GW - 28

Beneficial Use/ Recycling Requests

2009 - Present

NEW MEXICO
ENVIRONMENT DEPARTMENT

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.env.nm.gov

SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

BUTCH TONGATE
Acting Cabinet Secretary
J. C. BORREGO
Acting Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

September 1, 2016

Mr. Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: APPROVAL
EVALUATION OF SOIL FOR POTENTIAL REUSE
HOLLYFRONTIER NAVAJO REFINING LLC, ARTESIA REFINERY
EPA ID NO. NMD048918817
HWB-NRC-MISC

Dear Mr. Denton:

The New Mexico Environment Department (NMED) has reviewed HollyFrontier Navajo Refining LLC, Artesia Refinery's (the Permittee) letter, *Evaluation of Soil for Potential Reuse*, dated July 20, 2016 and hereby issues this approval.

The Permittee removed soil as part of the unit expansion construction project at two locations near the tetraethyl lead (TEL) area and in the Southeast Tank Farm (AOC 3) and evaluated the excavated soil from two soil piles staged near these areas. Approximately 4,000 cubic yards of soil was removed at the Prime G Unit excavation area located south of the TEL area. The Permittee collected 6 composite samples and 40 discrete samples from the Prime G excavated soil pile. In addition, approximately 700 cubic yards of soil was removed at the future site of the Swing Tank located southeast of Tank 450 in AOC 3. Two composite samples and 14 discrete samples were collected from the Swing Tank excavated soil pile. The composite samples collected from the soil piles were analyzed for total petroleum hydrocarbons (TPH) as diesel range organics (DRO) and oil range organics (ORO) as well as total metals to include arsenic, lead, mercury and selenium. The discrete samples collected from the soil piles were analyzed for TPH as gasoline range organics (GRO) and volatile organic compounds (VOCs) to include

benzene, ethylbenzene, toluene, and xylenes (BTEX), methyl-tert-butyl-ether (MTBE), and naphthalene.

NMED has reviewed the analytical results for the composite and discrete samples and determined that the Permittee has demonstrated that the excavated soils are nonhazardous and do not contain concentrations of contaminants greater than the applicable soil screening levels (i.e., DAF 20, residential, industrial and construction worker) with the exception of arsenic. Although there are exceedances of arsenic for the residential and DAF 20 soil screening levels, arsenic in soil is expected to be high in this region. Therefore, NMED approves the Permittee's request to reuse the excavated soils from the TEL area and AOC 3; however, the Permittee must only use the excavated soils for industrial applications within the Refinery.

If you have any questions regarding this letter, please contact Leona Tsinnajinnie of my staff at (505) 476-6057.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
N. Dhawan, NMED HWB
K. Van Horn, NMED HWB
L. Tsinnajinnie, NMED HWB
C. Chavez, EMNRD OCD
R. Combs, HollyFrontier Navajo Refining LLC, Artesia Refinery
P. Krueger, Amec Foster Wheeler
L. King, 6MM-RC

File: Reading File and NRC 2016, HWB-NRC-MISC

AMEC Foster Wheeler - Houston, TX

585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: **Pam Krueger**

Email To: **pamela.krueger@amecfw.com**

Project Description: **HollyFrontier Navajo Refinery**

City/State Collected: ARTESIA, NM

Phone: **713-929-5674**
Fax:

Client Project # 6703160012.003

Lab Project # **AMECFWHTX-HF**

Collected by (print): William Smith

Site/Facility ID # HFN - ARTESIA

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	As,Hg,Pb,Se 250mlHDPE-HNO3	As,Hg,Pb,Se 2ozClr-NoPres	DROOROLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO- Trip Blank 40mlClr-HCl-Blk	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN,GRO 2ozClr-NoPres	V8260BTEXMN- TB 40mlClr-HCl-Blk		Rem./Contaminant	Sample # (lab only)
PG2-10D		SS		6/1/16	15:50	1								X				-11
PG2-11		SS			15:55	1												-12
PG2-12		SS			16:00	1												-13
PG2-13		SS			16:05	1												-14
PG2-14		SS			16:10	1												-15
PG2-15		SS			16:15	1												-16
PG2-16		SS			16:20	1												-17
PG2-17		SS			16:25	1												-18
PG2-18		SS			16:30	1												-19
PG2-19		SS			16:35	1												-20

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:
SCDS PAGE 3 of 3

pH _____ Temp _____
Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/2/16	15:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.2 °C Bottles Received: 33

Date: 6-3-16 Time: 900

Hold #

Condition: OK (lab use only)

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page 2 of 3

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L839321

Table #

Acctnum: **AMECFWHTX**
Template: **T112791**
Prelogin: **P555121**
TSR: **526 - Chris McCord**
PB:

Shipped Via: **FedEX Standard**

AMEC Foster Wheeler - Houston, TX

585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: **Pam Krueger**

Email To: pamela.krueger@amecfw.com

Project Description: **HollyFrontier Navajo Refinery**

City/State Collected: Artesia, NM

Phone: **713-929-5674**
Fax:

Client Project # 6703160012.003

Lab Project # **AMECFWHTX-HF**

Collected by (print): William Smith

Site/Facility ID # HFN-ARTESIA

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	As,Hg,Pb,Se 250mlHDPE-HNO3	As,Hg,Pb,Se 2ozClr-NoPres	DROOROLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO- Trip Blank 40mlClr-HCl-Blk	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN,GRO 2ozClr-NoPres	V8260BTEXMN- TB 40mlClr-HCl-Blk			Rem./Contaminant	Sample # (lab only)
PG2-20		SS		6/1/16	16:40	1								X					-21
PG2-20D		SS		6/1/16	16:45	1								X					-22
PG2-FC1	Comp	SS		6/1/16	17:00	3		X		X				X					-23
		SS																	
		SS																	
EB-1		GW		6/1/16	17:30	7	X		X		X		X						-24
		GW																	
TRIP BLANK		GW		NA	NA	1						X			X				-25
TRIP BLANK		GW																	
TRIP BLANK		GW																	

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks: NOTE: SOIL DRO SHOULD ALSO REPORT ORO

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/2/16	1530	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.2 °C Bottles Received: 33

Date: 6-3-16 Time: 9:15

Hold #

Condition: ok (lab use only) GOOD

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page ___ of ___

ESC LABSCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L839321

Table #

Acctnum: **AMECFWHTX**

Template: **T112791**

Prelogin: **P555121**

TSR: **526 - Chris McCord**

PB:

Shipped Via: **FedEX Standard**

Andy Vann

From: Chris McCord
Sent: Wednesday, June 08, 2016 11:37 AM
To: Login; Sample Storage; Due SVOC; Due Metals
Subject: L839321 *AMECFWHTX*

Please prepare 2 composite samples from L839321-01 through -10 and L839321-12 through -21. Add as -26 and -27 and log for DRORLA, ASICP, HG, PBICP and SEICP. No TS needed. Log those two as R5 due 6/15.

Thanks,
Christopher McCord
Technical Service Representative
ESC Lab Sciences | 12065 Lebanon Rd. Mt. Juliet, TN 37122
Office: (615) 773-3281 Cell: (615) 504-3183
cmccord@esclabsciences.com | www.esclabsciences.com

ESC
L·A·B S·C·I·E·N·C·E·S

From: Krueger, Pamela [mailto:pamela.krueger@amecfw.com]
Sent: Wednesday, June 08, 2016 11:00 AM
To: Chris McCord
Subject: RE: ESC Lab Sciences Login for 6703160012.003 HollyFrontier Navajo Refinery L839321

Chris - Would it be possible to create two composite samples from the normal samples to run for DRO/ORO and 4 metals (As, Pb, Hg, Se)? If so, I need you to build one composite from PG-1 through PG-10 and a second from PG-11 through PG-20 (exclude the PG-xD samples) and run those analyses. You can reach me on my cell phone (713-249-8548) if you have questions.

-----Original Message-----
From: Chris McCord [mailto:cmccord@esclabsciences.com]
Sent: Friday, June 03, 2016 5:00 PM
To: Krueger, Pamela <pamela.krueger@amec.com>
Subject: ESC Lab Sciences Login for 6703160012.003 HollyFrontier Navajo Refinery L839321

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Chris McCord
Technical Service Representative
615-773-3281

ESC Lab Sciences
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Mt. Juliet, TN 37122

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ANALYTICAL REPORT

June 17, 2016

AMEC Foster Wheeler - Houston, TX

Sample Delivery Group:	L840904
Samples Received:	06/10/2016
Project Number:	6703160012.003
Description:	HollyFrontier Navajo Refinery
Site:	HFN-ARTESIA
Report To:	Pam Krueger 585 N. Dairy Ashford Houston, TX 77079

Entire Report Reviewed By:

Chris McCord
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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PGT-01-2 L840904-01 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/15/16 17:46	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 12:30	BMB

PGT-02-2 L840904-02 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 02:03	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 12:50	BMB

PGT-03-2 L840904-03 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 02:32	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 13:09	BMB

PGT-04-2 L840904-04 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 03:01	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 13:28	BMB

PGT-05-2 L840904-05 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 03:29	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 13:47	BMB

PGT-06-2 L840904-06 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 03:58	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 14:07	BMB

PGT-06D-2 L840904-07 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 04:27	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 14:26	BMB

PGT-07-2 L840904-08 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 04:55	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 14:45	BMB

PGT-FC-2 L840904-09 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG879590	1	06/11/16 08:58	06/14/16 09:32	NJB
Metals (ICP) by Method 6010B	WG879610	1	06/14/16 21:06	06/15/16 09:46	CCE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG879683	1	06/12/16 11:35	06/12/16 23:14	JM
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG880374	5	06/14/16 17:46	06/15/16 04:15	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG880520	5	06/15/16 14:52	06/16/16 09:32	JAH

PGT-EB-2 L840904-10 GW

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG879591	1	06/11/16 09:50	06/13/16 12:25	NJB
Metals (ICP) by Method 6010B	WG880626	1	06/15/16 22:25	06/16/16 00:33	CCE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG879736	1	06/12/16 11:40	06/12/16 19:51	JNS
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879803	1	06/15/16 04:18	06/15/16 04:18	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879824	1	06/16/16 10:28	06/16/16 10:28	BMB

TRIP BLANK L840904-11 GW

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879803	1	06/14/16 13:52	06/14/16 13:52	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879824	1	06/16/16 11:07	06/16/16 11:07	BMB

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.113	B J	0.108	0.500	5	06/15/2016 17:46	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*93.5*			*59.0-128*		*06/15/2016 17:46*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	06/16/2016 12:30	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 12:30	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 12:30	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 12:30	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 12:30	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 12:30	WG879879
(S) Toluene-d8	*101*			*88.7-115*		*06/16/2016 12:30*	WG879879
(S) Dibromofluoromethane	*110*			*76.3-123*		*06/16/2016 12:30*	WG879879
(S) 4-Bromofluorobenzene	*100*			*69.7-129*		*06/16/2016 12:30*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 02:03	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 02:03*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 12:50	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 12:50	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 12:50	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 12:50	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 12:50	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 12:50	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 12:50*	WG879879
(S) Dibromofluoromethane	*109*			*76.3-123*		*06/16/2016 12:50*	WG879879
(S) 4-Bromofluorobenzene	*99.0*			*69.7-129*		*06/16/2016 12:50*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 02:32	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 02:32*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 13:09	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 13:09	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 13:09	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 13:09	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 13:09	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 13:09	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 13:09*	WG879879
(S) Dibromofluoromethane	*110*			*76.3-123*		*06/16/2016 13:09*	WG879879
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*06/16/2016 13:09*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 03:01	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 03:01*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 13:28	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 13:28	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 13:28	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 13:28	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 13:28	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 13:28	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 13:28*	WG879879
(S) Dibromofluoromethane	*111*			*76.3-123*		*06/16/2016 13:28*	WG879879
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*06/16/2016 13:28*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 03:29	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 03:29*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 13:47	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 13:47	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 13:47	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 13:47	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 13:47	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 13:47	WG879879
(S) Toluene-d8	*103*			*88.7-115*		*06/16/2016 13:47*	WG879879
(S) Dibromofluoromethane	*112*			*76.3-123*		*06/16/2016 13:47*	WG879879
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*06/16/2016 13:47*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 03:58	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 03:58*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 14:07	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 14:07	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 14:07	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 14:07	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 14:07	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 14:07	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 14:07*	WG879879
(S) Dibromofluoromethane	*113*			*76.3-123*		*06/16/2016 14:07*	WG879879
(S) 4-Bromofluorobenzene	*99.7*			*69.7-129*		*06/16/2016 14:07*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 04:27	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 04:27*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 14:26	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 14:26	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 14:26	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 14:26	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 14:26	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 14:26	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 14:26*	WG879879
(S) Dibromofluoromethane	*110*			*76.3-123*		*06/16/2016 14:26*	WG879879
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*06/16/2016 14:26*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 04:55	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 04:55*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 14:45	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 14:45	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 14:45	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 14:45	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 14:45	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 14:45	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 14:45*	WG879879
(S) Dibromofluoromethane	*111*			*76.3-123*		*06/16/2016 14:45*	WG879879
(S) 4-Bromofluorobenzene	*99.5*			*69.7-129*		*06/16/2016 14:45*	WG879879

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0260		0.00280	0.0200	1	06/14/2016 09:32	WG879590

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.70		0.650	2.00	1	06/15/2016 09:46	WG879610
Lead	20.0		0.190	0.500	1	06/15/2016 09:46	WG879610
Selenium	U		0.740	2.00	1	06/15/2016 09:46	WG879610

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/15/2016 04:15	WG880374
(S) a,a,a-Trifluorotoluene(FID)	*102*			*59.0-128*		*06/15/2016 04:15*	WG880374

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	06/16/2016 09:32	WG880520
Toluene	U		0.00217	0.0250	5	06/16/2016 09:32	WG880520
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 09:32	WG880520
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 09:32	WG880520
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 09:32	WG880520
Naphthalene	U		0.00500	0.0250	5	06/16/2016 09:32	WG880520
(S) Toluene-d8	*97.6*			*88.7-115*		*06/16/2016 09:32*	WG880520
(S) Dibromofluoromethane	*95.3*			*76.3-123*		*06/16/2016 09:32*	WG880520
(S) 4-Bromofluorobenzene	*95.4*			*69.7-129*		*06/16/2016 09:32*	WG880520

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	12.0		1.61	4.00	1	06/12/2016 23:14	WG879683
C28-C40 Oil Range	7.78		0.274	4.00	1	06/12/2016 23:14	WG879683
(S) o-Terphenyl	*61.3*			*50.0-150*		*06/12/2016 23:14*	WG879683

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	1	06/13/2016 12:25	WG879591

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Arsenic	U		0.00650	0.0100	1	06/16/2016 00:33	WG880626
Lead	U		0.00190	0.00500	1	06/16/2016 00:33	WG880626
Selenium	U		0.00740	0.0100	1	06/16/2016 00:33	WG880626

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	06/15/2016 04:18	WG879803
(S) a,a,a-Trifluorotoluene(FID)	*104*			*62.0-128*		*06/15/2016 04:18*	WG879803

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	06/16/2016 10:28	WG879824
Toluene	U		0.000780	0.00500	1	06/16/2016 10:28	WG879824
Ethylbenzene	U		0.000384	0.00100	1	06/16/2016 10:28	WG879824
Total Xylenes	U		0.00106	0.00300	1	06/16/2016 10:28	WG879824
Methyl tert-butyl ether	U		0.000367	0.00100	1	06/16/2016 10:28	WG879824
Naphthalene	U		0.00100	0.00500	1	06/16/2016 10:28	WG879824
(S) Toluene-d8	*107*			*90.0-115*		*06/16/2016 10:28*	WG879824
(S) Dibromofluoromethane	*105*			*79.0-121*		*06/16/2016 10:28*	WG879824
(S) a,a,a-Trifluorotoluene	*102*			*90.4-116*		*06/16/2016 10:28*	WG879824
(S) 4-Bromofluorobenzene	*97.6*			*80.1-120*		*06/16/2016 10:28*	WG879824

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
C10-C28 Diesel Range	0.0333	J	0.0222	0.100	1	06/12/2016 19:51	WG879736
C28-C40 Oil Range	U		0.0118	0.100	1	06/12/2016 19:51	WG879736
(S) o-Terphenyl	*98.3*			*50.0-150*		*06/12/2016 19:51*	WG879736

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	06/14/2016 13:52	WG879803
(S) a,a,a-Trifluorotoluene(FID)	*104*			*62.0-128*		*06/14/2016 13:52*	WG879803

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	06/16/2016 11:07	WG879824
Toluene	U		0.000780	0.00500	1	06/16/2016 11:07	WG879824
Ethylbenzene	U		0.000384	0.00100	1	06/16/2016 11:07	WG879824
Total Xylenes	U		0.00106	0.00300	1	06/16/2016 11:07	WG879824
Methyl tert-butyl ether	U		0.000367	0.00100	1	06/16/2016 11:07	WG879824
Naphthalene	U		0.00100	0.00500	1	06/16/2016 11:07	WG879824
(S) Toluene-d8	*106*			*90.0-115*		*06/16/2016 11:07*	WG879824
(S) Dibromofluoromethane	*108*			*79.0-121*		*06/16/2016 11:07*	WG879824
(S) a,a,a-Trifluorotoluene	*102*			*90.4-116*		*06/16/2016 11:07*	WG879824
(S) 4-Bromofluorobenzene	*100*			*80.1-120*		*06/16/2016 11:07*	WG879824

Method Blank (MB)

(MB) R3143143-1 06/13/16 10:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000049	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143143-2 06/13/16 11:05 • (LCSD) R3143143-3 06/13/16 11:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	0.00288	0.00277	96	92	80-120			4	20

L840657-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840657-01 06/13/16 11:11 • (MS) R3143143-4 06/13/16 11:13 • (MSD) R3143143-5 06/13/16 11:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00252	0.00292	84	97	1	75-125			14	20

Method Blank (MB)

(MB) R3143332-1 06/14/16 08:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143332-2 06/14/16 08:22 • (LCSD) R3143332-3 06/14/16 08:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.269	0.258	90	86	80-120			4	20

L840484-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840484-21 06/14/16 08:27 • (MS) R3143332-4 06/14/16 08:30 • (MSD) R3143332-5 06/14/16 08:33

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.343	0.0338	0.385	0.379	102	101	1	75-125			2	20

Method Blank (MB)

(MB) R3143611-1 06/15/16 08:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500
Selenium	U		0.74	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143611-2 06/15/16 08:28 • (LCSD) R3143611-3 06/15/16 08:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	99.0	101	99	101	80-120			2	20
Lead	100	99.0	101	99	101	80-120			2	20
Selenium	100	99.9	102	100	102	80-120			2	20

L840855-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840855-08 06/15/16 08:33 • (MS) R3143611-6 06/15/16 08:41 • (MSD) R3143611-7 06/15/16 08:44

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	4.38	96.4	95.8	92	91	1	75-125			1	20
Lead	100	34.5	138	125	103	91	1	75-125			9	20
Selenium	100	ND	88.7	86.4	89	86	1	75-125			3	20

Method Blank (MB)

(MB) R3143824-1 06/16/16 00:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.0065	0.0100
Lead	U		0.0019	0.00500
Selenium	U		0.0074	0.0100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143824-2 06/16/16 00:15 • (LCSD) R3143824-3 06/16/16 00:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	1.02	1.02	102	102	80-120			0	20
Lead	1.00	1.04	1.04	104	104	80-120			0	20
Selenium	1.00	1.04	1.05	104	105	80-120			1	20

