

**Analytical Results from the First Measurable
Storm Event Following Installation of Control
Measures at S-SMA-3.6**

August 23, 2013

NPDES PERMIT NO. NM0030759

LA-UR-13-26527

**LOS ALAMOS NATIONAL LABORATORY
ANALYTICAL RESULTS FROM THE FIRST MEASURABLE STORM EVENT**

PF: S006

S-SMA-3.6

Site: 60-007(b)

Table 1 present the analytical results received from the confirmation monitoring samples collected from the first measurable storm event following the installation of enhanced controls at site monitoring area (SMA) S-SMA-3.6. The descriptions and photographs of each enhanced control installed at S-SMA-3.6 were provided to the U.S. Environmental Protection Agency on December 13, 2012 (EP2012-0296/LA-UR-12-25727). Table 2 presents each applicable target action level (TAL) for the analytes monitored.

Table 1

Analytical Results from the First Measurable Storm Event

Collected on June 14, 2013, at 1:40PM Following Installation of Enhanced Controls, SMA S-SMA-3.6

Sample ID	Analyte	Field Prep	Detect Status	Result (µg/L)	TAL Exceedance Ratio	Method Detection Limit (µg/L)	Quantification Limit (µg/L)	Qualifier ^a	Data Receipt Date
WT_IPC-13-32094	Trinitrotoluene[2,4,6-] (TNT)	UF ^b	Nondetect	0.284	n/a ^c	0.0909	0.284	U	7/18/2013
WT_IPC-13-32094	Hexahydro-1,3,5-trinitro- 1,3,5-triazine (RDX)	UF	Nondetect	0.284	n/a	0.0909	0.284	U	7/18/2013
WT_IPC-13-32094	Total polychlorinated biphenyls (PCBs)	UF	Detect	0.00745	12 ^d	n/a	n/a	NQ	7/24/2013
WT_IPC-13-32126	Copper	F ^e	Detect	20.8	4.8	0.35	1.0	NQ	7/23/2013
WT_IPC-13-32126	Zinc	F	Detect	135	3.2	3.3	10.0	NQ	7/23/2013

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

^b UF = Unfiltered.

^c n/a = Value is not applicable

^d Preliminary average TAL (ATAL) exceedance ratio from first of two possible samples.

^e F = Filtered.

**LOS ALAMOS NATIONAL LABORATORY
ANALYTICAL RESULTS FROM THE FIRST MEASURABLE STORM EVENT**

PF: S006

S-SMA-3.6

Site: 60-007(b)

**Table 2
Applicable TALs**

Analyte	Units	CAS No.	MQL	ATAL	MTAL
TNT	µg/L	118-96-7	n/a*	20	n/a
RDX	µg/L	121-82-4	n/a	200	n/a
Total PCB	µg/L	1336-36-3	n/a	0.00064	n/a
Copper, Dissolved	µg/L	7440-40-8	0.5	n/a	4.3
Zinc, Dissolved	µg/L	7440-66-6	20	n/a	42

Notes: CAS = Chemical Abstracts Service; MQL = Minimum quantification level;
MTAL = Maximum TAL.

* n/a = Value is not applicable.

**Analytical Results from the First Measurable
Storm Event Following Installation of Control
Measures at M-SMA-1**

August 23, 2013

NPDES PERMIT NO. NM0030759

LA-UR-13-26526

**LOS ALAMOS NATIONAL LABORATORY
ANALYTICAL RESULTS FROM THE FIRST MEASURABLE STORM EVENT**

PF: M001

M-SMA-1

Sites: 03-050(a)
03-054(e)

Tables 1 and 2 present the analytical results received from the confirmation monitoring samples collected from the first measurable storm event following the installation of enhanced controls at site monitoring area (SMA) M-SMA-1. The descriptions and photographs of each enhanced control installed at M-SMA-1 were provided to the U.S. Environmental Protection Agency on December 13, 2012 (EP2012-0296/LA-UR-12-25916). 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 June 14, 2013 at 1:06PM Following Installation of Enhanced Controls, SMA M-SMA-1

Sample ID	Analyte	Field Prep	Detect Status	Result (pCi/L)	TAL Exceedance Ratio ^a	Minimum Detectable Activity (pCi/L)	Uncertainty (pCi/L)	Qualifier ^b	Data Receipt Date
WT_IPC-13-32157	Gross alpha	UF ^c	Detect	32.5	2.2	1.6	1.96	NQ	7/23/2013
WT_IPC-13-32157	Radium-226 and Radium-228	UF	Nondetect	1.99	n/a ^d	1.11	1.012	U	7/23/2013

^a Preliminary average TAL (ATAL) exceedance ratio from first of two possible samples.

