2019-0346)
2. Analytical Results from the First Measurable Storm Event Following Certification of Enhanced Control Measures at DP-SMA-3 (EM2019-0353)
3. Analytical Results from the First Measurable Storm Event Following Certification of Enhanced Control Measures at PT-SMA-2 (EM2019-0347)

Cy: (letter with enclosure[s])
Sarah Holcomb, NMED-SWQB

Cy: (letter and enclosure[s] emailed)
Carol Johnson, EPA Region 6
Curry Jones, EPA Region 6
Laurie King, EPA Region 6
Brent Larsen, EPA Region 6
Steve Yanicak, NMED-DOE-OB
Arturo Duran, EM-LA
David Nickless, EM-LA

Cheryl Rodriguez, EM-LA
 William Alexander, N3B
 Don Carlson, N3B
 Emily Day, N3B
 Mary Erwin, N3B
 Erich Evered, N3B
 Debby Holgerson, N3B
 Kim Lebak, N3B
 Joseph Legare, N3B
 Frazer Lockhart, N3B
 Elizabeth Lowes, N3B
 Pamela Maestas, N3B
 Jason Moore, N3B
 Glenn Morgan, N3B
 Lester Patten, N3B
 Gary Pool, N3B
 Bruce Robinson, N3B
 Karly Rodriguez, N3B
 Steve Veenis, N3B
 Tashia Vigil, N3B
 Amanda White, N3B
 Jeff Yarbrough, N3B
 emla.docs@em.doe.gov
 N3B Records
 Public Reading Room (EPRR)
 PRS Website

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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

LOS ALAMOS NM 0544 35
SEP 26 2019
8709/26/2019

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

September 26, 2019

NPDES PERMIT NO. NM0030759

EM2019-0346

NPDES PERMIT NO. NM0030759

EM2019-0346

**NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC
CERTIFICATION OF ANALYTICAL RESULTS**

PF: A002

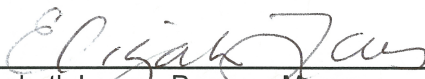
A-SMA-2

Sites: 39-004(b)
39-004(e)

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."



Elizabeth Lowes, Program Manager
Environment, Safety, and Health
Newport News Nuclear BWXT-Los Alamos, LLC

9-18-2019
Date



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

9/26/19
Date

**NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC
CERTIFICATION OF ANALYTICAL RESULTS**

PF: A002**A-SMA-2****Sites: 39-004(b)
39-004(e)**

Tables 1 and 2 present the analytical results received from confirmation monitoring samples collected from the first measurable storm event following the installation and subsequent certification of enhanced controls at site monitoring area A-SMA-2. Final analytical results were received and validated on August 27, 2019. The descriptions and photographs of each enhanced control installed at A-SMA-2 were provided to the U.S. Environmental Protection Agency on August 17, 2015 (ADESH-15-108, LA-UR-15-21539). 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 July 25, 2019, Following Installation of Enhanced Controls at A-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-19-174194	Radium-226 and Radium-228	Unfiltered	Detect	2.93	0.098	n/a ^b	0.437	NQ	8/27/2019
WT_IPC-19-174194	Gross alpha	Unfiltered	Detect	596	39.7	19.8	17.4	NQ	8/27/2019

Note: TAL exceedance ratio is the analytical result divided by the applicable average TAL (ATAL).

^a Qualifier: NQ = Result is not qualified.

^b n/a = Not applicable.

**NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC
CERTIFICATION OF ANALYTICAL RESULTS**

PF: A002

A-SMA-2

Sites: 39-004(b)
39-004(e)

Table 2

**Metals and Organic Analytical Results from the First Measurable Storm Event
Collected on July 25, 2019, Following Installation of Enhanced Controls at A-SMA-2**

Sample ID	Analyte	Field Prep	Detect Status	Result (µg/L)	TAL Exceedance Ratio	Method Detection Limit	Quantitation Limit	Qualifier ^a	Data Receipt Date
WT_IPC-19-174149	Aluminum	Filtered	Detect	348	0.464	19.3	50	NQ	8/27/2019
WT_IPC-19-174149	Antimony	Filtered	Nondetect	1	0.00156	1	3	U	8/27/2019
WT_IPC-19-174149	Arsenic	Filtered	Detect	2.68	0.298	2	5	J	8/27/2019
WT_IPC-19-174149	Boron	Filtered	Detect	16.9	0.00338	15	50	J	8/27/2019
WT_IPC-19-174149	Cadmium	Filtered	Nondetect	0.3	0.3	0.3	1	U	8/27/2019
WT_IPC-19-174149	Chromium	Filtered	Nondetect	3	0.0143	3	10	U	8/27/2019
WT_IPC-19-174149	Cobalt	Filtered	Detect	1.14	0.00114	1	5	J	8/27/2019
WT_IPC-19-174149	Copper	Filtered	Detect	29.6	6.88	0.3	2	NQ	8/27/2019
WT_IPC-19-174149	Lead	Filtered	Nondetect	0.5	0.0294	0.5	2	U	8/27/2019
WT_IPC-19-174927	Mercury	Unfiltered	Detect	0.765	0.994	0.067	0.2	NQ	8/27/2019
WT_IPC-19-174149	Nickel	Filtered	Detect	0.98	0.00576	0.6	2	J	8/27/2019
WT_IPC-19-174927	Selenium	Unfiltered	Detect	2.83	0.566	2	5	J	8/27/2019
WT_IPC-19-174149	Silver	Filtered	Nondetect	0.3	0.6	0.3	1	U	8/27/2019
WT_IPC-19-174149	Thallium	Filtered	Nondetect	0.6	0.0952	0.6	2	U	8/27/2019
WT_IPC-19-174149	Vanadium	Filtered	Detect	3.4	0.034	1	5	J	8/27/2019
WT_IPC-19-174149	Zinc	Filtered	Nondetect	10.7	0.255	3.3	20	U	8/27/2019
WT_IPC-19-174194	Cyanide, weak acid dissociable	Unfiltered	Nondetect	1.67	0.167	1.67	5	U	8/27/2019
WT_IPC-19-174194	RDX ^b	Unfiltered	Nondetect	0.0858	0.000429	0.0858	0.268	U	8/27/2019
WT_IPC-19-174194	Trinitrotoluene[2,4,6-]	Unfiltered	Nondetect	0.0858	0.00429	0.0858	0.268	U	8/27/2019

Note: TAL exceedance ratio is the result divided by the smallest applicable TAL. Applicable TALs are the larger of the maximum TAL and minimum qualification level (MQL) or the larger of the average TAL or MQL.

^a Qualifier: U = Result is not detected; NQ = result is not qualified; J = result is estimated.

^b RDX = Royal Demolition Explosive.

**NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC
CERTIFICATION OF ANALYTICAL RESULTS**

PF: A002

A-SMA-2

Sites: 39-004(b)
39-004(e)

**Table 3
Applicable TALs**

Analyte	Units	CAS No.	MQL	ATAL	MTAL
Radium-226 and radium-228	pCi/L	n/a ^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
RDX ^b	µg/L	121-82-4	n/a	200	n/a
Trinitrotoluene[2,4,6-]	µg/L	118-96-7	n/a	20	n/a

Notes: CAS = Chemical Abstracts Service; MQL = minimum quantification level; ATAL = average TAL; MTAL = maximum TAL. As allowed by Part I.D. of the Individual Permit, analytical results are compared with either the corresponding MTAL/ATAL (as applicable) or the MQL, whichever value is greater, for the purpose of determining the effectiveness of storm water control measures.

^a n/a = Not applicable.

^b RDX = Royal Demolition Explosive.