L841088-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841088-02 06/16/16 00:23 • (MS) R3143824-5 06/16/16 00:28 • (MSD) R3143824-6 06/16/16 00:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	0.0103	1.02	1.03	101	102	1	75-125			2	20
Lead	1.00	ND	1.02	1.03	101	103	1	75-125			1	20
Selenium	1.00	ND	1.05	1.06	105	106	1	75-125			1	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3143071-3 06/11/16 20:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143071-1 06/11/16 18:51 • (LCSD) R3143071-2 06/11/16 19:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.21	5.75	113	105	63.5-137			7.76	20
(S) a,a,a-Trifluorotoluene(FID)				*100*	*100*	*59.0-128*				

L840904-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840904-01 06/15/16 17:46 • (MS) R3143781-4 06/15/16 18:31 • (MSD) R3143781-5 06/15/16 18:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.113	25.2	23.9	91.4	86.5	5	28.5-138			5.48	23.6
(S) a,a,a-Trifluorotoluene(FID)					*103*	*101*		*59.0-128*				

Method Blank (MB)

(MB) R3143592-3 06/15/16 01:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*102*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143592-1 06/14/16 23:55 • (LCSD) R3143592-2 06/15/16 00:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.14	5.09	93.5	92.6	63.5-137			0.990	20
(S) a,a,a-Trifluorotoluene(FID)				*99.8*	*100*	*59.0-128*				

L841292-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841292-01 06/15/16 09:04 • (MS) R3143592-4 06/15/16 02:19 • (MSD) R3143592-5 06/15/16 02:48

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	2.03	18.9	19.5	61.3	63.7	5	28.5-138			3.40	23.6
(S) a,a,a-Trifluorotoluene(FID)					*99.2*	*99.2*		*59.0-128*				

Method Blank (MB)

(MB) R3143668-3 06/14/16 13:02

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*103*			*62.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143668-1 06/14/16 11:05 • (LCSD) R3143668-2 06/14/16 11:27

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
TPH (GC/FID) Low Fraction	5.50	5.28	5.18	96.0	94.1	67.0-132			1.95	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*104*	*62.0-128*				

L840841-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840841-01 06/15/16 02:49 • (MS) R3143668-4 06/14/16 14:14 • (MSD) R3143668-5 06/14/16 14:36

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	ND	5.47	5.32	99.5	96.7	1	50.0-143			2.86	20
(S) a,a,a-Trifluorotoluene(FID)					*104*	*102*		*62.0-128*				

Method Blank (MB)

(MB) R3144075-3 06/16/16 10:09

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000780	0.00500
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	*107*			*90.0-115*
(S) Dibromofluoromethane	*109*			*79.0-121*
(S) a,a,a-Trifluorotoluene	*101*			*90.4-116*
(S) 4-Bromofluorobenzene	*98.7*			*80.1-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3144075-1 06/16/16 08:31 • (LCSD) R3144075-2 06/16/16 08:51

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Benzene	0.0250	0.0238	0.0237	95.1	95.0	73.0-122			0.0800	20
Ethylbenzene	0.0250	0.0230	0.0233	91.9	93.2	80.9-121			1.42	20
Methyl tert-butyl ether	0.0250	0.0250	0.0243	100	97.4	70.1-125			2.73	20
Naphthalene	0.0250	0.0227	0.0227	90.6	90.8	69.7-134			0.140	20
Toluene	0.0250	0.0238	0.0233	95.3	93.3	77.9-116			2.11	20
Xylenes, Total	0.0750	0.0707	0.0709	94.2	94.5	79.2-122			0.310	20
(S) Toluene-d8				*108*	*106*	*90.0-115*				
(S) Dibromofluoromethane				*109*	*109*	*79.0-121*				
(S) a,a,a-Trifluorotoluene				*104*	*102*	*90.4-116*				
(S) 4-Bromofluorobenzene				*99.5*	*97.6*	*80.1-120*				

L841091-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841091-07 06/16/16 11:26 • (MS) R3144075-4 06/16/16 11:46 • (MSD) R3144075-5 06/16/16 12:05

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Benzene	0.0250	ND	0.0223	0.0227	89.1	90.9	1	58.6-133			1.93	20
Ethylbenzene	0.0250	ND	0.0213	0.0195	85.1	78.2	1	62.7-136			8.53	20
Methyl tert-butyl ether	0.0250	ND	0.0250	0.0249	99.9	99.6	1	61.4-136			0.320	20
Naphthalene	0.0250	ND	0.0223	0.0239	89.1	95.6	1	61.8-143			7.01	20
Toluene	0.0250	ND	0.0216	0.0217	86.3	86.7	1	67.8-124			0.460	20
Xylenes, Total	0.0750	ND	0.0646	0.0611	86.2	81.5	1	65.6-133			5.53	20
(S) Toluene-d8					*107*	*108*		*90.0-115*				

L841091-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841091-07 06/16/16 11:26 • (MS) R3144075-4 06/16/16 11:46 • (MSD) R3144075-5 06/16/16 12:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) Dibromofluoromethane					*111*	*110*		*79.0-121*				
(S) α,α,α-Trifluorotoluene					*102*	*102*		*90.4-116*				
(S) 4-Bromofluorobenzene					*99.5*	*97.4*		*80.1-120*				

Method Blank (MB)

(MB) R3144080-3 06/16/16 10:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*102*			*88.7-115*
(S) Dibromofluoromethane	*109*			*76.3-123*
(S) 4-Bromofluorobenzene	*98.6*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3144080-1 06/16/16 09:44 • (LCSD) R3144080-2 06/16/16 10:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0246	0.0245	98.5	98.1	72.6-120			0.350	20
Ethylbenzene	0.0250	0.0260	0.0263	104	105	78.6-124			1.26	20
Methyl tert-butyl ether	0.0250	0.0235	0.0232	93.9	92.9	70.2-122			1.08	20
Naphthalene	0.0250	0.0245	0.0251	97.9	100	69.9-132			2.55	20
Toluene	0.0250	0.0251	0.0253	100	101	76.7-116			1.18	20
Xylenes, Total	0.0750	0.0749	0.0761	99.8	101	78.1-123			1.60	20
(S) Toluene-d8				*104*	*104*	*88.7-115*				
(S) Dibromofluoromethane				*106*	*105*	*76.3-123*				
(S) 4-Bromofluorobenzene				*104*	*104*	*69.7-129*				

L840833-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840833-19 06/16/16 15:04 • (MS) R3144080-4 06/16/16 11:33 • (MSD) R3144080-5 06/16/16 11:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	ND	0.112	0.117	89.9	93.5	5	47.8-131			3.98	22.8
Ethylbenzene	0.0250	ND	0.116	0.120	92.5	95.8	5	44.8-135			3.47	26.9
Methyl tert-butyl ether	0.0250	ND	0.108	0.110	86.7	88.2	5	50.4-131			1.63	24.8
Naphthalene	0.0250	ND	0.114	0.118	84.3	87.7	5	18.4-145			3.73	34
Toluene	0.0250	ND	0.115	0.117	91.8	93.3	5	47.8-127			1.58	24.3
Xylenes, Total	0.0750	ND	0.332	0.352	88.5	93.8	5	42.7-135			5.75	26.6
(S) Toluene-d8					*103*	*103*		*88.7-115*				
(S) Dibromofluoromethane					*107*	*108*		*76.3-123*				
(S) 4-Bromofluorobenzene					*104*	*107*		*69.7-129*				

Method Blank (MB)

(MB) R3143893-5 06/16/16 03:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*103*			*88.7-115*
(S) Dibromofluoromethane	*95.5*			*76.3-123*
(S) 4-Bromofluorobenzene	*96.8*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143893-1 06/15/16 23:02 • (LCSD) R3143893-2 06/15/16 23:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0282	0.0284	113	114	72.6-120			0.990	20
Ethylbenzene	0.0250	0.0265	0.0262	106	105	78.6-124			1.04	20
Methyl tert-butyl ether	0.0250	0.0269	0.0273	107	109	70.2-122			1.49	20
Naphthalene	0.0250	0.0246	0.0263	98.5	105	69.9-132			6.67	20
Toluene	0.0250	0.0278	0.0275	111	110	76.7-116			1.14	20
Xylenes, Total	0.0750	0.0803	0.0793	107	106	78.1-123			1.32	20
(S) Toluene-d8				*102*	*102*	*88.7-115*				
(S) Dibromofluoromethane				*96.4*	*96.4*	*76.3-123*				
(S) 4-Bromofluorobenzene				*97.2*	*96.0*	*69.7-129*				

L841081-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841081-04 06/16/16 05:57 • (MS) R3143893-6 06/16/16 07:17 • (MSD) R3143893-7 06/16/16 07:37

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0264	U	0.0891	0.0947	67.4	71.7	5	47.8-131			6.12	22.8
Ethylbenzene	0.0264	U	0.0897	0.0926	67.9	70.1	5	44.8-135			3.18	26.9
Methyl tert-butyl ether	0.0264	U	0.0711	0.103	53.8	77.6	5	50.4-131		J3	36.2	24.8
Naphthalene	0.0264	U	0.0768	0.0843	58.1	63.8	5	18.4-145			9.35	34
Toluene	0.0264	U	0.0876	0.0940	66.3	71.1	5	47.8-127			7.07	24.3
Xylenes, Total	0.0793	U	0.271	0.278	68.4	70.2	5	42.7-135			2.64	26.6
(S) Toluene-d8					*99.4*	*101*		*88.7-115*				
(S) Dibromofluoromethane					*88.1*	*91.1*		*76.3-123*				
(S) 4-Bromofluorobenzene					*89.2*	*95.0*		*69.7-129*				

Method Blank (MB)

(MB) R3143133-1 06/12/16 18:41

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*89.8*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143133-2 06/12/16 18:54 • (LCSD) R3143133-3 06/12/16 19:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	45.6	46.3	76.0	77.1	50.0-150			1.40	20
(S) o-Terphenyl				*86.9*	*86.7*	*50.0-150*				

Method Blank (MB)

(MB) R3143504-1 06/12/16 17:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
C10-C28 Diesel Range	U		0.0222	0.100
C28-C40 Oil Range	U		0.0118	0.100
(S) o-Terphenyl	*99.9*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143504-2 06/12/16 17:20 • (LCSD) R3143504-3 06/12/16 17:36

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
C10-C28 Diesel Range	1.50	1.18	1.20	78.7	80.1	70.0-130			1.71	20
(S) o-Terphenyl				*93.4*	*93.5*	*50.0-150*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

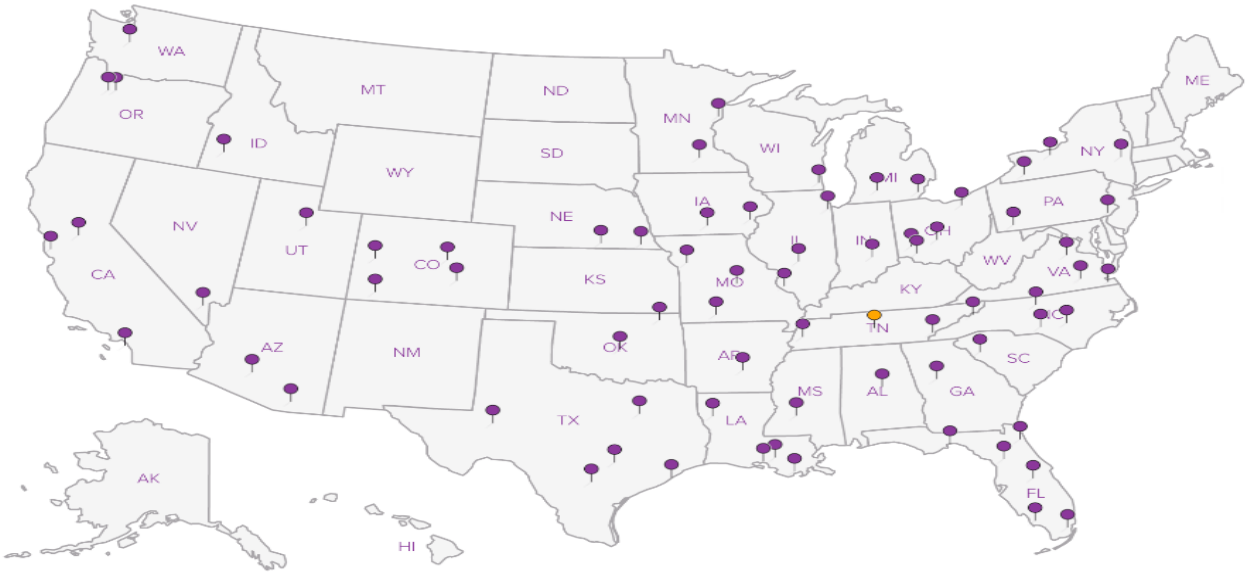
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



AMEC Foster Wheeler - Houston, TX

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Houston, TX 77079

Billing Information:
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585 N. Dairy Ashford
Houston, TX 77079

Report to: Pam Krueger

Email To: pamela.krueger@amecfw.com

Project Description: HollyFrontier Navajo Refinery

City/State Collected: Artesia, NM

Phone: 713-929-5674
Fax:

Client Project # 6703160012.003

Lab Project # AMECFWHTX-HF

Collected by (print): William Rutter

Site/Facility ID # HFN-ARTESIA

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	As,Hg,Pb,Se 250mlHDPE-HNO3	As,Hg,Pb,Se 2ozClr-NoPres	DROOROLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO-Trip Blank 40mlClr-HCl-Blk	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN,GRO 2ozClr-NoPres	V8260BTEXMN-TB 40mlClr-HCl-Blk		Rem./Contaminant	Sample # (lab only)
PGT-01-2		SS		6/9/16		1								X				-01
PGT-02-2		SS				1								X				-02
PGT-03-2		SS				1								X				-03
PGT-04-2		SS				1								X				-04
PGT-05-2		SS				1								X				-05
PGT-06-2		SS				1								X				-06
PGT-06D-2		SS				1								X				-07
PGT-07-2		SS				1								X				-08
PGT-FC-2	Comp	SS				3		X		X				X				-09
PGT-GB-2		~~SS~~ GW				10	X		X		X		X					

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks: TRIP BLANK

6/10/16

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature) — Date: 6/9/16 — Time: 14:45 — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: 2.2 °C Bottles Received: 32

Date: 6/10/16 Time: 900

Hold #

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: L2 NCF: X

C36109133764

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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12065 Lebanon Rd
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PB:

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HOLLYFRONTIER.

July 21, 2016

Mr. John Kieling
Chief, Hazardous Waste Bureau
New Mexico Environmental Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505

RE: Evaluation of Soil for Potential Reuse
HollyFrontier Navajo Refining LLC – Artesia Refinery
RCRA Permit No. NMD048918817

Dear Mr. Kieling:

Enclosed is a letter providing an evaluation of excavated soil for potential reuse within the HollyFrontier Navajo Refining LLC (Navajo) Artesia Refinery. The excavated soil was generated as part of construction activities within the Refinery. As described in the enclosed letter report, the soil piles were sampled and characterized to determine if the soil might be reused within the Refinery to construct containment berms or as backfill, or if the soil was impacted and required off-site disposal. Navajo requests concurrence from the New Mexico Environment Department on the conclusion that the soil has been appropriately characterized and may be reused within the Refinery.

If you have any questions or comments regarding this request, please feel free to contact me at 575-746-5487 or Robert Combs at 575-746-5382.

Sincerely,

Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC

c: Robert Combs, Navajo

July 20, 2016

Mr. Robert Combs
HollyFrontier Navajo LLC
510 East Main Street
Artesia, New Mexico 88210

Evaluation of Soil for Potential Reuse
HollyFrontier Navajo Refinery
Artesia, New Mexico

Dear Robert:

Amec Foster Wheeler preformed an evaluation of excavated soil within the HollyFrontier Navajo LLC (Navajo) refinery in Artesia, New Mexico (Figure 1). The soil was excavated as part of a unit expansion project within the refinery and the purpose of the evaluation was to determine if the soil might be reused within the refinery or should be disposed of off-site. This letter summarizes the results of the evaluation.

Soil Sampling Procedures

Navajo is currently installing a new processing unit (Prime G Unit) and an associated tank (Swing Tank) within the eastern portion of the refinery. Figure 2 depicts the locations of the two areas where excavation has occurred along with the locations of the excavated soil piles.

Similar characterization of soils for potential reuse within the refinery was performed in 2009 and 2013. Both New Mexico Environment Department (NMED) Hazardous Waste Bureau (HWB) and the New Mexico Energy Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD) approved the previous soil characterization methods. The planned methods for characterization of excavated soils used for the current effort were similar to the methods used in 2009 and 2013, and included:

- Characterization samples were to be collected from each unique source area, specifically, samples were collected from the Prime G unit soils separately from the Swing Tank soils.

- Within each source area, both composite and discrete samples were to be collected, as follows:
  - One composite sample was collected per every 1,000 cubic yards (cy) for analysis of inorganic and non-volatile constituents of concern (COCs):
    - Total Petroleum Hydrocarbons (TPH) by Method 8015 Modified, including Diesel Range Organics (DRO), and Motor Oil Range Organics (ORO)
    - Arsenic, Lead, Mercury, and Selenium by Methods 6010 and 7471
  - One discrete sample was collected per every 100 cy for analysis of volatile COCs:

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585 North Dairy Ashford
Houston, Texas 77079
Tel: 713-929-5000
amecfw.com

- TPH Gasoline Range Organics (GRO) by Method 8015
- Volatile Organic Compounds (VOCs) by Method 8260 including Benzene, Ethylbenzene, Methyl-tert-butyl-ether (MTBE), Naphthalene, Toluene, and Xylenes

On May 10, 2016, soil samples were collected from the Prime G unit soil pile and from the Swing Tank soil pile. The volume of soil in the Prime G unit soil pile was estimated to be 2,000 cy and the volume of soil in the Swing Tank soil pile was estimated to be 700 cy. Thus, the following soil samples were collected:

- Prime G Unit soil pile:
  - 2 field composite samples (PG-FC1 and PG-FC2) plus a field duplicate composite sample (PG-FC2D)
  - 20 discrete samples (PG-1 through PG-20) plus two field duplicate discrete samples (PG-10D and PG-20D)

- Swing Tank soil pile:
  - 1 field composite sample (PGT-FC)
  - 7 discrete samples (PGT-1 through PGT-7) plus one field duplicate discrete sample (PGT-6D)

The dimensions of each soil pile were recorded and each soil pile was divided into an area representing approximately 100 cy. Figures 3 and 4 show the dimensions of the soil piles and the locations of the discrete samples collected within each soil pile.

The discrete soil samples were collected by digging into the soil pile within each 100 cy area using a stainless steel trowel. The discrete samples were placed directly into the appropriate sample container. A small portion of soil from the same location was then placed into a stainless steel bowl. Once soil from all of the discrete locations that were combined into the field composite had been placed in the bowl, the soil was mixed to create the field composite sample.

The trowels and bowl were decontaminated between each use to prevent cross-contamination. Decontamination procedures included washing the equipment with soapy water, then rinsing twice.