^b Qualifier: NQ = Result is not qualified; U = Result is not detected.

^c UF = Unfiltered.

^d n/a = Value is not applicable.

**LOS ALAMOS NATIONAL LABORATORY
ANALYTICAL RESULTS FROM THE FIRST MEASURABLE STORM EVENT**

PF: M001

M-SMA-1

Sites: 03-050(a)
03-054(e)

Table 2

**Metals, Cyanide, and Organic Analytical Results from the First Measurable Storm Event
Collected on June 14, 2013, at 1:06PM Following Installation of Enhanced Controls, SMA M-SMA-1**

Sample ID	Analyte	Field Prep	Detect Status	Result (µg/L)	TAL Exceedance Ratio	Method Detection Limit (µg/L)	Quantification Limit (µg/L)	Qualifier ^a	Data Receipt Date
WT_IPC-13-32157	Total polychlorinated biphenyls (PCBs)	UF ^b	Detect	0.0102	16 ^c	n/a ^d	n/a	NQ	7/29/2013
WT_IPC-13-32501	Silver	F ^e	Nondetect	1	n/a	0.2	1.0	U	7/23/2013
WT_IPC-13-32501	Aluminum	F	Detect	173	0.023	15	50.0	NQ	7/23/2013
WT_IPC-13-32501	Arsenic	F	Nondetect	5	n/a	1.7	5.0	U	7/23/2013
WT_IPC-13-32501	Boron	F	Nondetect	50	n/a	15	50.0	U	7/23/2013
WT_IPC-13-32501	Cadmium	F	Detect	0.94	1	0.11	1.0	J	7/23/2013
WT_IPC-13-32157	Cyanide, weak acid dissociable	UF	Nondetect	5.0	n/a	1.67	5.0	U	7/23/2013
WT_IPC-13-32501	Cobalt	F	Detect	3.23	0.0032 ^c	1	5.0	J	7/23/2013
WT_IPC-13-32501	Chromium	F	Nondetect	10	n/a	2	10.0	U	7/23/2013
WT_IPC-13-32501	Copper	F	Detect	31.2	7.3	0.35	1.0	NQ	7/23/2013
WT_IPC-13-32157	Mercury	UF	Nondetect	0.2	n/a	0.067	0.2	U	7/23/2013
WT_IPC-13-32501	Nickel	F	Detect	2.54	0.015	0.5	2.0	NQ	7/23/2013
WT_IPC-13-32501	Lead	F	Detect	0.717	0.042	0.5	2.0	J	7/23/2013
WT_IPC-13-32501	Antimony	F	Nondetect	3	n/a	1	3.0	U	7/23/2013
WT_IPC-13-32157	Selenium	UF	Nondetect	5	n/a	1.5	5.0	U	7/23/2013
WT_IPC-13-32501	Thallium	F	Nondetect	2	n/a	0.45	2.0	U	7/23/2013
WT_IPC-13-32501	Vanadium	F	Nondetect	5	n/a	1	5.0	U	7/23/2013
WT_IPC-13-32501	Zinc	F	Detect	264	6.3	3.3	10.0	NQ	7/23/2013

^a Qualifier: NQ = Result is not qualified; U = Result is not detected; J = Result is detected and is estimated to be between the method detection limit and quantification limit.

^b UF = Unfiltered.

^c Preliminary ATAL exceedance ratio from first of two possible samples.

^d n/a = Value is not applicable.

^e F = Filtered.