**Analytical Results from the First Measurable
Storm Event Following Certification
of Enhanced Control Measures
at DP-SMA-3**

September 26, 2019

NPDES PERMIT NO. NM0030759

EM2019-0353

**NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC
CERTIFICATION OF ANALYTICAL RESULTS**

PF: D007


DP-SMA-3

Sites: 21-013(c)
21-021

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

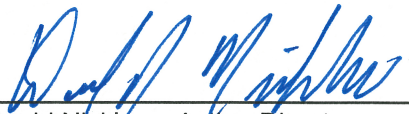
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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."



Elizabeth Lowes, Program Manager
Environment, Safety, and Health
Newport News Nuclear BWXT-Los Alamos, LLC

9-18-2019

Date



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

9/26/19

Date

**NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC
CERTIFICATION OF ANALYTICAL RESULTS**

PF: D007

DP-SMA-3

Sites: 21-013(c)
21-021

Tables 1 and 2 present the analytical results received from confirmation monitoring samples collected from the first measurable storm event following the installation and subsequent certification of enhanced controls at site monitoring area DP-SMA-3. Final analytical results were received and validated on September 3, 2019. The descriptions and photographs of each enhanced control installed at DP-SMA-3 were provided to the U.S. Environmental Protection Agency on September 20, 2012 (EP-2012-0216, LA-UR-12-24022). 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 July 25, 2019, Following Installation of Enhanced Controls at DP-SMA-3**

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-19-174183	Radium-226 and radium-228	Unfiltered	Detect	4.83	0.161	n/a ^b	0.537	NQ	9/3/2019
WT_IPC-19-174183	Gross alpha	Unfiltered	Detect	66.5	4.43	5.89	3.86	NQ	9/3/2019

Note: TAL exceedance ratio is the analytical result divided by the applicable average TAL (ATAL).

^a Qualifier: NQ = Result is not qualified.

^b n/a = Not applicable.

**NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC
CERTIFICATION OF ANALYTICAL RESULTS**

PF: D007

DP-SMA-3

Sites: 21-013(c)
21-021

**Metals and Organic Analytical Results from the First Measurable Storm Event
Collected on July 25, 2019, Following Installation of Enhanced Controls at DP-SMA-3**

Sample ID	Analyte	Field Prep	Detect Status	Result (µg/L)	TAL Exceedance Ratio	Method Detection Limit	Quantitation Limit	Qualifier*	Data Receipt Date
WT_IPC-19-174157	Aluminum	Filtered	Detect	382	0.509	19.3	50	NQ	9/3/2019
WT_IPC-19-174157	Antimony	Filtered	Nondetect	1	0.00156	1	3	U	9/3/2019
WT_IPC-19-174157	Arsenic	Filtered	Nondetect	2	0.222	2	5	U	9/3/2019
WT_IPC-19-174157	Boron	Filtered	Detect	15.6	0.00312	15	50	J	9/3/2019
WT_IPC-19-174157	Cadmium	Filtered	Nondetect	0.3	0.3	0.3	1	U	9/3/2019
WT_IPC-19-174157	Chromium	Filtered	Nondetect	3	0.0143	3	10	U	9/3/2019
WT_IPC-19-174157	Cobalt	Filtered	Detect	1.03	0.00103	1	5	J	9/3/2019
WT_IPC-19-174157	Copper	Filtered	Detect	1.52	0.353	0.3	2	J	9/3/2019
WT_IPC-19-174157	Lead	Filtered	Nondetect	0.5	0.0294	0.5	2	U	9/3/2019
WT_IPC-19-174934	Mercury	Unfiltered	Detect	0.213	0.277	0.067	0.2	NQ	9/3/2019
WT_IPC-19-174157	Nickel	Filtered	Detect	1.06	0.00624	0.6	2	J	9/3/2019
WT_IPC-19-174934	Selenium	Unfiltered	Detect	2.32	0.464	2	5	J	9/3/2019
WT_IPC-19-174157	Silver	Filtered	Nondetect	0.3	0.6	0.3	1	U	9/3/2019
WT_IPC-19-174157	Thallium	Filtered	Nondetect	0.6	0.0952	0.6	2	U	9/3/2019
WT_IPC-19-174157	Vanadium	Filtered	Detect	3.58	0.0358	1	5	J	9/3/2019
WT_IPC-19-174157	Zinc	Filtered	Detect	13.7	0.326	3.3	20	J	9/3/2019
WT_IPC-19-174183	Cyanide, weak acid dissociable	Unfiltered	Nondetect	1.67	0.167	1.67	5	U	9/3/2019

Note: TAL exceedance ratio is the result divided by the smallest applicable TAL. Applicable TALs are the larger of the maximum TAL and minimum qualification level (MQL) or the larger of the average TAL or MQL.