Following collection of the soil samples on May 10, 2016, additional excavation within the area of the Prime G Unit occurred, resulting in an additional 2,000 cy of soil. Soil samples were collected from the additional excavated soils on June 1, 2016. The additional soil samples included:

- 1 field composite sample (PG2-FC1)
- 20 discrete samples (PG2-01 through PG2-20) plus two field duplicate discrete samples (PG2-10D and PG2-20D)

The field composite collected on June 1, 2016 was a composite of all 20 discrete locations. Because this did not match the planned sampling program, the laboratory was asked to create a

composite of samples PG2-01 through PG2-10 and PG2-11 through PG2-20. These two samples were identified as COMP1 and COMP2.

As stated above, the planned scope of work was to analyze the composite samples for inorganic and non-volatile COCs and the discrete samples for the volatile organic COCs; however, due to miscommunication between the field crew and the laboratory, discrete samples from the Swing Tank soil pile were not analyzed for VOCs. Due to this error, the Swing Tank soil pile was resampled on June 9, 2016 and the samples collected included:

- 1 field composite sample (PGT-FC-2)
- 7 discrete samples (PGT-01-2 through PGT-07-2) plus one field duplicate discrete sample (PGT-06D-2)

All of the samples collected were placed into shipping containers with ice to cool the samples to approximately 4° Celsius (°C) and shipped to the analytical laboratory by overnight courier using proper chain of custody procedures.

Summary of Analytical Results

An electronic copy of the analytical laboratory reports is provided in Attachment A to this letter. Table 1 provides a summary of the analytical results from the composite samples while Table 2 provides a summary of the analytical results from the discrete samples.

The NMED Soil Screening Levels (SSLs) for the Residential (Res), Industrial/Occupational (Ind/Occ) and Construction Worker (CW) scenarios are provided in both Table 1 and Table 2. The SSLs were obtained from Appendix A of the NMED *Risk Assessment Guidance for Site Investigations and Remediation* (July 2015). The SSLs for DRO and ORO were obtained from Table 6-2 of the same guidance document (NMED, July 2015).

For those COCs where no detectable concentration was present, the method detection limits were below the respective SSLs. The detected concentrations for all COCs were below the respective SSLs, with the exception of arsenic. Reported concentrations of arsenic from the Swing Tank composite samples and from the initial Prime G Unit composite samples were all above the Res SSL, but are all below the Ind/Occ and CW SSLs. The reported concentrations of arsenic in these composite samples are similar to the reported concentrations of arsenic observed in shallow soil samples collected throughout the refinery as part of corrective action investigations.

Conclusions and Recommendations

Because the arsenic concentrations exceed the Res SSL, the soils would not be appropriate for use in non-industrial applications without further evaluation of arsenic. However, the soil characterization results indicate that the concentrations of all COCs in the excavated soil from both the Prime G Unit and the Swing Tank areas are below SSLs for both the Ind/Occ and CW exposure scenarios. As such, these soils would be appropriate for reuse within the refinery as backfill or for construction of tank or unit secondary containment berms.

If you have any questions or comments, please feel free to contact me at 713-929-5674 or 713-249-8548.

Sincerely,
Amec Foster Wheeler Environment & Infrastructure, Inc.

Pamela R. Krueger
Senior Associate

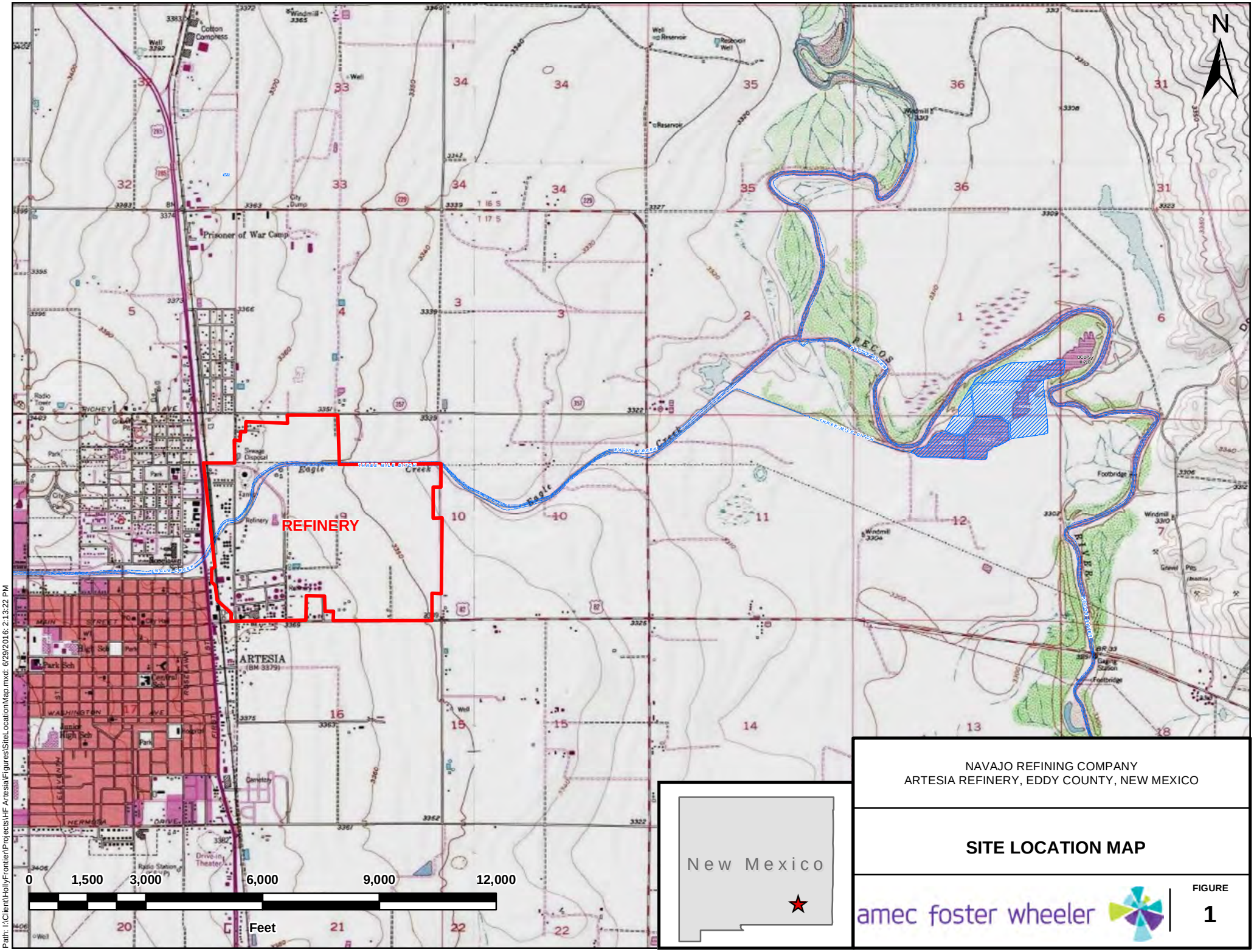
c: David R. Hoffman, PE, Amec Foster Wheeler

Figures:
- 1 – Site Location
- 2 – Excavation and Soil Pile Locations
- 3 – Prime G Unit Soil Pile Sample Locations
- 4 – Swing Tank Soil Pile Sample Locations

Tables:
- 1 – Soil Pile Composite Sample Results
- 2 – Soil Pile Discrete Sample Results

Attachments:
- A – Analytical Laboratory Reports (electronic)

FIGURES



NAVAJO REFINING COMPANY
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

SITE LOCATION MAP

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FIGURE
1

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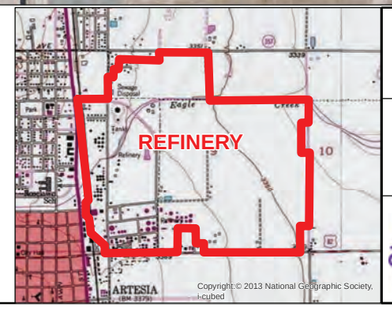
Legend

Extent of Soil Piles



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ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

EXCAVATION AND SOIL PILE LOCATIONS

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FIGURE
2

DB: C RICHARDS PM: P KRUEGER Project (Project #) 6703160002
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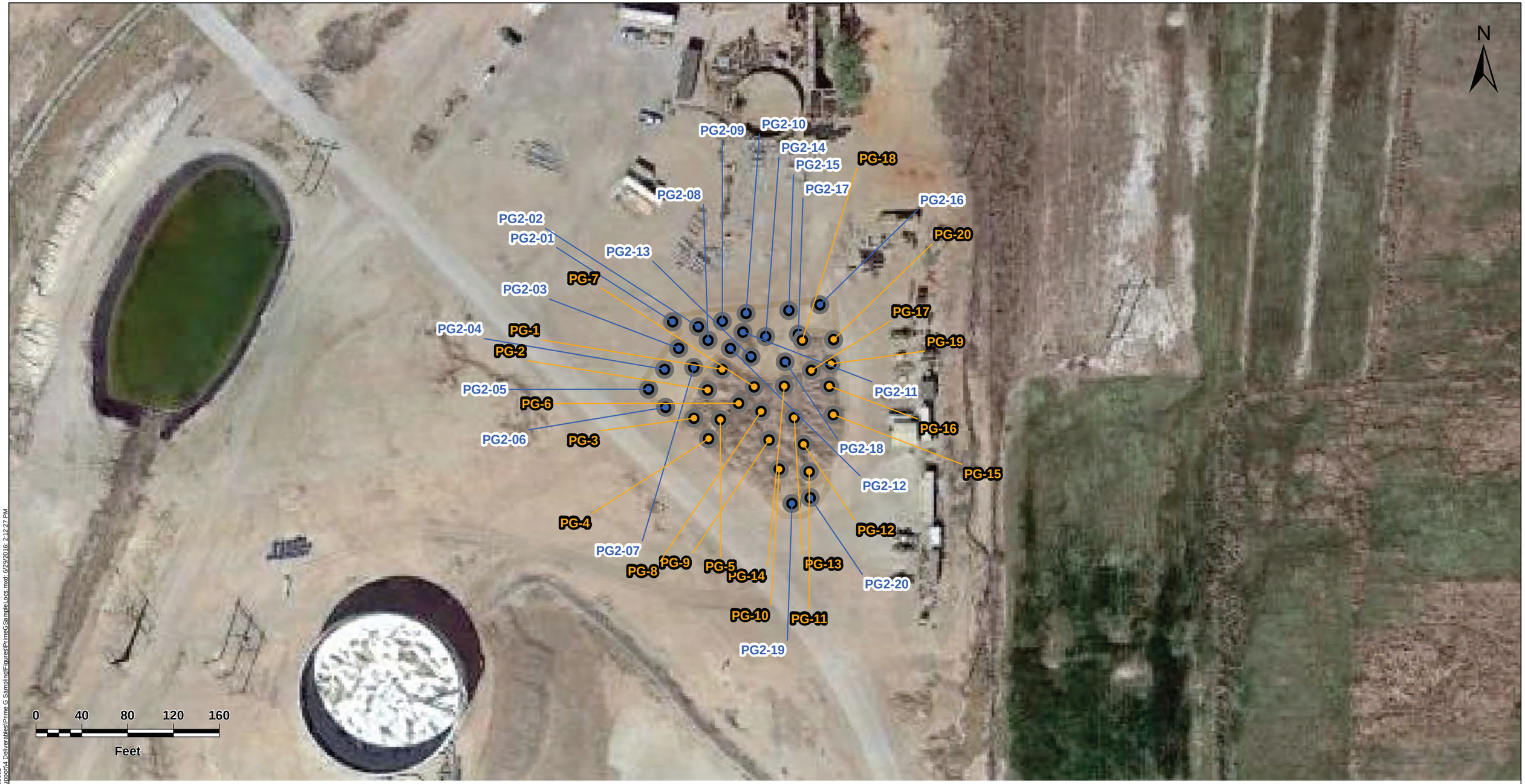

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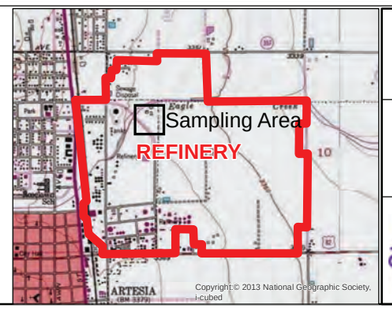
- Prime G Samples Collected May 10, 2016
- Prime G Samples Collected June 12, 2016
- Extent of Soil Pile



NAVAJO REFINING COMPANY
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

PRIME G UNIT
SOIL PILES SAMPLE LOCATIONS

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FIGURE
3

DB: C RICHARDS PM: P KRUEGER Project (Project #) 6703160002
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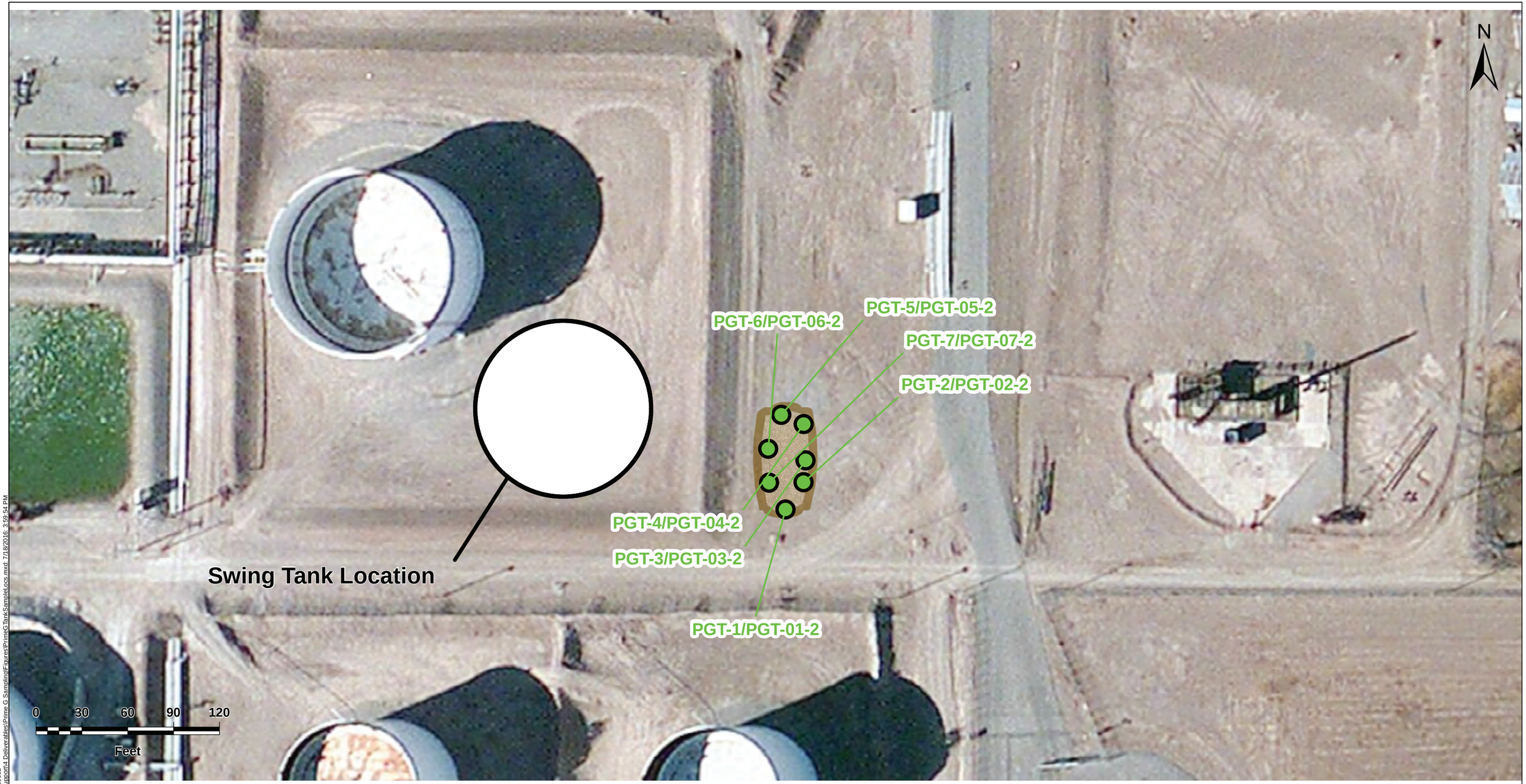
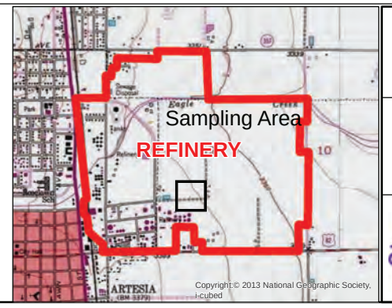


Legend

- Prime G Tank Samples Collected May 10, 2016/June 9, 2016
- Extent of Soil Pile



NAVAJO REFINING COMPANY
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

SWING TANK
SOIL PILES SAMPLE LOCATIONS

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FIGURE
4

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TABLES

Table 1 - Soil Pile Composite Sample Results

			Sample ID:	PGT-FC	PGT-FC-2	PG-FC1	PG-FC2	PG-FC2D	PG2-FC1	COMP 1	COMP 2
			Date:	5/10/2016	6/9/2016	5/10/2016	5/10/2016	5/10/2016	6/1/2016	6/1/2016	6/1/2016
Constituent	**Res SSL**	**Ind/Occ SSL**	**CW SSL**								
Total Petroleum Hydrocarbons (mg/kg)											
DRO	1.00E+03	3.80E+03	--	58	12	93.2	<1.61	<16.1	<32.2	1.8 J	5
ORO	1.00E+03	3.80E+03	--	46.6	7.78	149	1.82 J	<2.74	29.5 B,J	2.91 J	10.6
Metals (mg/kg)											
Arsenic	4.25E+00	2.15E+01	5.74E+01	**6.56**	**4.7**	**8.34**	**4.27**	**5.01**	4.06	3.6	4.14
Lead	4.00E+02	8.00E+02	8.00E+02	27.8	20	70.3	25.9	24	19.9	28.6	32.4
Mercury	2.38E+01	1.12E+02	2.07E+01	0.0298	0.026	0.161	0.0204	0.0627	0.0464	0.0186 J	0.0238
Selenium	3.91E+02	6.49E+03	1.75E+03	<0.74	<0.74	<0.74	<0.74	<0.74	<0.74	<0.74	<0.74

Notes:

Values shown in bold font with green shading exceed the Res SSL but are below the Ind/Occ and CW SSLs.