**LOS ALAMOS NATIONAL LABORATORY
ANALYTICAL RESULTS FROM THE FIRST MEASURABLE STORM EVENT**

PF: M001

M-SMA-1

Sites: 03-050(a)
03-054(e)

**Table 3
Applicable TALs**

Analyte	Units	CAS No.	MQL	ATAL	MTAL
Total PCBs	µg/L	1336-36-3	n/a*	0.00064	n/a
Aluminum, dissolved	µg/L	7429-90-5	2.5	n/a	750
Antimony, dissolved	µg/L	7440-36-0	60	640	n/a
Arsenic, dissolved	µg/L	7440-38-2	0.5	9	340
Boron, dissolved	µg/L	7440-42-8	100	5000	n/a
Cadmium, dissolved	µg/L	7440-43-9	1	n/a	0.6
Chromium, dissolved	µg/L	7440-47-3	10	n/a	210
Cobalt, dissolved	µg/L	7440-48-4	50	1000	n/a
Copper, dissolved	µg/L	7440-40-8	0.5	n/a	4.3
Cyanide, weak acid dissociable	µg/L	57-12-5	10	5.2	22
Lead, dissolved	µg/L	7439-92-1	0.5	n/a	17
Mercury	µg/L	7439-97-6	0.005	0.77	1.4
Nickel, dissolved	µg/L	7440-02-0	0.5	n/a	170
Selenium	µg/L	7782-49-2	5	5	20
Silver, dissolved	µg/L	7440-22-4	0.5	n/a	0.4
Thallium, dissolved	µg/L	7440-28-0	0.5	6.3	n/a
Vanadium, dissolved	µg/L	7440-62-2	50	100	n/a
Zinc, dissolved	µg/L	7440-66-6	20	n/a	42
Gross alpha	pCi/L	n/a	n/a	15	n/a
Radium-226 and Radium-228	pCi/L	n/a	n/a	30	n/a

Notes: CAS = Chemical Abstracts Service; MQL = Minimum quantification level;
MTAL = Maximum TAL.

*n/a = Value is not applicable.

**Analytical Results from the First Measurable
Storm Event Following Installation of Control
Measures at 2M-SMA-2**

August 23, 2013

NPDES PERMIT NO. NM0030759

LA-UR-13-26525

**LOS ALAMOS NATIONAL LABORATORY
ANALYTICAL RESULTS FROM THE FIRST MEASURABLE STORM EVENT**

PF: E012

2M-SMA-2

Sites: 03-050(d)
03-054(b)

Tables 1 and 2 present the analytical results received from the confirmation monitoring samples collected from the first measurable storm event following the installation of enhanced controls at site monitoring area (SMA) 2M-SMA-2. The descriptions and photographs of each enhanced control installed at 2M-SMA-2 were provided to the U.S. Environmental Protection Agency on June 4, 2013 (EP2013-0104/LA-UR-13-22177). 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 June 14, 2013, at 12:54PM Following Installation of Enhanced Controls, SMA 2M-SMA-2**

Sample ID	Analyte	Field Prep	Detect Status	Result (pCi/L)	TAL Exceedance Ratio ^a	Minimum Detectable Activity (pCi/L)	Uncertainty (pCi/L)	Qualifier ^b	Data Receipt Date
WT_IPC-13-34607	Gross alpha	UF ^c	Detect	13.7	0.91	1.64	1.1	NQ	7/23/2013
WT_IPC-13-34607	Radium-226 and Radium-228	UF	Detect	1.62	0.054	0.438	0.371	NQ	7/23/2013

^a Preliminary average TAL (ATAL) exceedance ratio from first of two possible samples.

^b Qualifier: NQ = Result is not qualified.

^c UF = Unfiltered.

**LOS ALAMOS NATIONAL LABORATORY
ANALYTICAL RESULTS FROM THE FIRST MEASURABLE STORM EVENT**

PF: E012

2M-SMA-2

Sites: 03-050(d)
03-054(b)

Table 2

**Metals, Cyanide, and Organic Analytical Results from the First Measurable Storm Event
Collected on June 14, 2013, at 12:54PM Following Installation of Enhanced Controls, SMA 2M-SMA-2**