*Qualifier: U = Result is not detected; NQ = result is not qualified; J = result is estimated.

**NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC
CERTIFICATION OF ANALYTICAL RESULTS**

PF: D007

DP-SMA-3

Sites: 21-013(c)
21-021

**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

Notes: CAS = Chemical Abstracts Service; MQL = minimum quantification level; ATAL = average TAL; MTAL = maximum TAL. As allowed by Part I.D. of the Individual Permit, analytical results are compared with either the corresponding MTAL/ATAL (as applicable) or the MQL, whichever value is greater, for the purpose of determining the effectiveness of storm water control measures.

* n/a = Value is not applicable.

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

September 26, 2019

NPDES PERMIT NO. NM0030759

EM2019-0347

**NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC
CERTIFICATION OF ANALYTICAL RESULTS**

PF: I004

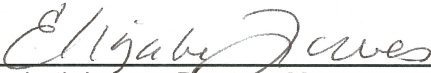
PT-SMA-2

Sites: 15-008(f)
36-003(b)
36-004(e)

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."


Elizabeth Lowes, Program Manager
Environment, Safety, and Health
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David Nickless, Acting Director
Office of Quality and Regulatory Compliance
Environmental Management
Los Alamos Field Office

9/26/19
Date

**NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC
CERTIFICATION OF ANALYTICAL RESULTS**

PF: I004

PT-SMA-2

Sites: 15-008(f)

36-003(b)

36-004(e)

Tables 1 and 2 present the analytical results received from confirmation monitoring samples collected from the first measurable storm event following the installation and subsequent certification of enhanced controls at site monitoring area PT-SMA-2. Final analytical results were received and validated on August 27, 2019. The descriptions and photographs of each enhanced control installed at PT-SMA-2 were provided to the U.S. Environmental Protection Agency on September 29, 2015 (ADESH-15-142, LA-UR-15-26897). 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 July 25, 2019, Following Installation of Enhanced Controls at PT-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-19-174208	Radium-226 and radium-228	Unfiltered	Detect	1.85	0.0617	n/a ^b	0.411	NQ	8/27/2019
WT_IPC-19-174208	Gross alpha	Unfiltered	Detect	137	9.13	9.4	6.1	NQ	8/27/2019

Note: TAL exceedance ratio is the analytical result divided by the applicable average TAL (ATAL).

^a Qualifier: NQ = Result is not qualified.

^b n/a = Not applicable.

Table 2

**Metals and Organic Analytical Results from the First Measurable Storm Event
Collected on July 25, 2019, Following Installation of Enhanced Controls at PT-SMA-2**

Sample ID	Analyte	Field Prep	Detect Status	Result (ug/L)	TAL Exceedance Ratio	Method Detection Limit	Quantitation Limit	Qualifier ^a	Data Receipt Date
WT_IPC-19-174166	Aluminum	Filtered	Detect	132	0.176	19.3	50	NQ	8/27/2019
WT_IPC-19-174166	Antimony	Filtered	Detect	5.73	0.00895	1	3	NQ	8/27/2019
WT_IPC-19-174166	Arsenic	Filtered	Nondetect	2	0.222	2	5	U	8/27/2019
WT_IPC-19-174166	Boron	Filtered	Detect	22.9	0.00458	15	50	J	8/27/2019

**NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC
CERTIFICATION OF ANALYTICAL RESULTS**

PF: I004

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Table 2 (continued)