Definitions:

B = Analyte was found in the method blank sample
COMP = Laboratory Composite sample
CW = Consturction Worker exposure pathway
DRO = Diesel Range Organics
FC = Field Composite sample
Ind/Occ = Industrial/Occupational exposure pathway
J = Reported concentration is estimated, below the reporting limit but above the method detection limit
mg/kg = milligrams per kilogram
NMED = New Mexico Environment Department
ORO = Oil Range Organics
PG = Prime G Unit excavated soils
PGT = Swing Tank excavated soils
Res = Residential exposure pathway
SSL = NMED Soil Screening Level

Table 2 - Soil Pile Discrete Sample Results

Constituent:		GRO	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Xylenes
Residential SSL:			1.78E+01	7.51E+01	9.75E+02	4.97E+01	5.23E+03	8.71E+02
Ind/Occ SSL:		--	8.72E+01	3.68E+02	4.82E+03	2.41E+02	6.13E+04	4.28E+03
CW SSL:		--	1.42E+02	1.77E+03	2.42E+04	1.59E+02	1.40E+04	7.98E+02
Sample ID	Date							
PG-1	5/10/2016	<0.108	<0.00135 J3	<0.00148 J3	<0.00106 J3,J5	<0.005	<0.00217 J3	<0.00349
PG-2	5/10/2016	0.115 B,J	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-3	5/10/2016	0.12 B,J	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-4	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-5	5/10/2016	0.11 B,J	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-6	5/10/2016	0.115 B,J	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-7	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-8	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-9	5/10/2016	0.109 B,J	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-10	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-10D	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-11	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-12	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-13	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-14	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-15	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-16	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-17	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-18	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-19	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-20	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG-20D	5/10/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-01	6/1/2016	0.213 B,J	<0.00135	<0.00148	<0.00106	0.00664 J	<0.00217	<0.00349
PG2-02	6/1/2016	0.142 B,J	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-03	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-04	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-05	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-06	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-07	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-08	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349

Table 2 - Soil Pile Discrete Sample Results

Constituent:		GRO	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Xylenes
Residential SSL:			1.78E+01	7.51E+01	9.75E+02	4.97E+01	5.23E+03	8.71E+02
Ind/Occ SSL:		--	8.72E+01	3.68E+02	4.82E+03	2.41E+02	6.13E+04	4.28E+03
CW SSL:		--	1.42E+02	1.77E+03	2.42E+04	1.59E+02	1.40E+04	7.98E+02
Sample ID	Date							
PG2-09	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-10	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-10D	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-11	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-12	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-13	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-14	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-15	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-16	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-17	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-18	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-19	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-20	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PG2-20D	6/1/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PGT-1	5/10/2016	<0.108	--	--	--	--	--	--
PGT-2	5/10/2016	0.114 J	--	--	--	--	--	--
PGT-3	5/10/2016	<0.108	--	--	--	--	--	--
PGT-4	5/10/2016	0.144 B,J	--	--	--	--	--	--
PGT-5	5/10/2016	<0.108	--	--	--	--	--	--
PGT-6	5/10/2016	0.135 B,J	--	--	--	--	--	--
PGT-6D	5/10/2016	<0.108	--	--	--	--	--	--
PGT-7	5/10/2016	<0.108	--	--	--	--	--	--
PGT-01-2	6/9/2016	0.113 B,J	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PGT-02-2	6/9/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PGT-03-2	6/9/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PGT-04-2	6/9/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PGT-05-2	6/9/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PGT-06-2	6/9/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349
PGT-06D-2	6/9/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349

Table 2 - Soil Pile Discrete Sample Results

Constituent:		GRO	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Xylenes
Residential SSL:			1.78E+01	7.51E+01	9.75E+02	4.97E+01	5.23E+03	8.71E+02
Ind/Occ SSL:		--	8.72E+01	3.68E+02	4.82E+03	2.41E+02	6.13E+04	4.28E+03
CW SSL:		--	1.42E+02	1.77E+03	2.42E+04	1.59E+02	1.40E+04	7.98E+02
Sample ID	Date							
PGT-07-2	6/9/2016	<0.108	<0.00135	<0.00148	<0.00106	<0.005	<0.00217	<0.00349

Definitions:

B = Analyte was found in the method blank sample
COMP = Laboratory Composite sample
CW = Consturction Worker exposure pathway
DRO = Diesel Range Organics
FC = Field Composite sample
Ind/Occ = Industrial/Occupational exposure pathway
J = Reported concentration is estimated, below the reporting limit but above the method detection limit
J3 = Associated quality control sample was outside the acceptable range for precision
J5 = Associated matrix spike was high
mg/kg = milligrams per kilogram
NMED = New Mexico Environment Department
ORO = Oil Range Organics
PG = Prime G Unit excavated soils
PGT = Swing Tank excavated soils
Res = Residential exposure pathway
SSL = NMED Soil Screening Level

ATTACHMENT A

ANALYTICAL REPORT

May 19, 2016

AMEC Foster Wheeler - Houston, TX

Sample Delivery Group:	L835233
Samples Received:	05/12/2016
Project Number:	6703160012-003
Description:	HollyFrontier Navajo Refinery

Report To:

Pamela Krueger
585 N. Dairy Ashford
Houston, TX 77079

Entire Report Reviewed By:

Shane Gambill
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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PGT-1 L835233-01 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:15
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873223	5	05/17/16 23:25	05/18/16 17:23	DAH

PGT-2 L835233-02 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:20
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873223	5	05/17/16 23:25	05/18/16 17:45	DAH

PGT-3 L835233-03 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:25
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873223	5	05/17/16 23:25	05/18/16 18:07	DAH

PGT-4 L835233-04 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:30
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 18:20	JAH

PGT-5 L835233-05 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:35
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 18:43	JAH

PGT-6 L835233-06 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:40
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 19:05	JAH

PGT-6D L835233-07 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:45
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 19:27	JAH

PGT-7 L835233-08 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:50
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 19:49	JAH

PGT-FC L835233-09 Solid

Collected by: William Smith

Collected date/time: 05/10/16 13:00

Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG872512	1	05/17/16 13:09	05/18/16 09:00	EL
Metals (ICP) by Method 6010B	WG873312	1	05/17/16 18:31	05/18/16 10:13	ST
Semi-Volatile Organic Compounds (GC) by Method 8015	WG873353	5	05/17/16 21:42	05/18/16 12:19	DMG
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 20:12	JAH

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Shane Gambill
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 17:23	WG873223
(S) a,a,a-Trifluorotoluene(FID)	*96.3*			*59.0-128*		*05/18/2016 17:23*	WG873223

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.114	J	0.108	0.500	5	05/18/2016 17:45	WG873223
(S) a,a,a-Trifluorotoluene(FID)	*96.0*			*59.0-128*		*05/18/2016 17:45*	WG873223

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 18:07	WG873223
(S) a,a,a-Trifluorotoluene(FID)	*96.3*			*59.0-128*		*05/18/2016 18:07*	WG873223

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.144	B J	0.108	0.500	5	05/18/2016 18:20	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*93.7*			*59.0-128*		*05/18/2016 18:20*	WG873226

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 18:43	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.6*			*59.0-128*		*05/18/2016 18:43*	WG873226

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.135	B J	0.108	0.500	5	05/18/2016 19:05	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*92.3*			*59.0-128*		*05/18/2016 19:05*	WG873226

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 19:27	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.6*			*59.0-128*		*05/18/2016 19:27*	WG873226

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 19:49	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.5*			*59.0-128*		*05/18/2016 19:49*	WG873226

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0298		0.00280	0.0200	1	05/18/2016 09:00	WG872512

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.750	2.00	1	05/18/2016 10:13	WG873312
Arsenic	6.56		0.650	2.00	1	05/18/2016 10:13	WG873312
Barium	120		0.170	0.500	1	05/18/2016 10:13	WG873312
Beryllium	0.860		0.0700	0.200	1	05/18/2016 10:13	WG873312
Cadmium	0.423	J	0.0700	0.500	1	05/18/2016 10:13	WG873312
Chromium	20.5		0.140	1.00	1	05/18/2016 10:13	WG873312
Cobalt	7.43		0.230	1.00	1	05/18/2016 10:13	WG873312
Copper	15.4		0.530	2.00	1	05/18/2016 10:13	WG873312
Lead	27.8		0.190	0.500	1	05/18/2016 10:13	WG873312
Nickel	13.5		0.490	2.00	1	05/18/2016 10:13	WG873312
Selenium	U		0.740	2.00	1	05/18/2016 10:13	WG873312
Silver	U		0.280	1.00	1	05/18/2016 10:13	WG873312
Vanadium	31.5		0.240	2.00	1	05/18/2016 10:13	WG873312
Zinc	40.8		0.590	5.00	1	05/18/2016 10:13	WG873312

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.114	B J	0.108	0.500	5	05/18/2016 20:12	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.7*			*59.0-128*		*05/18/2016 20:12*	WG873226

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	58.0		8.05	20.0	5	05/18/2016 12:19	WG873353
C28-C40 Oil Range	46.6		1.37	20.0	5	05/18/2016 12:19	WG873353
(S) o-Terphenyl	*77.4*			*50.0-150*		*05/18/2016 12:19*	WG873353

Method Blank (MB)

(MB) R3137909-1 05/18/16 08:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137909-2 05/18/16 08:47 • (LCSD) R3137909-3 05/18/16 08:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.253	0.264	84	88	80-120			4	20

Method Blank (MB)

(MB) R3138008-1 05/18/16 09:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Antimony	U		0.75	2.00
Arsenic	U		0.65	2.00
Barium	U		0.17	0.500
Beryllium	U		0.07	0.200
Cadmium	U		0.07	0.500
Chromium	U		0.14	1.00
Cobalt	U		0.23	1.00
Copper	U		0.53	2.00
Lead	U		0.19	0.500
Nickel	U		0.49	2.00
Selenium	U		0.74	2.00
Silver	U		0.28	1.00
Vanadium	U		0.24	2.00
Zinc	1.26	J	0.59	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3138008-2 05/18/16 09:54 • (LCSD) R3138008-3 05/18/16 09:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	100	102	103	102	103	80-120			1	20
Arsenic	100	102	102	102	102	80-120			0	20
Barium	100	105	106	105	106	80-120			1	20
Beryllium	100	103	104	103	104	80-120			1	20
Cadmium	100	104	104	104	104	80-120			0	20
Chromium	100	103	104	103	104	80-120			1	20
Cobalt	100	103	103	103	103	80-120			0	20
Copper	100	103	104	103	104	80-120			0	20
Lead	100	103	103	103	103	80-120			0	20
Nickel	100	102	102	102	102	80-120			0	20
Selenium	100	105	106	105	106	80-120			1	20
Silver	100	101	101	101	101	80-120			1	20
Vanadium	100	101	102	101	102	80-120			0	20
Zinc	100	102	102	102	102	80-120			1	20

L835540-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835540-18 05/18/16 09:59 • (MS) R3138008-6 05/18/16 10:08 • (MSD) R3138008-7 05/18/16 10:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	100	U	61.9	62.1	62	62	1	75-125	J6	J6	0	20
Arsenic	100	2.00	96.2	96.4	94	94	1	75-125			0	20
Barium	100	23.9	124	125	100	102	1	75-125			1	20
Beryllium	100	0.190	98.8	99.3	99	99	1	75-125			1	20
Cadmium	100	U	98.6	98.3	99	98	1	75-125			0	20
Chromium	100	8.11	104	105	95	97	1	75-125			1	20
Cobalt	100	1.15	104	104	103	102	1	75-125			0	20
Copper	100	3.31	105	105	102	102	1	75-125			0	20
Lead	100	4.21	105	105	101	101	1	75-125			0	20
Nickel	100	3.73	106	106	103	102	1	75-125			0	20
Selenium	100	U	97.8	97.9	98	98	1	75-125			0	20
Silver	100	U	95.7	95.9	96	96	1	75-125			0	20
Vanadium	100	14.4	109	110	95	96	1	75-125			1	20
Zinc	100	6.84	101	102	94	95	1	75-125			1	20

Method Blank (MB)

(MB) R3138228-5 05/18/16 14:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*96.5*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3138228-3 05/18/16 13:53 • (LCSD) R3138228-4 05/18/16 14:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.99	6.05	109	110	63.5-137			1.13	20
(S) a,a,a-Trifluorotoluene(FID)				*103*	*103*	*59.0-128*				

L835223-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835223-05 05/18/16 16:38 • (MS) R3138228-8 05/18/16 22:11 • (MSD) R3138228-9 05/18/16 22:33

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.91	ND	25.7	25.4	86.3	85.3	5	28.5-138			1.14	23.6
(S) a,a,a-Trifluorotoluene(FID)					*101*	*102*		*59.0-128*				

Method Blank (MB)

(MB) R3138217-3 05/18/16 14:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0252	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.9*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3138217-1 05/18/16 13:51 • (LCSD) R3138217-2 05/18/16 14:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.30	5.57	96.4	101	63.5-137			4.97	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*104*	*59.0-128*				

L835233-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835233-04 05/18/16 18:20 • (MS) R3138217-4 05/18/16 21:18 • (MSD) R3138217-5 05/18/16 21:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.144	9.36	9.09	33.5	32.5	5	28.5-138			2.98	23.6
(S) a,a,a-Trifluorotoluene(FID)					*94.1*	*94.7*		*59.0-128*				

Method Blank (MB)

(MB) R3137801-1 05/18/16 09:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*96.3*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137801-2 05/18/16 09:28 • (LCSD) R3137801-3 05/18/16 09:40

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
C10-C28 Diesel Range	60.0	46.9	46.3	78.2	77.2	50.0-100			1.32	20
(S) o-Terphenyl				*92.4*	*86.3*	*50.0-150*				

L836038-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L836038-01 05/18/16 09:53 • (MS) R3137801-4 05/18/16 10:05 • (MSD) R3137801-5 05/18/16 10:17

Analyte	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
C10-C28 Diesel Range	12.2	286	402	324	191	62.1	5	50.0-100	V	J3	21.6	20
(S) o-Terphenyl					*55.1*	*60.1*		*50.0-150*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

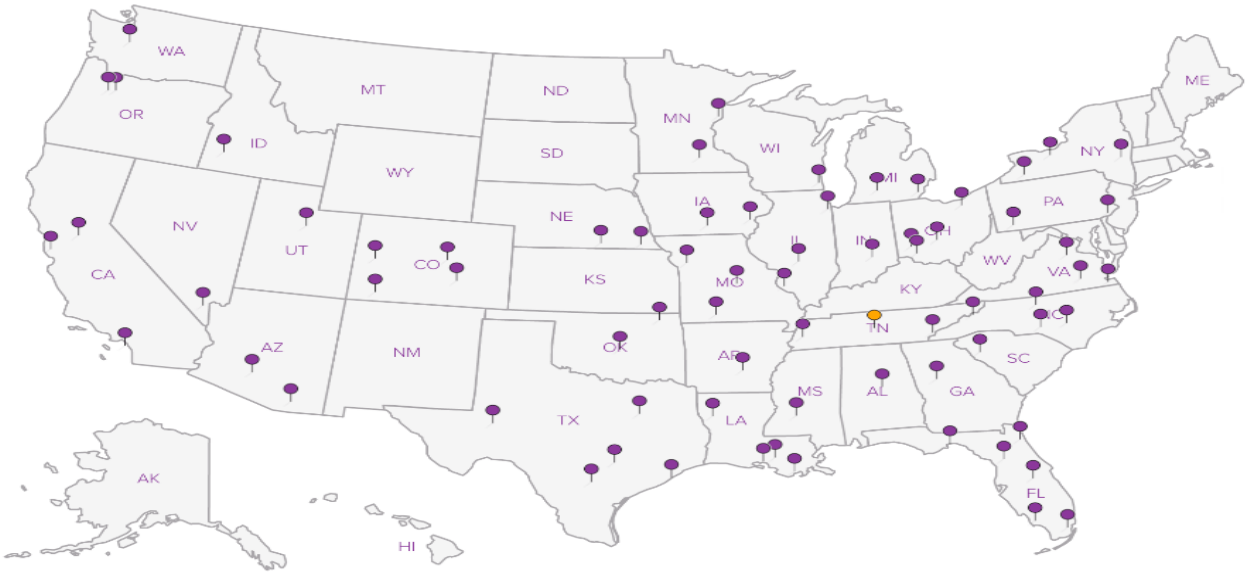
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



CHAIN OF CUSTODY

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XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)

Dallas, Texas (214-902-0300)

Service Center - San Antonio, Texas (210-509-3334)

www.xenco.com

Odessa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

Xenco Quote # | Xenco Job # | **A088**

Client / Reporting Information

Company Name / Branch: Amoco Fasken Midland - Houston

Company Address: 585 N Dairy Rd. Hobbs, TX

Email: | Phone No: 713-929-5674

Project Contact: Pamela Krueger

Samplers's Name: Jillian Smith

Project Information

Project Name/Number: 6703160012 - 003

Project Location: Artesia, NM

Invoice To: Houston

PO Number:

Analytical Information

GRO 8015

DRO 8015

BTEX MTBE Naphthalene 8260

Metals Sr Ni Cr

Matrix Codes

A= Air
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
WW= Waste Water
W = Wipe
O = Oil

WW= Waste Water

L835233

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	PGT - 1		5/10/16	12:15	SS	1								X	-01
2	PGT - 2			12:20										X	-02
3	PGT - 3			12:25										X	-03
4	PGT - 4			12:30										X	-04
5	PGT - 5			12:35										X	-05
6	PGT - 6			12:40										X	-06
7	PGT - BD			12:45										X	-07
8	PGT - 7			12:50										X	-08
9	PGT - FC			13:00										X	-09
10															

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☐ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ 7 Day TAT
- ☐ 2 Day EMERGENCY
- ☐ Contract TAT
- ☐ 3 Day EMERGENCY Same as other

TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- ☐ Level II Std QC
- ☐ Level IV (Full Data Pkg /raw data)
- ☐ Level III Std QC+ Forms
- ☐ TRRP Level IV
- ☐ Level 3 (CLP Forms)
- ☐ UST / RG -411
- ☐ TRRP Checklist Same as other

Notes:

USE TAT and Report Based on other PG-COM2

FED-EX / UPS: Tracking # 671101338915

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Jillian Smith	5/11/16 15:00	1	2		2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time: 5/12/16 0900	Received By: 4 10=Total
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 2.4°C Thermo. Corr. Factor

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

COC5 I

Troy Dunlap

ESC Lab Sciences
Non-Conformance Form

Login #: L835233	Client: AMECFWHTX	Date: 5/12/16	Evaluated by: Troy Dunlap

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time	2	Login Clarification Needed		**If Broken Container:**
	Improper temperature		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type	1	Please specify Metals requested.		Insufficient packing material inside cooler
	Improper preservation		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: 1.) What Metals? 2.) Does client need DRO or DRORLA?