Sample ID	Analyte	Field Prep	Detect Status	Result (µg/L)	TAL Exceedance Ratio	Method Detection Limit (µg/L)	Quantification Limit (µg/L)	Qualifier ^a	Data Receipt Date
WT_IPC-13-34607	Total polychlorinated biphenyls (PCBs)	UF ^b	Detect	0.0497	78 ^c	n/a ^d	n/a	NQ	7/29/2013
WT_IPC-13-34609	Silver	F ^e	Nondetect	1	n/a	0.2	1.0	U	7/23/2013
WT_IPC-13-34609	Aluminum	F	Detect	17.6	0.023	15	50.0	J	7/23/2013
WT_IPC-13-34609	Arsenic	F	Nondetect	5	n/a	1.7	5.0	U	7/23/2013
WT_IPC-13-34609	Boron	F	Detect	36.1	0.0072 ^c	15	50.0	J	7/23/2013
WT_IPC-13-34609	Cadmium	F	Nondetect	1	n/a	0.11	1.0	U	7/23/2013
WT_IPC-13-34607	Cyanide, weak acid dissociable	UF	Detect	2.07	0.21 ^c	1.67	5	J	7/23/2013
WT_IPC-13-34609	Cobalt	F	Detect	2.43	0.0024 ^c	1	5.0	J	7/23/2013
WT_IPC-13-34609	Chromium	F	Nondetect	10	n/a	2	10.0	U	7/23/2013
WT_IPC-13-34609	Copper	F	Detect	18.5	4.3	0.35	1.0	NQ	7/23/2013
WT_IPC-13-34607	Mercury	UF	Nondetect	0.2	n/a	0.067	0.2	U	7/23/2013
WT_IPC-13-34609	Nickel	F	Detect	2.4	0.014	0.5	2.0	NQ	7/23/2013
WT_IPC-13-34609	Lead	F	Nondetect	2	n/a	0.5	2.0	U	7/23/2013
WT_IPC-13-34609	Antimony	F	Detect	1.84	0.0029 ^c	1	3.0	J	7/23/2013
WT_IPC-13-34607	Selenium	UF	Nondetect	5	n/a	1.5	5.0	U	7/23/2013
WT_IPC-13-34609	Thallium	F	Nondetect	2	n/a	0.45	2.0	U	7/23/2013
WT_IPC-13-34609	Vanadium	F	Detect	1.8	0.018 ^c	1	5.0	J	7/23/2013
WT_IPC-13-34609	Zinc	F	Detect	102	2.4	3.3	10.0	NQ	7/23/2013

^a Qualifier: NQ = Result is not qualified; U = Result is not detected; J = Result is detected and is estimated to be between the method detection limit and the quantification limit.

^b UF = Unfiltered.

^c Preliminary ATAL exceedance ratio from first of two possible samples.

^d n/a = Value is not applicable.

^e F = Filtered.

**LOS ALAMOS NATIONAL LABORATORY
ANALYTICAL RESULTS FROM THE FIRST MEASURABLE STORM EVENT**

PF: E012

2M-SMA-2

Sites: 03-050(d)
03-054(b)

**Table 3
Applicable TALs**

Analyte	Units	CAS No.	MQL	ATAL	MTAL
Total PCBs	µg/L	1336-36-3	n/a*	0.00064	n/a
Aluminum, dissolved	µg/L	7429-90-5	2.5	n/a	750
Antimony, dissolved	µg/L	7440-36-0	60	640	n/a
Arsenic, dissolved	µg/L	7440-38-2	0.5	9	340
Boron, dissolved	µg/L	7440-42-8	100	5000	n/a
Cadmium, dissolved	µg/L	7440-43-9	1	n/a	0.6
Chromium, dissolved	µg/L	7440-47-3	10	n/a	210
Cobalt, dissolved	µg/L	7440-48-4	50	1000	n/a
Copper, dissolved	µg/L	7440-40-8	0.5	n/a	4.3
Cyanide, weak acid dissociable	µg/L	57-12-5	10	5.2	22
Lead, dissolved	µg/L	7439-92-1	0.5	n/a	17
Mercury	µg/L	7439-97-6	0.005	0.77	1.4
Nickel, dissolved	µg/L	7440-02-0	0.5	n/a	170
Selenium	µg/L	7782-49-2	5	5	20
Silver, dissolved	µg/L	7440-22-4	0.5	n/a	0.4
Thallium, dissolved	µg/L	7440-28-0	0.5	6.3	n/a
Vanadium, dissolved	µg/L	7440-62-2	50	100	n/a
Zinc, dissolved	µg/L	7440-66-6	20	n/a	42
Gross alpha	pCi/L	n/a	n/a	15	n/a
Radium-226 and Radium-228	pCi/L	n/a	n/a	30	n/a

Notes: CAS = Chemical Abstracts Service; MQL = Minimum quantification level;
MTAL = Maximum TAL

* n/a = Value is not applicable.