Sample ID	Analyte	Field Prep	Detect Status	Result (µg/L)	TAL Exceedance Ratio	Method Detection Limit	Quantitation Limit	Qualifier ^a	Data Receipt Date
WT_IPC-19-174166	Cadmium	Filtered	Nondetect	0.3	0.3	0.3	1	U	8/27/2019
WT_IPC-19-174166	Chromium	Filtered	Nondetect	3	0.0143	3	10	U	8/27/2019
WT_IPC-19-174166	Cobalt	Filtered	Detect	1.9	0.0019	1	5	J	8/27/2019
WT_IPC-19-174166	Copper	Filtered	Detect	5.15	1.2	0.3	2	NQ	8/27/2019
WT_IPC-19-174166	Lead	Filtered	Nondetect	0.5	0.0294	0.5	2	U	8/27/2019
WT_IPC-19-174968	Mercury	Unfiltered	Detect	0.122	0.158	0.067	0.2	J	8/27/2019
WT_IPC-19-174166	Nickel	Filtered	Detect	1.26	0.00741	0.6	2	J	8/27/2019
WT_IPC-19-174968	Selenium	Unfiltered	Nondetect	2	0.4	2	5	U	8/27/2019
WT_IPC-19-174166	Silver	Filtered	Nondetect	0.3	0.6	0.3	1	U	8/27/2019
WT_IPC-19-174166	Thallium	Filtered	Nondetect	0.6	0.0952	0.6	2	U	8/27/2019
WT_IPC-19-174166	Vanadium	Filtered	Detect	1.27	0.0127	1	5	J	8/27/2019
WT_IPC-19-174166	Zinc	Filtered	Nondetect	12.7	0.302	3.3	20	U	8/27/2019
WT_IPC-19-174208	Cyanide, weak acid dissociable	Unfiltered	Nondetect	1.67	0.167	1.67	5	U	8/27/2019
WT_IPC-19-174208	Pentachlorophenol	Unfiltered	Nondetect	4.62	0.243	4.62	15.4	UJ	8/27/2019
WT_IPC-19-174208	Benzo(a)pyrene	Unfiltered	Nondetect	0.0462	0.00924	0.0462	0.154	U	8/27/2019
WT_IPC-19-174208	Hexachlorobenzene	Unfiltered	Nondetect	0.00818	0.00164	0.00818	0.0262	UJ	8/27/2019
WT_IPC-19-174208	RDX ^b	Unfiltered	Nondetect	0.29	0.00145	0.29	0.905	U	8/27/2019
WT_IPC-19-174208	Trinitrotoluene[2,4,6-]	Unfiltered	Nondetect	0.29	0.0145	0.29	0.905	U	8/27/2019

Note: TAL exceedance ratio is the result divided by the smallest applicable TAL. Applicable TALs are the larger of the maximum TAL and minimum qualification level (MQL) or the larger of the average TAL or MQL.

^a Qualifier: U = Result is not detected; NQ = result is not qualified; J = result is estimated; UJ = result is not detected and the detection limit is estimated.

^b RDX = Royal Demolition Explosive.

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**Table 3
Applicable TALs**

Analyte	Units	CAS No.	MQL	ATAL	MTAL
Radium-226 and radium-228	pCi/L	n/a ^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
Pentachlorophenol	µg/L	87-86-5	5	n/a	19
Benzo(a)pyrene	µg/L	50-32-8	5	0.18	n/a
Hexachlorobenzene	µg/L	118-74-1	5	0.0029	n/a
RDX ^b	µg/L	121-82-4	n/a	200	n/a
Trinitrotoluene[2,4,6-]	µg/L	118-96-7	n/a	20	n/a

Notes: CAS = Chemical Abstracts Service; MQL = minimum quantification level; ATAL = average TAL; MTAL = maximum TAL. As allowed by Part I.D. of the Individual Permit, analytical results are compared with either the corresponding MTAL/ATAL (as applicable) or the MQL, whichever value is greater, for the purpose of determining the effectiveness of storm water control measures.

^a n/a = Value is not applicable.

^b RDX = Royal Demolition Explosive.