Client informed by:		Call		Email		Voice Mail		Date:	Time:
TSR Initials: CM	Client Contact:								

Login Instructions:

1. Metals = Ag, As, Ba, Be, Cd, Co, Cr, Cu, Hg, Ni, Pb, Sb, Se, V, Zn by 6010/7471.
2. Log for DRORLA.

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ANALYTICAL REPORT

May 24, 2016

AMEC Foster Wheeler - Houston, TX

Sample Delivery Group:	L835243
Samples Received:	05/12/2016
Project Number:	6703160012.003
Description:	Prime G Soil Piles
Site:	HFN
Report To:	Pamela Krueger 585 N. Dairy Ashford Houston, TX 77079

Entire Report Reviewed By:

Chris McCord
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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PG-1 L835243-01 Solid

Collected by: William Smith
Collected date/time: 05/10/16 08:50
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 20:34	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 20:37	JHH

PG-2 L835243-02 Solid

Collected by: William Smith
Collected date/time: 05/10/16 08:55
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 20:56	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 20:58	JHH

PG-3 L835243-03 Solid

Collected by: William Smith
Collected date/time: 05/10/16 09:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 00:07	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 21:19	JHH

PG-4 L835243-04 Solid

Collected by: William Smith
Collected date/time: 05/10/16 09:03
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 00:30	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 21:40	JHH

PG-5 L835243-05 Solid

Collected by: William Smith
Collected date/time: 05/10/16 09:05
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 00:52	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 22:01	JHH

PG-6 L835243-06 Solid

Collected by: William Smith
Collected date/time: 05/10/16 09:10
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 01:14	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 22:22	JHH

PG-7 L835243-07 Solid

Collected by: William Smith
Collected date/time: 05/10/16 09:12
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 01:36	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 22:44	JHH

PG-8 L835243-08 Solid

Collected by: William Smith | Collected date/time: 05/10/16 09:15 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 01:58	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 23:04	JHH

PG-9 L835243-09 Solid

Collected by: William Smith | Collected date/time: 05/10/16 09:20 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 02:21	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 23:25	JHH

PG-10 L835243-10 Solid

Collected by: William Smith | Collected date/time: 05/10/16 09:25 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 02:43	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 23:45	JHH

PG-10D L835243-11 Solid

Collected by: William Smith | Collected date/time: 05/10/16 09:27 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 03:05	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 00:06	JHH

PG-FC1 L835243-12 Solid

Collected by: William Smith | Collected date/time: 05/10/16 09:30 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG872437	1	05/13/16 18:16	05/16/16 09:08	NJB
Metals (ICP) by Method 6010B	WG872357	1	05/14/16 08:15	05/14/16 14:32	CCE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG872902	20	05/16/16 23:00	05/17/16 14:18	DMG
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 03:27	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 00:27	JHH

PG-11 L835243-13 Solid

Collected by: William Smith | Collected date/time: 05/10/16 10:00 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 03:49	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 00:48	JHH

PG-12 L835243-14 Solid

Collected by: William Smith | Collected date/time: 05/10/16 10:05 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 04:12	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 01:09	JHH

PG-13 L835243-15 Solid

Collected by: William Smith | Collected date/time: 05/10/16 10:10 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 19:39	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 01:30	JHH

PG-14 L835243-16 Solid

Collected by: William Smith | Collected date/time: 05/10/16 10:15 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 20:01	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 01:52	JHH

PG-15 L835243-17 Solid

Collected by: William Smith | Collected date/time: 05/10/16 10:20 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 20:22	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 02:13	JHH

PG-16 L835243-18 Solid

Collected by: William Smith | Collected date/time: 05/10/16 10:25 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 20:43	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 02:34	JHH

PG-17 L835243-19 Solid

Collected by: William Smith | Collected date/time: 05/10/16 10:30 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 21:05	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 02:55	JHH

PG-18 L835243-20 Solid

Collected by: William Smith | Collected date/time: 05/10/16 10:35 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 21:26	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 03:16	JHH

PG-19 L835243-21 Solid

Collected by: William Smith | Collected date/time: 05/10/16 00:00 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 21:47	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872246	5	05/13/16 16:01	05/14/16 04:39	JHH

PG-20 L835243-22 Solid

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 22:08	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872246	5	05/13/16 16:01	05/14/16 04:57	JHH

PG-20D L835243-23 Solid

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 22:30	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872246	5	05/13/16 16:01	05/14/16 05:15	JHH

PG-FC2 L835243-24 Solid

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG872437	1	05/13/16 18:16	05/16/16 09:11	NJB
Metals (ICP) by Method 6010B	WG872357	1	05/14/16 08:15	05/14/16 14:35	CCE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG872902	1	05/16/16 23:00	05/17/16 12:40	DMG
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 22:51	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872498	5	05/13/16 20:53	05/14/16 14:33	BMB

PG-FC2D L835243-25 Solid

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG872437	1	05/13/16 18:16	05/16/16 09:13	NJB
Metals (ICP) by Method 6010B	WG872357	1	05/14/16 08:15	05/14/16 14:37	BRJ
Semi-Volatile Organic Compounds (GC) by Method 8015	WG872902	10	05/16/16 23:00	05/17/16 12:52	DMG
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 23:12	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872498	5	05/13/16 20:53	05/14/16 15:46	BMB

PG-EB1 L835243-26 GW

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG872754	1	05/17/16 09:27	05/17/16 14:29	TRB
Metals (ICP) by Method 6010B	WG872666	1	05/17/16 09:52	05/17/16 12:23	ST
Semi-Volatile Organic Compounds (GC) by Method 8015	WG872369	1	05/12/16 20:58	05/15/16 10:58	JNS
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG872894	1	05/17/16 00:11	05/17/16 00:11	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872391	1	05/13/16 23:29	05/13/16 23:29	LRL

PG-EB2 L835243-27 GW

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG872754	1	05/17/16 09:27	05/17/16 14:32	TRB
Metals (ICP) by Method 6010B	WG872666	1	05/17/16 09:52	05/17/16 12:26	ST
Semi-Volatile Organic Compounds (GC) by Method 8015	WG872369	1	05/12/16 20:58	05/15/16 11:15	JNS
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG872364	1	05/17/16 06:52	05/17/16 06:52	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872391	1	05/13/16 23:50	05/13/16 23:50	LRL

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 20:34	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*95.0*			*59.0-128*		*05/18/2016 20:34*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U	J3	0.00135	0.00500	5	05/17/2016 20:37	WG872233
Toluene	U	J3	0.00217	0.0250	5	05/17/2016 20:37	WG872233
Ethylbenzene	U	J3	0.00148	0.00500	5	05/17/2016 20:37	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 20:37	WG872233
Methyl tert-butyl ether	U	J3 J5	0.00106	0.00500	5	05/17/2016 20:37	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 20:37	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/17/2016 20:37*	WG872233
(S) Dibromofluoromethane	*101*			*76.3-123*		*05/17/2016 20:37*	WG872233
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*05/17/2016 20:37*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.115	B J	0.108	0.500	5	05/18/2016 20:56	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.5*			*59.0-128*		*05/18/2016 20:56*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 20:58	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 20:58	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 20:58	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 20:58	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 20:58	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 20:58	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 20:58*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/17/2016 20:58*	WG872233
(S) 4-Bromofluorobenzene	*105*			*69.7-129*		*05/17/2016 20:58*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.120	B J	0.108	0.500	5	05/19/2016 00:07	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*95.3*			*59.0-128*		*05/19/2016 00:07*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 21:19	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 21:19	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 21:19	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 21:19	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 21:19	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 21:19	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 21:19*	WG872233
(S) Dibromofluoromethane	*99.1*			*76.3-123*		*05/17/2016 21:19*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/17/2016 21:19*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 00:30	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*59.0-128*		*05/19/2016 00:30*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/17/2016 21:40	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 21:40	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 21:40	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 21:40	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 21:40	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 21:40	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 21:40*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/17/2016 21:40*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/17/2016 21:40*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.110	B J	0.108	0.500	5	05/19/2016 00:52	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*59.0-128*		*05/19/2016 00:52*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 22:01	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 22:01	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 22:01	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 22:01	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 22:01	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 22:01	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 22:01*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/17/2016 22:01*	WG872233
(S) 4-Bromofluorobenzene	*106*			*69.7-129*		*05/17/2016 22:01*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.115	B J	0.108	0.500	5	05/19/2016 01:14	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*93.3*			*59.0-128*		*05/19/2016 01:14*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 22:22	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 22:22	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 22:22	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 22:22	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 22:22	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 22:22	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 22:22*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/17/2016 22:22*	WG872233
(S) 4-Bromofluorobenzene	*104*			*69.7-129*		*05/17/2016 22:22*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 01:36	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*93.7*			*59.0-128*		*05/19/2016 01:36*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/17/2016 22:44	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 22:44	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 22:44	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 22:44	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 22:44	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 22:44	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 22:44*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/17/2016 22:44*	WG872233
(S) 4-Bromofluorobenzene	*104*			*69.7-129*		*05/17/2016 22:44*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 01:58	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.0*			*59.0-128*		*05/19/2016 01:58*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 23:04	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 23:04	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 23:04	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 23:04	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 23:04	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 23:04	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 23:04*	WG872233
(S) Dibromofluoromethane	*101*			*76.3-123*		*05/17/2016 23:04*	WG872233
(S) 4-Bromofluorobenzene	*105*			*69.7-129*		*05/17/2016 23:04*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.109	B J	0.108	0.500	5	05/19/2016 02:21	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*92.1*			*59.0-128*		*05/19/2016 02:21*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 23:25	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 23:25	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 23:25	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 23:25	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 23:25	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 23:25	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/17/2016 23:25*	WG872233
(S) Dibromofluoromethane	*102*			*76.3-123*		*05/17/2016 23:25*	WG872233
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*05/17/2016 23:25*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 02:43	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*93.7*			*59.0-128*		*05/19/2016 02:43*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 23:45	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 23:45	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 23:45	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 23:45	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 23:45	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 23:45	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 23:45*	WG872233
(S) Dibromofluoromethane	*102*			*76.3-123*		*05/17/2016 23:45*	WG872233
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*05/17/2016 23:45*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 03:05	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*59.0-128*		*05/19/2016 03:05*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 00:06	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 00:06	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 00:06	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 00:06	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 00:06	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 00:06	WG872233
(S) Toluene-d8	*104*			*88.7-115*		*05/18/2016 00:06*	WG872233
(S) Dibromofluoromethane	*104*			*76.3-123*		*05/18/2016 00:06*	WG872233
(S) 4-Bromofluorobenzene	*106*			*69.7-129*		*05/18/2016 00:06*	WG872233

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.161		0.00280	0.0200	1	05/16/2016 09:08	WG872437

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	8.34		0.650	2.00	1	05/14/2016 14:32	WG872357
Lead	70.3		0.190	0.500	1	05/14/2016 14:32	WG872357
Selenium	U		0.740	2.00	1	05/14/2016 14:32	WG872357

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.118	B J	0.108	0.500	5	05/19/2016 03:27	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.2*			*59.0-128*		*05/19/2016 03:27*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 00:27	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 00:27	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 00:27	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 00:27	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 00:27	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 00:27	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/18/2016 00:27*	WG872233
(S) Dibromofluoromethane	*101*			*76.3-123*		*05/18/2016 00:27*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 00:27*	WG872233

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	93.2		32.2	80.0	20	05/17/2016 14:18	WG872902
C28-C40 Oil Range	149		5.48	80.0	20	05/17/2016 14:18	WG872902
(S) o-Terphenyl	*100*	J7		*50.0-150*		*05/17/2016 14:18*	WG872902

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 03:49	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.7*			*59.0-128*		*05/19/2016 03:49*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/18/2016 00:48	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 00:48	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 00:48	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 00:48	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 00:48	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 00:48	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/18/2016 00:48*	WG872233
(S) Dibromofluoromethane	*104*			*76.3-123*		*05/18/2016 00:48*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 00:48*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 04:12	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*95.4*			*59.0-128*		*05/19/2016 04:12*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/18/2016 01:09	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 01:09	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 01:09	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 01:09	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 01:09	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 01:09	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/18/2016 01:09*	WG872233
(S) Dibromofluoromethane	*102*			*76.3-123*		*05/18/2016 01:09*	WG872233
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*05/18/2016 01:09*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 19:39	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.7*			*59.0-128*		*05/18/2016 19:39*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 01:30	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 01:30	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 01:30	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 01:30	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 01:30	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 01:30	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/18/2016 01:30*	WG872233
(S) Dibromofluoromethane	*102*			*76.3-123*		*05/18/2016 01:30*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 01:30*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 20:01	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*59.0-128*		*05/18/2016 20:01*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 01:52	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 01:52	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 01:52	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 01:52	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 01:52	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 01:52	WG872233
(S) Toluene-d8	*104*			*88.7-115*		*05/18/2016 01:52*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/18/2016 01:52*	WG872233
(S) 4-Bromofluorobenzene	*104*			*69.7-129*		*05/18/2016 01:52*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 20:22	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*59.0-128*		*05/18/2016 20:22*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 02:13	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 02:13	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 02:13	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 02:13	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 02:13	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 02:13	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/18/2016 02:13*	WG872233
(S) Dibromofluoromethane	*104*			*76.3-123*		*05/18/2016 02:13*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 02:13*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 20:43	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*59.0-128*		*05/18/2016 20:43*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 02:34	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 02:34	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 02:34	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 02:34	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 02:34	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 02:34	WG872233
(S) Toluene-d8	*104*			*88.7-115*		*05/18/2016 02:34*	WG872233
(S) Dibromofluoromethane	*101*			*76.3-123*		*05/18/2016 02:34*	WG872233
(S) 4-Bromofluorobenzene	*100*			*69.7-129*		*05/18/2016 02:34*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 21:05	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*59.0-128*		*05/18/2016 21:05*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 02:55	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 02:55	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 02:55	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 02:55	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 02:55	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 02:55	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/18/2016 02:55*	WG872233
(S) Dibromofluoromethane	*105*			*76.3-123*		*05/18/2016 02:55*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 02:55*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 21:26	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*59.0-128*		*05/18/2016 21:26*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 03:16	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 03:16	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 03:16	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 03:16	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 03:16	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 03:16	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/18/2016 03:16*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/18/2016 03:16*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 03:16*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 21:47	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.2*			*59.0-128*		*05/18/2016 21:47*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/14/2016 04:39	WG872246
Toluene	U		0.00217	0.0250	5	05/14/2016 04:39	WG872246
Ethylbenzene	U		0.00148	0.00500	5	05/14/2016 04:39	WG872246
Total Xylenes	U		0.00349	0.0150	5	05/14/2016 04:39	WG872246
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/14/2016 04:39	WG872246
Naphthalene	U		0.00500	0.0250	5	05/14/2016 04:39	WG872246
(S) Toluene-d8	*104*			*88.7-115*		*05/14/2016 04:39*	WG872246
(S) Dibromofluoromethane	*97.8*			*76.3-123*		*05/14/2016 04:39*	WG872246
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*05/14/2016 04:39*	WG872246

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 22:08	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.5*			*59.0-128*		*05/18/2016 22:08*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/14/2016 04:57	WG872246
Toluene	U		0.00217	0.0250	5	05/14/2016 04:57	WG872246
Ethylbenzene	U		0.00148	0.00500	5	05/14/2016 04:57	WG872246
Total Xylenes	U		0.00349	0.0150	5	05/14/2016 04:57	WG872246
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/14/2016 04:57	WG872246
Naphthalene	U		0.00500	0.0250	5	05/14/2016 04:57	WG872246
(S) Toluene-d8	*104*			*88.7-115*		*05/14/2016 04:57*	WG872246
(S) Dibromofluoromethane	*98.9*			*76.3-123*		*05/14/2016 04:57*	WG872246
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*05/14/2016 04:57*	WG872246

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 22:30	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*59.0-128*		*05/18/2016 22:30*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/14/2016 05:15	WG872246
Toluene	U		0.00217	0.0250	5	05/14/2016 05:15	WG872246
Ethylbenzene	U		0.00148	0.00500	5	05/14/2016 05:15	WG872246
Total Xylenes	U		0.00349	0.0150	5	05/14/2016 05:15	WG872246
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/14/2016 05:15	WG872246
Naphthalene	U		0.00500	0.0250	5	05/14/2016 05:15	WG872246
(S) Toluene-d8	*106*			*88.7-115*		*05/14/2016 05:15*	WG872246
(S) Dibromofluoromethane	*96.8*			*76.3-123*		*05/14/2016 05:15*	WG872246
(S) 4-Bromofluorobenzene	*106*			*69.7-129*		*05/14/2016 05:15*	WG872246

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0204		0.00280	0.0200	1	05/16/2016 09:11	WG872437

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.27		0.650	2.00	1	05/14/2016 14:35	WG872357
Lead	25.9		0.190	0.500	1	05/14/2016 14:35	WG872357
Selenium	U		0.740	2.00	1	05/14/2016 14:35	WG872357

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 22:51	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.1*			*59.0-128*		*05/18/2016 22:51*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/14/2016 14:33	WG872498
Toluene	U		0.00217	0.0250	5	05/14/2016 14:33	WG872498
Ethylbenzene	U		0.00148	0.00500	5	05/14/2016 14:33	WG872498
Total Xylenes	U		0.00349	0.0150	5	05/14/2016 14:33	WG872498
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/14/2016 14:33	WG872498
Naphthalene	U		0.00500	0.0250	5	05/14/2016 14:33	WG872498
(S) Toluene-d8	*106*			*88.7-115*		*05/14/2016 14:33*	WG872498
(S) Dibromofluoromethane	*104*			*76.3-123*		*05/14/2016 14:33*	WG872498
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*05/14/2016 14:33*	WG872498

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.61	4.00	1	05/17/2016 12:40	WG872902
C28-C40 Oil Range	1.82	J	0.274	4.00	1	05/17/2016 12:40	WG872902
(S) o-Terphenyl	*99.6*			*50.0-150*		*05/17/2016 12:40*	WG872902

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0627		0.00280	0.0200	1	05/16/2016 09:13	WG872437

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.01		0.650	2.00	1	05/14/2016 14:37	WG872357
Lead	24.0		0.190	0.500	1	05/14/2016 14:37	WG872357
Selenium	U		0.740	2.00	1	05/14/2016 14:37	WG872357

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 23:12	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.0*			*59.0-128*		*05/18/2016 23:12*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/14/2016 15:46	WG872498
Toluene	U		0.00217	0.0250	5	05/14/2016 15:46	WG872498
Ethylbenzene	U		0.00148	0.00500	5	05/14/2016 15:46	WG872498
Total Xylenes	U		0.00349	0.0150	5	05/14/2016 15:46	WG872498
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/14/2016 15:46	WG872498
Naphthalene	U		0.00500	0.0250	5	05/14/2016 15:46	WG872498
(S) Toluene-d8	*104*			*88.7-115*		*05/14/2016 15:46*	WG872498
(S) Dibromofluoromethane	*96.9*			*76.3-123*		*05/14/2016 15:46*	WG872498
(S) 4-Bromofluorobenzene	*93.2*			*69.7-129*		*05/14/2016 15:46*	WG872498

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		16.1	40.0	10	05/17/2016 12:52	WG872902
C28-C40 Oil Range	U		2.74	40.0	10	05/17/2016 12:52	WG872902
(S) o-Terphenyl	*106*			*50.0-150*		*05/17/2016 12:52*	WG872902

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	1	05/17/2016 14:29	WG872754

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Arsenic	U		0.00650	0.0100	1	05/17/2016 12:23	WG872666
Lead	U		0.00190	0.00500	1	05/17/2016 12:23	WG872666
Selenium	U		0.00740	0.0100	1	05/17/2016 12:23	WG872666

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	05/17/2016 00:11	WG872894
(S) a,a,a-Trifluorotoluene(FID)	*100*			*62.0-128*		*05/17/2016 00:11*	WG872894

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	05/13/2016 23:29	WG872391
Toluene	U		0.000780	0.00500	1	05/13/2016 23:29	WG872391
Ethylbenzene	U		0.000384	0.00100	1	05/13/2016 23:29	WG872391
Total Xylenes	U		0.00106	0.00300	1	05/13/2016 23:29	WG872391
Methyl tert-butyl ether	U		0.000367	0.00100	1	05/13/2016 23:29	WG872391
Naphthalene	U		0.00100	0.00500	1	05/13/2016 23:29	WG872391
(S) Toluene-d8	*106*			*90.0-115*		*05/13/2016 23:29*	WG872391
(S) Dibromofluoromethane	*108*			*79.0-121*		*05/13/2016 23:29*	WG872391
(S) a,a,a-Trifluorotoluene	*105*			*90.4-116*		*05/13/2016 23:29*	WG872391
(S) 4-Bromofluorobenzene	*102*			*80.1-120*		*05/13/2016 23:29*	WG872391

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
C10-C28 Diesel Range	0.0486	J	0.0222	0.100	1	05/15/2016 10:58	WG872369
C28-C40 Oil Range	0.0330	J	0.0118	0.100	1	05/15/2016 10:58	WG872369
(S) o-Terphenyl	*115*			*50.0-150*		*05/15/2016 10:58*	WG872369

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	1	05/17/2016 14:32	WG872754

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Arsenic	U		0.00650	0.0100	1	05/17/2016 12:26	WG872666
Lead	U		0.00190	0.00500	1	05/17/2016 12:26	WG872666
Selenium	U		0.00740	0.0100	1	05/17/2016 12:26	WG872666

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	05/17/2016 06:52	WG872364
(S) a,a,a-Trifluorotoluene(FID)	*101*			*62.0-128*		*05/17/2016 06:52*	WG872364

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	05/13/2016 23:50	WG872391
Toluene	U		0.000780	0.00500	1	05/13/2016 23:50	WG872391
Ethylbenzene	U		0.000384	0.00100	1	05/13/2016 23:50	WG872391
Total Xylenes	U		0.00106	0.00300	1	05/13/2016 23:50	WG872391
Methyl tert-butyl ether	U		0.000367	0.00100	1	05/13/2016 23:50	WG872391
Naphthalene	U		0.00100	0.00500	1	05/13/2016 23:50	WG872391
(S) Toluene-d8	*106*			*90.0-115*		*05/13/2016 23:50*	WG872391
(S) Dibromofluoromethane	*108*			*79.0-121*		*05/13/2016 23:50*	WG872391
(S) a,a,a-Trifluorotoluene	*105*			*90.4-116*		*05/13/2016 23:50*	WG872391
(S) 4-Bromofluorobenzene	*101*			*80.1-120*		*05/13/2016 23:50*	WG872391

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
C10-C28 Diesel Range	U		0.0222	0.100	1	05/15/2016 11:15	WG872369
C28-C40 Oil Range	0.0152	J	0.0118	0.100	1	05/15/2016 11:15	WG872369
(S) o-Terphenyl	*108*			*50.0-150*		*05/15/2016 11:15*	WG872369

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3137456-1 05/17/16 14:01

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Mercury	U		0.000049	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137456-2 05/17/16 14:03 • (LCSD) R3137456-3 05/17/16 14:06

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Mercury	0.00300	0.00309	0.00300	103	100	80-120			3	20

L835698-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835698-01 05/17/16 14:08 • (MS) R3137456-4 05/17/16 14:16 • (MSD) R3137456-5 05/17/16 14:19

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	U	0.00331	0.00326	110	109	1	75-125			2	20

Method Blank (MB)

(MB) R3136951-1 05/16/16 08:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3136951-2 05/16/16 08:55 • (LCSD) R3136951-3 05/16/16 08:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.267	0.263	89	88	80-120			2	20

L835350-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835350-01 05/16/16 09:00 • (MS) R3136951-4 05/16/16 09:03 • (MSD) R3136951-5 05/16/16 09:05

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.361	0.00391	0.321	0.346	88	95	1	75-125			7	20

Method Blank (MB)

(MB) R3136806-1 05/14/16 13:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500
Selenium	U		0.74	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3136806-2 05/14/16 13:46 • (LCSD) R3136806-3 05/14/16 13:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	93.5	92.4	93	92	80-120			1	20
Lead	100	97.7	96.2	98	96	80-120			2	20
Selenium	100	96.4	95.6	96	96	80-120			1	20

L835281-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835281-01 05/14/16 13:51 • (MS) R3136806-6 05/14/16 14:00 • (MSD) R3136806-7 05/14/16 14:03

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	109	12.2	114	109	93	89	1	75-125			4	20
Lead	109	19.0	133	126	104	97	1	75-125			6	20
Selenium	109	ND	104	98	95	90	1	75-125			6	20

Method Blank (MB)

(MB) R3137501-1 05/17/16 12:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.0065	0.0100
Lead	U		0.0019	0.00500
Selenium	U		0.0074	0.0100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137501-2 05/17/16 12:04 • (LCSD) R3137501-3 05/17/16 12:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	0.993	0.993	99	99	80-120			0	20
Lead	1.00	1.02	1.02	102	102	80-120			0	20
Selenium	1.00	1.03	1.03	103	103	80-120			0	20

Method Blank (MB)

(MB) R3137507-3 05/17/16 00:43

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*62.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137507-1 05/16/16 23:37 • (LCSD) R3137507-2 05/16/16 23:59

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
TPH (GC/FID) Low Fraction	5.50	6.29	6.07	114	110	67.0-132			3.50	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*101*	*62.0-128*				

L834732-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L834732-06 05/17/16 07:14 • (MS) R3137507-4 05/17/16 07:36 • (MSD) R3137507-5 05/17/16 07:58

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	2.43	4.38	4.32	35.6	34.4	1	50.0-143	J6	J6	1.50	20
(S) a,a,a-Trifluorotoluene(FID)					*109*	*109*		*62.0-128*				

Method Blank (MB)

(MB) R3137306-3 05/16/16 22:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*100*			*62.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137306-1 05/16/16 21:22 • (LCSD) R3137306-2 05/16/16 21:43

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
TPH (GC/FID) Low Fraction	5.50	6.14	6.04	112	110	67.0-132			1.66	20
(S) a,a,a-Trifluorotoluene(FID)				*102*	*101*	*62.0-128*				

L834446-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L834446-01 05/16/16 23:50 • (MS) R3137306-4 05/16/16 22:46 • (MSD) R3137306-5 05/16/16 23:07

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	ND	2.91	3.00	52.9	54.6	1	50.0-143			3.25	20
(S) a,a,a-Trifluorotoluene(FID)					*100*	*100*		*62.0-128*				

Method Blank (MB)

(MB) R3138217-3 05/18/16 14:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0252	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.9*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3138217-1 05/18/16 13:51 • (LCSD) R3138217-2 05/18/16 14:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.30	5.57	96.4	101	63.5-137			4.97	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*104*	*59.0-128*				

L835233-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835233-04 05/18/16 18:20 • (MS) R3138217-4 05/18/16 21:18 • (MSD) R3138217-5 05/18/16 21:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.144	9.36	9.09	33.5	32.5	5	28.5-138			2.98	23.6
(S) a,a,a-Trifluorotoluene(FID)					*94.1*	*94.7*		*59.0-128*				

Method Blank (MB)

(MB) R3138281-3 05/18/16 17:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3138281-1 05/18/16 16:43 • (LCSD) R3138281-2 05/18/16 17:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.23	5.99	113	109	63.5-137			3.88	20
(S) a,a,a-Trifluorotoluene(FID)				*102*	*101*	*59.0-128*				

L835243-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-15 05/18/16 19:39 • (MS) R3138281-4 05/18/16 18:36 • (MSD) R3138281-5 05/18/16 18:57

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	U	11.9	11.6	43.1	42.1	5	28.5-138			2.31	23.6
(S) a,a,a-Trifluorotoluene(FID)					*99.2*	*99.5*		*59.0-128*				

Method Blank (MB)

(MB) R3137902-3 05/17/16 18:29

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*106*			*88.7-115*
(S) Dibromofluoromethane	*102*			*76.3-123*
(S) 4-Bromofluorobenzene	*104*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137902-1 05/17/16 17:05 • (LCSD) R3137902-2 05/17/16 17:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0239	0.0257	95.6	103	72.6-120			7.09	20
Ethylbenzene	0.0250	0.0231	0.0246	92.5	98.2	78.6-124			6.04	20
Methyl tert-butyl ether	0.0250	0.0246	0.0267	98.6	107	70.2-122			7.97	20
Naphthalene	0.0250	0.0222	0.0245	88.6	98.1	69.9-132			10.1	20
Toluene	0.0250	0.0230	0.0247	92.1	98.7	76.7-116			6.87	20
Xylenes, Total	0.0750	0.0690	0.0747	91.9	99.6	78.1-123			7.96	20
(S) Toluene-d8				*106*	*105*	*88.7-115*				
(S) Dibromofluoromethane				*105*	*105*	*76.3-123*				
(S) 4-Bromofluorobenzene				*101*	*101*	*69.7-129*				

L835243-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-01 05/17/16 20:37 • (MS) R3137902-4 05/17/16 19:34 • (MSD) R3137902-5 05/17/16 19:55

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	U	0.120	0.153	95.8	123	5	47.8-131		J3	24.7	22.8
Ethylbenzene	0.0250	U	0.105	0.138	83.7	110	5	44.8-135		J3	27.1	26.9
Methyl tert-butyl ether	0.0250	U	0.129	0.166	103	133	5	50.4-131		J3 J5	25.2	24.8
Naphthalene	0.0250	U	0.0775	0.106	62.0	84.8	5	18.4-145			31.0	34
Toluene	0.0250	U	0.110	0.147	88.2	117	5	47.8-127		J3	28.3	24.3

L835243-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-01 05/17/16 20:37 • (MS) R3137902-4 05/17/16 19:34 • (MSD) R3137902-5 05/17/16 19:55

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Xylenes, Total	0.0750	U	0.315	0.409	84.1	109	5	42.7-135			25.9	26.6
(S) Toluene-d8					*105*	*104*		*88.7-115*				
(S) Dibromofluoromethane					*105*	*99.7*		*76.3-123*				
(S) 4-Bromofluorobenzene					*102*	*97.9*		*69.7-129*				

Method Blank (MB)

(MB) R3136916-3 05/13/16 22:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*98.0*			*88.7-115*
(S) Dibromofluoromethane	*98.3*			*76.3-123*
(S) 4-Bromofluorobenzene	*94.7*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3136916-1 05/13/16 21:57 • (LCSD) R3136916-2 05/13/16 22:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0229	0.0235	91.6	93.9	72.6-120			2.43	20
Ethylbenzene	0.0250	0.0217	0.0235	86.7	93.9	78.6-124			7.92	20
Methyl tert-butyl ether	0.0250	0.0210	0.0207	84.0	83.0	70.2-122			1.26	20
Naphthalene	0.0250	0.0198	0.0202	79.3	80.6	69.9-132			1.69	20
Toluene	0.0250	0.0234	0.0243	93.5	97.4	76.7-116			4.03	20
Xylenes, Total	0.0750	0.0654	0.0688	87.2	91.7	78.1-123			5.07	20
(S) Toluene-d8				*104*	*103*	*88.7-115*				
(S) Dibromofluoromethane				*101*	*99.3*	*76.3-123*				
(S) 4-Bromofluorobenzene				*92.3*	*97.0*	*69.7-129*				

L835243-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-23 05/14/16 05:15 • (MS) R3136916-4 05/14/16 05:34 • (MSD) R3136916-5 05/14/16 05:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	U	0.104	0.102	83.4	81.7	5	47.8-131			2.06	22.8
Ethylbenzene	0.0250	U	0.0874	0.0811	70.0	64.9	5	44.8-135			7.48	26.9
Methyl tert-butyl ether	0.0250	U	0.0964	0.0964	77.1	77.1	5	50.4-131			0.0400	24.8
Naphthalene	0.0250	U	0.0709	0.0613	56.7	49.0	5	18.4-145			14.6	34
Toluene	0.0250	U	0.102	0.0953	81.9	76.2	5	47.8-127			7.16	24.3

L835243-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-23 05/14/16 05:15 • (MS) R3136916-4 05/14/16 05:34 • (MSD) R3136916-5 05/14/16 05:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Xylenes, Total	0.0750	U	0.254	0.235	67.8	62.7	5	42.7-135			7.74	26.6
(S) Toluene-d8					*101*	*97.9*		*88.7-115*				
(S) Dibromofluoromethane					*101*	*105*		*76.3-123*				
(S) 4-Bromofluorobenzene					*98.8*	*97.2*		*69.7-129*				

Method Blank (MB)

(MB) R3136820-3 05/14/16 12:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*101*			*88.7-115*
(S) Dibromofluoromethane	*99.2*			*76.3-123*
(S) 4-Bromofluorobenzene	*97.4*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3136820-1 05/14/16 10:56 • (LCSD) R3136820-2 05/14/16 11:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0235	0.0229	94.0	91.8	72.6-120			2.42	20
Ethylbenzene	0.0250	0.0236	0.0233	94.2	93.0	78.6-124			1.28	20
Methyl tert-butyl ether	0.0250	0.0224	0.0210	89.8	84.2	70.2-122			6.46	20
Naphthalene	0.0250	0.0229	0.0216	91.5	86.3	69.9-132			5.77	20
Toluene	0.0250	0.0238	0.0229	95.1	91.5	76.7-116			3.84	20
Xylenes, Total	0.0750	0.0702	0.0700	93.5	93.3	78.1-123			0.250	20
(S) Toluene-d8				*98.3*	*96.6*	*88.7-115*				
(S) Dibromofluoromethane				*98.6*	*96.5*	*76.3-123*				
(S) 4-Bromofluorobenzene				*105*	*99.3*	*69.7-129*				

L835243-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-24 05/14/16 14:33 • (MS) R3136820-4 05/14/16 14:51 • (MSD) R3136820-5 05/14/16 15:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	U	0.104	0.106	83.2	84.5	5	47.8-131			1.63	22.8
Ethylbenzene	0.0250	U	0.104	0.104	83.2	82.8	5	44.8-135			0.380	26.9
Methyl tert-butyl ether	0.0250	U	0.0865	0.0965	69.2	77.2	5	50.4-131			10.9	24.8
Naphthalene	0.0250	U	0.0892	0.0948	71.4	75.8	5	18.4-145			5.99	34
Toluene	0.0250	U	0.107	0.108	85.5	86.2	5	47.8-127			0.810	24.3

L835243-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-24 05/14/16 14:33 • (MS) R3136820-4 05/14/16 14:51 • (MSD) R3136820-5 05/14/16 15:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Xylenes, Total	0.0750	U	0.300	0.305	80.1	81.2	5	42.7-135			1.38	26.6
(S) Toluene-d8					*102*	*104*		*88.7-115*				
(S) Dibromofluoromethane					*99.9*	*102*		*76.3-123*				
(S) 4-Bromofluorobenzene					*96.3*	*99.1*		*69.7-129*				

Method Blank (MB)

(MB) R3136702-3 05/13/16 15:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000780	0.00500
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	*105*			*88.5-111*
(S) Dibromofluoromethane	*103*			*78.3-121*
(S) a,a,a-Trifluorotoluene	*102*			*85.0-114*
(S) 4-Bromofluorobenzene	*99.3*			*71.0-126*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3136702-1 05/13/16 14:12 • (LCSD) R3136702-2 05/13/16 14:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0262	0.0257	105	103	73.0-122			1.98	20
Ethylbenzene	0.0250	0.0258	0.0255	103	102	80.9-121			1.17	20
Methyl tert-butyl ether	0.0250	0.0242	0.0238	96.9	95.2	70.1-125			1.72	20
Naphthalene	0.0250	0.0234	0.0237	93.6	94.7	69.7-134			1.20	20
Toluene	0.0250	0.0258	0.0254	103	101	77.9-116			1.93	20
Xylenes, Total	0.0750	0.0793	0.0782	106	104	79.2-122			1.42	20
(S) Toluene-d8				*106*	*105*	*88.5-111*				
(S) Dibromofluoromethane				*99.7*	*100*	*78.3-121*				
(S) a,a,a-Trifluorotoluene				*101*	*101*	*85.0-114*				
(S) 4-Bromofluorobenzene				*97.8*	*98.9*	*71.0-126*				

L834071-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L834071-06 05/13/16 22:07 • (MS) R3136702-4 05/13/16 22:28 • (MSD) R3136702-5 05/13/16 22:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.00828	0.0328	0.0325	98.0	96.8	1	58.6-133			0.930	20
Ethylbenzene	0.0250	ND	0.0244	0.0245	97.4	97.9	1	62.7-136			0.410	20
Methyl tert-butyl ether	0.0250	0.00238	0.0285	0.0293	105	108	1	61.4-136			2.75	20

L834071-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L834071-06 05/13/16 22:07 • (MS) R3136702-4 05/13/16 22:28 • (MSD) R3136702-5 05/13/16 22:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Naphthalene	0.0250	ND	0.0257	0.0271	103	108	1	61.8-143			5.41	20
Toluene	0.0250	ND	0.0242	0.0241	97.0	96.3	1	67.8-124			0.760	20
Xylenes, Total	0.0750	ND	0.0751	0.0754	100	101	1	65.6-133			0.450	20
(S) Toluene-d8					*107*	*108*		*88.5-111*				
(S) Dibromofluoromethane					*105*	*105*		*78.3-121*				
(S) a,a,a-Trifluorotoluene					*106*	*107*		*85.0-114*				
(S) 4-Bromofluorobenzene					*103*	*104*		*71.0-126*				

Method Blank (MB)

(MB) R3139237-1 05/15/16 09:51

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
C10-C28 Diesel Range	U		0.0222	0.100
C28-C40 Oil Range	U		0.0118	0.100
(S) o-Terphenyl	*112*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3139237-2 05/15/16 10:07 • (LCSD) R3139237-3 05/15/16 10:24

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
C10-C28 Diesel Range	1.50	1.53	1.54	102	102	70.0-130			0.680	20
(S) o-Terphenyl				*110*	*117*	*50.0-150*				

Method Blank (MB)

(MB) R3137450-1 05/17/16 10:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*103*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137450-2 05/17/16 10:25 • (LCSD) R3137450-3 05/17/16 10:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	48.2	52.7	80.3	87.9	50.0-100			9.05	20
(S) o-Terphenyl				*93.1*	*93.4*	*50.0-150*				

L835078-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835078-01 05/17/16 12:02 • (MS) R3137450-4 05/17/16 12:15 • (MSD) R3137450-5 05/17/16 12:27

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	7.31	57.8	64.7	84.1	95.7	1	50.0-100			11.4	20
(S) o-Terphenyl					*72.6*	*68.2*		*50.0-150*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

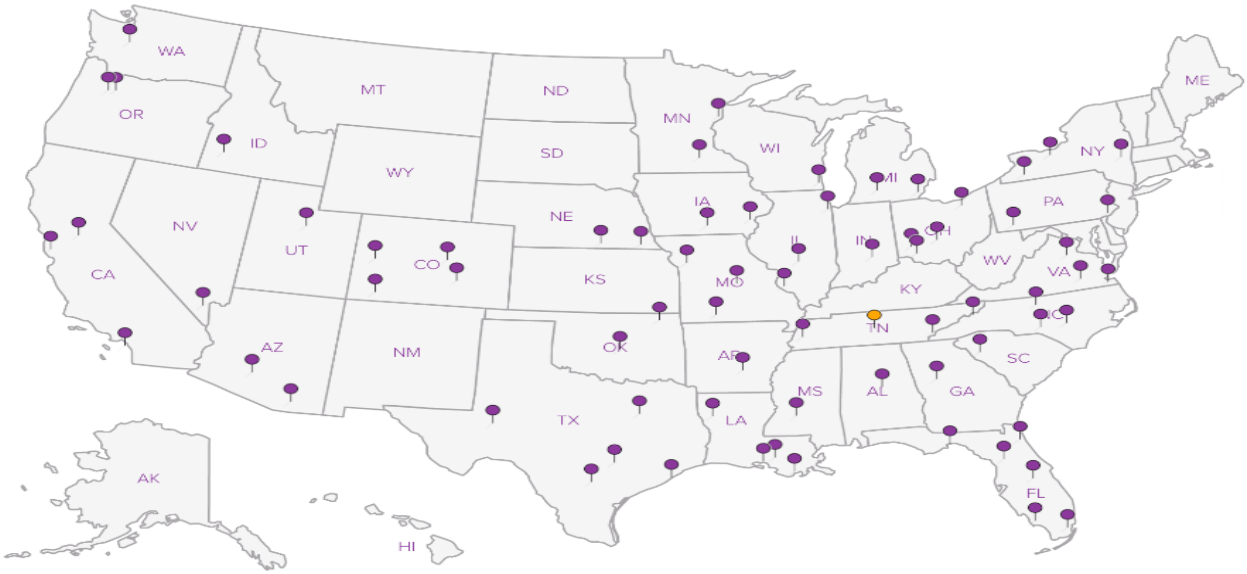
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1.] Drinking Water [2.] Underground Storage Tanks [3.] Aquatic Toxicity [4.] Chemical/Microbiological [5.] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



AMEC Foster Wheeler - Houston, TX

585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: Pamela Krueger

Email To: pamela.krueger@amecfw.com

Project Description: Prime G Soil Piles

City/State Collected: Artesia, NM

Phone: 713-929-5674
Fax:

Client Project # 6703160012.003

Lab Project # AMECFWHTX-PRIME

Collected by (print): Kiana Smith

Site/Facility ID # HFN

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ASICP,HG,PBICP,SEICP 250mlHDPE-HNO3	DROOROLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO,V8260BTEXMN 2ozClr-NoPres	Metals 2ozClr-NoPres	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN- TB 40mlAmb-HCl-Blk			Rem./Contaminant	Sample # (lab only)
PG-1		SS		5/10/16	8:50	1			X		X	X						01
PG-2		SS			8:55	1			X		X	X						02
PG-3		SS			9:00	1			X		X	X						03
PG-4		SS			9:03	1			X		X	X						04
PG-5		SS			9:05	1			X		X	X						05
PG-6		SS			9:10	1					X							06
PG-7		SS			9:12	1					X							07
PG-8		SS			9:15	1					X							08
PG-9		SS			9:20	1					X							09
PG-10		SS			9:25	1					X							10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

671101328823

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	5/11/16	11:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.1 °C Bottles Received: 42+2TB

Date: 5-12-16 Time: 1300

Hold #

Condition: (lab use only) a SW

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page ___ of ___

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12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 835243

G183

Acctnum: AMECFWHTX
Template: T112075
Prelogin: P552514
TSR: 526 - Chris McCord
PB: 5-4-16 KH
Shipped Via: FedEx Ground

AMEC Foster Wheeler - Houston, TX

585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: **Pamela Krueger**

Email To: **pamela.krueger@amecfw.com**

Project Description: **Prime G Soil Piles**

City/State Collected: Artesia, NM

Phone: **713-929-5674**
Fax:

Client Project # **6703160012.003**

Lab Project # **AMECFWHTX-PRIME**

Collected by (print): Gillian Smith

Site/Facility ID # HFN

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X___Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ASICP,HG,PBICP,SEICP 250mlHDPE-HNO3	DROORGLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO,V8260BTEXMN 2ozClr-NoPres	Metals 2ozClr-NoPres	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN- TB 40mlAmb-HCl-Blk			Rem./Contaminant	Sample # (lab only)
PG-10D		SS		5/10/16	9:27	1					X							11
PG-FC1	Comp	SS			9:30	1 2dd			X		X	X						12
PG-11		SS			10:00	1					X							13
PG-12		SS			10:05	1					X							14
PG-13		SS			10:10	1					X							15
PG-14		SS			10:15	1					X							16
PG-15		SS			10:20	1					X							17
PG-16		SS			10:25	1					X							18
PG-17		SS			10:30	1					X							19
PG-18		SS			10:35	1					X							20

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	5/11/16	15:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____

Temp: 3.1 °C Bottles Received: 42+2TB

Date: 5-12-16 Time: 1300

Hold #

Condition: (lab use only) L JW

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page ___ of ___

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 875243

Table #

Acctnum: **AMECFWHTX**

Template: **T112075**

Prelogin: **P552514**

TSR: **526 - Chris McCord**

PB: 5-4-16 KH

Shipped Via: **FedEx Ground**

AMEC Foster Wheeler - Houston, TX

585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: Pamela Krueger

Email To: pamela.krueger@amecfw.com

Project Description: Prime G Soil Piles

City/State Collected: Artesia, NM

Phone: 713-929-5674
Fax:

Client Project # 6703160012.003

Lab Project # AMECFWHTX-PRIME

Collected by (print): [signature]

Site/Facility ID # HFN

P.O. #

Collected by (signature): [signature]

Immediately Packed on Ice N___ Y___

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ASICP,HG,PBICP,SEICP 250mlHDPE-HNO3 <2	DROORLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO,V8260BTEXMN 2ozClr-NoPres	Metals 2ozClr-NoPres	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN-TB 40mlAmb-HCl-Blk			Rem./Contaminant	Sample # (lab only)
PG-19		SS		5/10/16		1					X							21
PG-20		SS				1					X							22
PG-20D		SS				1					X							23
PG-FC2	Comp	SS				1			X		X	X						24
PG-FC2D	Comp	SS				1			X		X	X						25
PG-EB1		GW				8	X	X		X			X					27
PG-EB2		GW				8	X	X		X			X					27
		GW				1								X				
		GW				1								X				
		GW				1								X				

dd 2 dd 2 dd 6

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	5/11/16	15:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			[signature]

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____

Temp: 3.1 °C Bottles Received: 4 2 2TB

Date: 5-12-16 Time: 1300

Chain of Custody Page ___ of ___

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 833243

Table #

Acctnum: AMECFWHTX

Template: T112075

Prelogin: P552514

TSR: 526 - Chris McCord

PB: 5-4-16 KM

Shipped Via: FedEX Ground

Hold #

Condition: (lab use only) ok

COC Seal Intact: ___Y ___N ___NA

pH Checked: <2

NCF:

ANALYTICAL REPORT

June 14, 2016

AMEC Foster Wheeler - Houston, TX

Sample Delivery Group:	L839321
Samples Received:	06/03/2016
Project Number:	6703160012.003
Description:	HollyFrontier Navajo Refinery
Site:	HFN - ARTESIA
Report To:	Pam Krueger 585 N. Dairy Ashford Houston, TX 77079

Entire Report Reviewed By:

Chris McCord
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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PG2-01 L839321-01 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:00
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 02:37	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 04:58	DAH

PG2-02 L839321-02 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:05
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 03:00	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 05:15	DAH

PG2-03 L839321-03 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:10
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 03:22	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 17:26	JHH

PG2-04 L839321-04 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:15
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 03:44	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 17:47	JHH

PG2-05 L839321-05 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:20
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 04:06	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 18:08	JHH

PG2-06 L839321-06 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:25
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 04:28	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 18:30	JHH

PG2-07 L839321-07 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:30
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 04:50	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 18:51	JHH

PG2-08 L839321-08 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:35
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879235	5	06/09/16 17:29	06/10/16 15:46	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 19:13	JHH

PG2-09 L839321-09 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:40
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879235	5	06/09/16 17:29	06/10/16 16:08	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 19:34	JHH

PG2-10 L839321-10 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:45
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879235	5	06/09/16 17:29	06/10/16 16:30	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878936	5	06/10/16 05:00	06/10/16 11:52	DWR

PG2-10D L839321-11 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:50
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879235	5	06/09/16 17:29	06/10/16 16:53	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878936	5	06/10/16 05:00	06/10/16 12:12	DWR

PG2-11 L839321-12 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:55
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 12:44	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 05:32	DAH

PG2-12 L839321-13 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:00
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 13:13	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 05:50	DAH

PG2-13 L839321-14 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:05
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 13:42	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 06:07	DAH

PG2-14 L839321-15 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:10
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 14:10	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 06:24	DAH

PG2-15 L839321-16 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:15
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 14:39	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 07:09	DAH

PG2-16 L839321-17 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:20
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 15:08	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 07:26	DAH

PG2-17 L839321-18 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:25
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 15:37	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 07:43	DAH

PG2-18 L839321-19 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:30
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 16:06	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 08:01	DAH

PG2-19 L839321-20 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:35
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 16:34	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878670	5	06/10/16 08:52	06/10/16 10:57	ACG

PG2-20 L839321-21 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:40
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 17:03	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878265	5	06/07/16 11:03	06/07/16 23:23	BMB

PG2-20D L839321-22 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:45
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 17:32	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878265	5	06/07/16 11:03	06/07/16 23:48	BMB

PG2-FC1 L839321-23 Solid

Collected by: William S.
Collected date/time: 06/01/16 17:00
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG877793	1	06/04/16 08:29	06/06/16 10:58	NJB
Metals (ICP) by Method 6010B	WG878492	1	06/07/16 18:13	06/08/16 08:11	CCE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG878027	20	06/06/16 10:47	06/06/16 14:15	TRF
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 18:01	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878265	5	06/07/16 11:03	06/08/16 00:12	BMB

EB-1 L839321-24 GW

Collected by: William S.
Collected date/time: 06/01/16 17:30
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG877995	1	06/06/16 12:36	06/07/16 10:45	NJB
Metals (ICP) by Method 6010B	WG877684	1	06/07/16 14:43	06/08/16 04:47	LTB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG878029	1	06/05/16 17:11	06/07/16 22:19	JNS
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878474	1	06/09/16 22:09	06/09/16 22:09	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877772	1	06/10/16 13:46	06/10/16 13:46	DWR

TRIP BLANK L839321-25 GW

Collected by: William S.
Collected date/time: 06/01/16 00:00
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878474	1	06/09/16 14:29	06/09/16 14:29	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877772	1	06/10/16 13:07	06/10/16 13:07	DWR

COMP 1 L839321-26 Solid

Collected by: William S.
Collected date/time: 06/01/16 00:00
Received date/time: 06/03/16 09:00

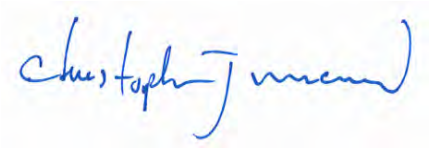
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG879153	1	06/09/16 18:33	06/10/16 08:13	TRB
Metals (ICP) by Method 6010B	WG879261	1	06/09/16 19:06	06/10/16 15:42	BRJ
Semi-Volatile Organic Compounds (GC) by Method 8015	WG879301	1	06/09/16 20:36	06/10/16 10:30	DMG

COMP 2 L839321-27 Solid

Collected by: William S.
Collected date/time: 06/01/16 00:00
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG879153	1	06/09/16 18:33	06/10/16 08:16	TRB
Metals (ICP) by Method 6010B	WG879261	1	06/09/16 19:06	06/10/16 15:45	BRJ
Semi-Volatile Organic Compounds (GC) by Method 8015	WG879301	1	06/09/16 20:36	06/10/16 10:45	DMG

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris McCord
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.213	B J	0.108	0.500	5	06/11/2016 02:37	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*92.7*			*59.0-128*		*06/11/2016 02:37*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	06/10/2016 04:58	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 04:58	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 04:58	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 04:58	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 04:58	WG879247
Naphthalene	0.00664	J	0.00500	0.0250	5	06/10/2016 04:58	WG879247
(S) Toluene-d8	*112*			*88.7-115*		*06/10/2016 04:58*	WG879247
(S) Dibromofluoromethane	*121*			*76.3-123*		*06/10/2016 04:58*	WG879247
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*06/10/2016 04:58*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.142	B J	0.108	0.500	5	06/11/2016 03:00	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*88.1*			*59.0-128*		*06/11/2016 03:00*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	06/10/2016 05:15	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 05:15	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 05:15	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 05:15	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 05:15	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 05:15	WG879247
(S) Toluene-d8	*113*			*88.7-115*		*06/10/2016 05:15*	WG879247
(S) Dibromofluoromethane	*121*			*76.3-123*		*06/10/2016 05:15*	WG879247
(S) 4-Bromofluorobenzene	*104*			*69.7-129*		*06/10/2016 05:15*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/11/2016 03:22	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*92.3*			*59.0-128*		*06/11/2016 03:22*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 17:26	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 17:26	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 17:26	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 17:26	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 17:26	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 17:26	WG877784
(S) Toluene-d8	*103*			*88.7-115*		*06/09/2016 17:26*	WG877784
(S) Dibromofluoromethane	*104*			*76.3-123*		*06/09/2016 17:26*	WG877784
(S) 4-Bromofluorobenzene	*98.8*			*69.7-129*		*06/09/2016 17:26*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/11/2016 03:44	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*93.0*			*59.0-128*		*06/11/2016 03:44*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 17:47	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 17:47	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 17:47	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 17:47	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 17:47	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 17:47	WG877784
(S) Toluene-d8	*102*			*88.7-115*		*06/09/2016 17:47*	WG877784
(S) Dibromofluoromethane	*104*			*76.3-123*		*06/09/2016 17:47*	WG877784
(S) 4-Bromofluorobenzene	*100*			*69.7-129*		*06/09/2016 17:47*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/11/2016 04:06	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*93.9*			*59.0-128*		*06/11/2016 04:06*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 18:08	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 18:08	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 18:08	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 18:08	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 18:08	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 18:08	WG877784
(S) Toluene-d8	*102*			*88.7-115*		*06/09/2016 18:08*	WG877784
(S) Dibromofluoromethane	*105*			*76.3-123*		*06/09/2016 18:08*	WG877784
(S) 4-Bromofluorobenzene	*99.1*			*69.7-129*		*06/09/2016 18:08*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/11/2016 04:28	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*93.8*			*59.0-128*		*06/11/2016 04:28*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 18:30	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 18:30	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 18:30	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 18:30	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 18:30	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 18:30	WG877784
(S) Toluene-d8	*102*			*88.7-115*		*06/09/2016 18:30*	WG877784
(S) Dibromofluoromethane	*105*			*76.3-123*		*06/09/2016 18:30*	WG877784
(S) 4-Bromofluorobenzene	*99.7*			*69.7-129*		*06/09/2016 18:30*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/11/2016 04:50	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*93.2*			*59.0-128*		*06/11/2016 04:50*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 18:51	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 18:51	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 18:51	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 18:51	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 18:51	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 18:51	WG877784
(S) Toluene-d8	*102*			*88.7-115*		*06/09/2016 18:51*	WG877784
(S) Dibromofluoromethane	*106*			*76.3-123*		*06/09/2016 18:51*	WG877784
(S) 4-Bromofluorobenzene	*99.2*			*69.7-129*		*06/09/2016 18:51*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 15:46	WG879235
(S) a,a,a-Trifluorotoluene(FID)	*96.6*			*59.0-128*		*06/10/2016 15:46*	WG879235

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 19:13	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 19:13	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 19:13	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 19:13	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 19:13	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 19:13	WG877784
(S) Toluene-d8	*101*			*88.7-115*		*06/09/2016 19:13*	WG877784
(S) Dibromofluoromethane	*106*			*76.3-123*		*06/09/2016 19:13*	WG877784
(S) 4-Bromofluorobenzene	*98.6*			*69.7-129*		*06/09/2016 19:13*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 16:08	WG879235
(S) a,a,a-Trifluorotoluene(FID)	*96.8*			*59.0-128*		*06/10/2016 16:08*	WG879235

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 19:34	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 19:34	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 19:34	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 19:34	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 19:34	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 19:34	WG877784
(S) Toluene-d8	*102*			*88.7-115*		*06/09/2016 19:34*	WG877784
(S) Dibromofluoromethane	*106*			*76.3-123*		*06/09/2016 19:34*	WG877784
(S) 4-Bromofluorobenzene	*99.7*			*69.7-129*		*06/09/2016 19:34*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 16:30	WG879235
(S) a,a,a-Trifluorotoluene(FID)	*96.9*			*59.0-128*		*06/10/2016 16:30*	WG879235

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 11:52	WG878936
Toluene	U		0.00217	0.0250	5	06/10/2016 11:52	WG878936
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 11:52	WG878936
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 11:52	WG878936
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 11:52	WG878936
Naphthalene	U		0.00500	0.0250	5	06/10/2016 11:52	WG878936
(S) Toluene-d8	*97.8*			*88.7-115*		*06/10/2016 11:52*	WG878936
(S) Dibromofluoromethane	*98.1*			*76.3-123*		*06/10/2016 11:52*	WG878936
(S) 4-Bromofluorobenzene	*95.4*			*69.7-129*		*06/10/2016 11:52*	WG878936

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 16:53	WG879235
(S) a,a,a-Trifluorotoluene(FID)	*96.8*			*59.0-128*		*06/10/2016 16:53*	WG879235

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	06/10/2016 12:12	WG878936
Toluene	U		0.00217	0.0250	5	06/10/2016 12:12	WG878936
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 12:12	WG878936
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 12:12	WG878936
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 12:12	WG878936
Naphthalene	U		0.00500	0.0250	5	06/10/2016 12:12	WG878936
(S) Toluene-d8	*99.3*			*88.7-115*		*06/10/2016 12:12*	WG878936
(S) Dibromofluoromethane	*98.5*			*76.3-123*		*06/10/2016 12:12*	WG878936
(S) 4-Bromofluorobenzene	*96.2*			*69.7-129*		*06/10/2016 12:12*	WG878936

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 12:44	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 12:44*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 05:32	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 05:32	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 05:32	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 05:32	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 05:32	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 05:32	WG879247
(S) Toluene-d8	*107*			*88.7-115*		*06/10/2016 05:32*	WG879247
(S) Dibromofluoromethane	*119*			*76.3-123*		*06/10/2016 05:32*	WG879247
(S) 4-Bromofluorobenzene	*95.5*			*69.7-129*		*06/10/2016 05:32*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 13:13	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 13:13*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 05:50	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 05:50	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 05:50	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 05:50	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 05:50	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 05:50	WG879247
(S) Toluene-d8	*107*			*88.7-115*		*06/10/2016 05:50*	WG879247
(S) Dibromofluoromethane	*121*			*76.3-123*		*06/10/2016 05:50*	WG879247
(S) 4-Bromofluorobenzene	*97.1*			*69.7-129*		*06/10/2016 05:50*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 13:42	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*100*			*59.0-128*		*06/10/2016 13:42*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 06:07	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 06:07	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 06:07	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 06:07	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 06:07	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 06:07	WG879247
(S) Toluene-d8	*113*			*88.7-115*		*06/10/2016 06:07*	WG879247
(S) Dibromofluoromethane	*126*	J1		*76.3-123*		*06/10/2016 06:07*	WG879247
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*06/10/2016 06:07*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 14:10	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*100*			*59.0-128*		*06/10/2016 14:10*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 06:24	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 06:24	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 06:24	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 06:24	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 06:24	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 06:24	WG879247
(S) Toluene-d8	*113*			*88.7-115*		*06/10/2016 06:24*	WG879247
(S) Dibromofluoromethane	*125*	J1		*76.3-123*		*06/10/2016 06:24*	WG879247
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*06/10/2016 06:24*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 14:39	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 14:39*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 07:09	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 07:09	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 07:09	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 07:09	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 07:09	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 07:09	WG879247
(S) Toluene-d8	*110*			*88.7-115*		*06/10/2016 07:09*	WG879247
(S) Dibromofluoromethane	*126*	J1		*76.3-123*		*06/10/2016 07:09*	WG879247
(S) 4-Bromofluorobenzene	*100*			*69.7-129*		*06/10/2016 07:09*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 15:08	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 15:08*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 07:26	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 07:26	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 07:26	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 07:26	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 07:26	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 07:26	WG879247
(S) Toluene-d8	*111*			*88.7-115*		*06/10/2016 07:26*	WG879247
(S) Dibromofluoromethane	*128*	J1		*76.3-123*		*06/10/2016 07:26*	WG879247
(S) 4-Bromofluorobenzene	*100*			*69.7-129*		*06/10/2016 07:26*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 15:37	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 15:37*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 07:43	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 07:43	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 07:43	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 07:43	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 07:43	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 07:43	WG879247
(S) Toluene-d8	*109*			*88.7-115*		*06/10/2016 07:43*	WG879247
(S) Dibromofluoromethane	*124*	J1		*76.3-123*		*06/10/2016 07:43*	WG879247
(S) 4-Bromofluorobenzene	*99.0*			*69.7-129*		*06/10/2016 07:43*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 16:06	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 16:06*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 08:01	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 08:01	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 08:01	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 08:01	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 08:01	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 08:01	WG879247
(S) Toluene-d8	*108*			*88.7-115*		*06/10/2016 08:01*	WG879247
(S) Dibromofluoromethane	*122*			*76.3-123*		*06/10/2016 08:01*	WG879247
(S) 4-Bromofluorobenzene	*96.1*			*69.7-129*		*06/10/2016 08:01*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 16:34	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 16:34*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 10:57	WG878670
Toluene	U		0.00217	0.0250	5	06/10/2016 10:57	WG878670
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 10:57	WG878670
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 10:57	WG878670
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 10:57	WG878670
Naphthalene	U		0.00500	0.0250	5	06/10/2016 10:57	WG878670
(S) Toluene-d8	*106*			*88.7-115*		*06/10/2016 10:57*	WG878670
(S) Dibromofluoromethane	*109*			*76.3-123*		*06/10/2016 10:57*	WG878670
(S) 4-Bromofluorobenzene	*99.1*			*69.7-129*		*06/10/2016 10:57*	WG878670

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 17:03	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 17:03*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/07/2016 23:23	WG878265
Toluene	U		0.00217	0.0250	5	06/07/2016 23:23	WG878265
Ethylbenzene	U		0.00148	0.00500	5	06/07/2016 23:23	WG878265
Total Xylenes	U		0.00349	0.0150	5	06/07/2016 23:23	WG878265
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/07/2016 23:23	WG878265
Naphthalene	U		0.00500	0.0250	5	06/07/2016 23:23	WG878265
(S) Toluene-d8	*107*			*88.7-115*		*06/07/2016 23:23*	WG878265
(S) Dibromofluoromethane	*104*			*76.3-123*		*06/07/2016 23:23*	WG878265
(S) 4-Bromofluorobenzene	*97.0*			*69.7-129*		*06/07/2016 23:23*	WG878265

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 17:32	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 17:32*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/07/2016 23:48	WG878265
Toluene	U		0.00217	0.0250	5	06/07/2016 23:48	WG878265
Ethylbenzene	U		0.00148	0.00500	5	06/07/2016 23:48	WG878265
Total Xylenes	U		0.00349	0.0150	5	06/07/2016 23:48	WG878265
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/07/2016 23:48	WG878265
Naphthalene	U		0.00500	0.0250	5	06/07/2016 23:48	WG878265
(S) Toluene-d8	*105*			*88.7-115*		*06/07/2016 23:48*	WG878265
(S) Dibromofluoromethane	*101*			*76.3-123*		*06/07/2016 23:48*	WG878265
(S) 4-Bromofluorobenzene	*94.7*			*69.7-129*		*06/07/2016 23:48*	WG878265

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0464		0.00280	0.0200	1	06/06/2016 10:58	WG877793

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.06		0.650	2.00	1	06/08/2016 08:11	WG878492
Lead	19.9		0.190	0.500	1	06/08/2016 08:11	WG878492
Selenium	U		0.740	2.00	1	06/08/2016 08:11	WG878492

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 18:01	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 18:01*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	06/08/2016 00:12	WG878265
Toluene	U		0.00217	0.0250	5	06/08/2016 00:12	WG878265
Ethylbenzene	U		0.00148	0.00500	5	06/08/2016 00:12	WG878265
Total Xylenes	U		0.00349	0.0150	5	06/08/2016 00:12	WG878265
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/08/2016 00:12	WG878265
Naphthalene	U		0.00500	0.0250	5	06/08/2016 00:12	WG878265
(S) Toluene-d8	*104*			*88.7-115*		*06/08/2016 00:12*	WG878265
(S) Dibromofluoromethane	*101*			*76.3-123*		*06/08/2016 00:12*	WG878265
(S) 4-Bromofluorobenzene	*97.4*			*69.7-129*		*06/08/2016 00:12*	WG878265

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		32.2	80.0	20	06/06/2016 14:15	WG878027
C28-C40 Oil Range	29.5	B J	5.48	80.0	20	06/06/2016 14:15	WG878027
(S) o-Terphenyl	*55.2*	J7		*50.0-150*		*06/06/2016 14:15*	WG878027

Sample Narrative:

8015 L839321-23 WG878027: Cannot run at lower dilution due to viscosity of extract

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	1	06/07/2016 10:45	WG877995

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Arsenic	0.00793	J	0.00650	0.0100	1	06/08/2016 04:47	WG877684
Lead	U		0.00190	0.00500	1	06/08/2016 04:47	WG877684
Selenium	U		0.00740	0.0100	1	06/08/2016 04:47	WG877684

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	06/09/2016 22:09	WG878474
(S) a,a,a-Trifluorotoluene(FID)	*101*			*62.0-128*		*06/09/2016 22:09*	WG878474

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	06/10/2016 13:46	WG877772
Toluene	U		0.000780	0.00500	1	06/10/2016 13:46	WG877772
Ethylbenzene	U		0.000384	0.00100	1	06/10/2016 13:46	WG877772
Total Xylenes	U		0.00106	0.00300	1	06/10/2016 13:46	WG877772
Methyl tert-butyl ether	U		0.000367	0.00100	1	06/10/2016 13:46	WG877772
Naphthalene	U		0.00100	0.00500	1	06/10/2016 13:46	WG877772
(S) Toluene-d8	*104*			*90.0-115*		*06/10/2016 13:46*	WG877772
(S) Dibromofluoromethane	*104*			*79.0-121*		*06/10/2016 13:46*	WG877772
(S) a,a,a-Trifluorotoluene	*97.3*			*90.4-116*		*06/10/2016 13:46*	WG877772
(S) 4-Bromofluorobenzene	*95.8*			*80.1-120*		*06/10/2016 13:46*	WG877772

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
C10-C28 Diesel Range	0.0319	J	0.0222	0.100	1	06/07/2016 22:19	WG878029
C28-C40 Oil Range	U		0.0118	0.100	1	06/07/2016 22:19	WG878029
(S) o-Terphenyl	*100*			*50.0-150*		*06/07/2016 22:19*	WG878029

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	06/09/2016 14:29	WG878474
(S) a,a,a-Trifluorotoluene(FID)	*101*			*62.0-128*		*06/09/2016 14:29*	WG878474

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	06/10/2016 13:07	WG877772
Toluene	U		0.000780	0.00500	1	06/10/2016 13:07	WG877772
Ethylbenzene	U		0.000384	0.00100	1	06/10/2016 13:07	WG877772
Total Xylenes	U		0.00106	0.00300	1	06/10/2016 13:07	WG877772
Methyl tert-butyl ether	U		0.000367	0.00100	1	06/10/2016 13:07	WG877772
Naphthalene	U		0.00100	0.00500	1	06/10/2016 13:07	WG877772
(S) Toluene-d8	*103*			*90.0-115*		*06/10/2016 13:07*	WG877772
(S) Dibromofluoromethane	*103*			*79.0-121*		*06/10/2016 13:07*	WG877772
(S) a,a,a-Trifluorotoluene	*97.7*			*90.4-116*		*06/10/2016 13:07*	WG877772
(S) 4-Bromofluorobenzene	*97.5*			*80.1-120*		*06/10/2016 13:07*	WG877772

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0186	J	0.00280	0.0200	1	06/10/2016 08:13	WG879153

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.60		0.650	2.00	1	06/10/2016 15:42	WG879261
Lead	28.6		0.190	0.500	1	06/10/2016 15:42	WG879261
Selenium	U		0.740	2.00	1	06/10/2016 15:42	WG879261

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	1.80	J	1.61	4.00	1	06/10/2016 10:30	WG879301
C28-C40 Oil Range	2.91	J	0.274	4.00	1	06/10/2016 10:30	WG879301
(S) o-Terphenyl	*85.3*			*50.0-150*		*06/10/2016 10:30*	WG879301

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0238		0.00280	0.0200	1	06/10/2016 08:16	WG879153

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	4.14		0.650	2.00	1	06/10/2016 15:45	WG879261
Lead	32.4		0.190	0.500	1	06/10/2016 15:45	WG879261
Selenium	U		0.740	2.00	1	06/10/2016 15:45	WG879261

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	5.00		1.61	4.00	1	06/10/2016 10:45	WG879301
C28-C40 Oil Range	10.6		0.274	4.00	1	06/10/2016 10:45	WG879301
(S) o-Terphenyl	*85.4*			*50.0-150*		*06/10/2016 10:45*	WG879301

Method Blank (MB)

(MB) R3142055-1 06/07/16 10:24

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Mercury	U		0.000049	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142055-2 06/07/16 10:27 • (LCSD) R3142055-3 06/07/16 10:30

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Mercury	0.00300	0.00328	0.00289	109	96	80-120			13	20

L839509-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839509-01 06/07/16 10:32 • (MS) R3142055-4 06/07/16 10:35 • (MSD) R3142055-5 06/07/16 10:42

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00306	0.00319	102	106	1	75-125			4	20

Method Blank (MB)

(MB) R3141769-1 06/06/16 10:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3141769-2 06/06/16 10:29 • (LCSD) R3141769-3 06/06/16 10:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.257	0.285	86	95	80-120			11	20

L839342-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839342-09 06/06/16 10:35 • (MS) R3141769-4 06/06/16 10:37 • (MSD) R3141769-5 06/06/16 10:40

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.324	0.0484	0.347	0.337	92	89	1	75-125			3	20

Method Blank (MB)

(MB) R3142759-1 06/10/16 07:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142759-2 06/10/16 07:58 • (LCSD) R3142759-3 06/10/16 08:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.277	0.291	92	97	80-120			5	20

L840339-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840339-01 06/10/16 08:04 • (MS) R3142759-4 06/10/16 08:07 • (MSD) R3142759-5 06/10/16 08:10

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.324	0.0269	0.306	0.309	86	87	1	75-125			1	20

Method Blank (MB)

(MB) R3142189-1 06/08/16 04:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.0065	0.0100
Lead	U		0.0019	0.00500
Selenium	U		0.0074	0.0100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142189-2 06/08/16 04:06 • (LCSD) R3142189-3 06/08/16 04:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	0.985	1.01	99	101	80-120			2	20
Lead	1.00	1.01	1.03	101	103	80-120			2	20
Selenium	1.00	1.04	1.06	104	106	80-120			2	20

L839299-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839299-02 06/08/16 04:12 • (MS) R3142189-5 06/08/16 04:17 • (MSD) R3142189-6 06/08/16 04:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	ND	1.03	1.07	103	107	1	75-125			4	20
Lead	1.00	0.00640	1.03	1.07	103	106	1	75-125			3	20
Selenium	1.00	0.0188	1.13	1.16	112	115	1	75-125			3	20

Method Blank (MB)

(MB) R3142244-1 06/08/16 07:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500
Selenium	U		0.74	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142244-2 06/08/16 07:52 • (LCSD) R3142244-3 06/08/16 07:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	103	101	103	101	80-120			1	20
Lead	100	104	103	104	103	80-120			1	20
Selenium	100	104	104	104	104	80-120			0	20

L839426-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839426-02 06/08/16 07:58 • (MS) R3142244-6 06/08/16 08:05 • (MSD) R3142244-7 06/08/16 08:08

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	6.89	107	104	100	97	1	75-125			3	20
Lead	100	12.2	119	116	107	104	1	75-125			3	20
Selenium	100	ND	103	99.9	103	100	1	75-125			3	20

Method Blank (MB)

(MB) R3142918-1 06/10/16 15:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500
Selenium	U		0.74	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142918-2 06/10/16 15:22 • (LCSD) R3142918-3 06/10/16 15:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	104	103	104	103	80-120			1	20
Lead	100	102	102	102	102	80-120			0	20
Selenium	100	104	103	104	103	80-120			1	20

L840314-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840314-01 06/10/16 15:28 • (MS) R3142918-6 06/10/16 15:36 • (MSD) R3142918-7 06/10/16 15:39

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	119	4.87	133	131	108	106	1	75-125			1	20
Lead	119	5.96	134	130	108	104	1	75-125			3	20
Selenium	119	U	131	127	110	107	1	75-125			2	20

Method Blank (MB)

(MB) R3143002-3 06/10/16 10:41

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143002-1 06/10/16 09:15 • (LCSD) R3143002-2 06/10/16 09:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.06	6.52	110	119	63.5-137			7.38	20
(S) a,a,a-Trifluorotoluene(FID)				*101*	*101*	*59.0-128*				

L839321-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839321-12 06/10/16 12:44 • (MS) R3143002-4 06/10/16 18:30 • (MSD) R3143002-5 06/10/16 18:59

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	U	16.8	17.7	60.9	64.3	5	28.5-138			5.38	23.6
(S) a,a,a-Trifluorotoluene(FID)					*98.6*	*98.4*		*59.0-128*				

Method Blank (MB)

(MB) R3143012-3 06/10/16 10:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.5*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143012-1 06/10/16 08:59 • (LCSD) R3143012-2 06/10/16 09:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.95	6.04	108	110	63.5-137			1.57	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*104*	*59.0-128*				

L840030-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840030-04 06/10/16 19:50 • (MS) R3143012-4 06/10/16 14:39 • (MSD) R3143012-5 06/10/16 15:01

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	6.70	ND	25.7	27.5	76.6	82.2	5	28.5-138			7.07	23.6
(S) a,a,a-Trifluorotoluene(FID)					*101*	*102*		*59.0-128*				

Method Blank (MB)

(MB) R3143015-3 06/10/16 11:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0233	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*93.2*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143015-1 06/10/16 09:08 • (LCSD) R3143015-2 06/10/16 09:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.59	5.81	102	106	63.5-137			3.86	20
(S) a,a,a-Trifluorotoluene(FID)				*103*	*105*	*59.0-128*				

L840296-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840296-01 06/10/16 21:49 • (MS) R3143015-4 06/10/16 20:43 • (MSD) R3143015-5 06/10/16 21:05

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	6.56	33.5	42.3	31.7	27.0	0.000	5	28.5-138	J6	J3 J6	28.7	23.6
(S) a,a,a-Trifluorotoluene(FID)					*106*	*101*		*59.0-128*				

Method Blank (MB)

(MB) R3142754-3 06/09/16 14:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*62.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142754-1 06/09/16 12:34 • (LCSD) R3142754-2 06/09/16 13:03

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
TPH (GC/FID) Low Fraction	5.50	5.31	5.54	96.5	101	67.0-132			4.27	20
(S) a,a,a-Trifluorotoluene(FID)				*99.9*	*100*	*62.0-128*				

L839041-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839041-02 06/09/16 17:22 • (MS) R3142754-4 06/09/16 15:27 • (MSD) R3142754-5 06/09/16 15:55

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	0.0753	6.59	6.35	118	114	1	50.0-143			3.72	20
(S) a,a,a-Trifluorotoluene(FID)					*100*	*100*		*62.0-128*				

Method Blank (MB)

(MB) R3143007-3 06/10/16 07:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000780	0.00500
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	*103*			*90.0-115*
(S) Dibromofluoromethane	*105*			*79.0-121*
(S) a,a,a-Trifluorotoluene	*98.1*			*90.4-116*
(S) 4-Bromofluorobenzene	*96.8*			*80.1-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143007-1 06/10/16 06:27 • (LCSD) R3143007-2 06/10/16 06:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0253	0.0258	101	103	73.0-122			1.84	20
Ethylbenzene	0.0250	0.0243	0.0248	97.3	99.1	80.9-121			1.84	20
Methyl tert-butyl ether	0.0250	0.0249	0.0243	99.6	97.3	70.1-125			2.37	20
Naphthalene	0.0250	0.0239	0.0232	95.4	92.7	69.7-134			2.91	20
Toluene	0.0250	0.0243	0.0250	97.3	100	77.9-116			2.95	20
Xylenes, Total	0.0750	0.0723	0.0738	96.4	98.4	79.2-122			2.05	20
(S) Toluene-d8				*102*	*104*	*90.0-115*				
(S) Dibromofluoromethane				*103*	*104*	*79.0-121*				
(S) a,a,a-Trifluorotoluene				*95.3*	*98.1*	*90.4-116*				
(S) 4-Bromofluorobenzene				*97.3*	*97.2*	*80.1-120*				

L839306-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839306-01 06/10/16 13:26 • (MS) R3143007-4 06/10/16 16:22 • (MSD) R3143007-5 06/10/16 16:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	ND	0.0241	0.0254	96.6	102	1	58.6-133			5.22	20
Ethylbenzene	0.0250	ND	0.0220	0.0243	88.0	97.3	1	62.7-136			10.0	20
Methyl tert-butyl ether	0.0250	ND	0.0246	0.0248	98.5	99.1	1	61.4-136			0.650	20
Naphthalene	0.0250	ND	0.0233	0.0232	93.2	92.7	1	61.8-143			0.510	20
Toluene	0.0250	ND	0.0232	0.0246	92.6	98.2	1	67.8-124			5.83	20
Xylenes, Total	0.0750	ND	0.0660	0.0715	88.1	95.3	1	65.6-133			7.92	20
(S) Toluene-d8					*105*	*103*		*90.0-115*				

L839306-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839306-01 06/10/16 13:26 • (MS) R3143007-4 06/10/16 16:22 • (MSD) R3143007-5 06/10/16 16:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) Dibromofluoromethane					*108*	*106*		*79.0-121*				
(S) α,α,α-Trifluorotoluene					*96.3*	*95.5*		*90.4-116*				
(S) 4-Bromofluorobenzene					*94.9*	*97.0*		*80.1-120*				

Method Blank (MB)

(MB) R3142627-3 06/09/16 10:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*102*			*88.7-115*
(S) Dibromofluoromethane	*105*			*76.3-123*
(S) 4-Bromofluorobenzene	*94.3*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142627-1 06/09/16 08:44 • (LCSD) R3142627-2 06/09/16 09:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0264	0.0273	106	109	72.6-120			3.50	20
Ethylbenzene	0.0250	0.0241	0.0244	96.6	97.7	78.6-124			1.17	20
Methyl tert-butyl ether	0.0250	0.0279	0.0291	112	117	70.2-122			4.32	20
Naphthalene	0.0250	0.0251	0.0271	100	108	69.9-132			7.50	20
Toluene	0.0250	0.0244	0.0252	97.7	101	76.7-116			3.27	20
Xylenes, Total	0.0750	0.0738	0.0751	98.3	100	78.1-123			1.82	20
(S) Toluene-d8				*102*	*102*	*88.7-115*				
(S) Dibromofluoromethane				*104*	*105*	*76.3-123*				
(S) 4-Bromofluorobenzene				*95.8*	*94.9*	*69.7-129*				

L839321-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839321-03 06/09/16 17:26 • (MS) R3142627-4 06/09/16 16:21 • (MSD) R3142627-5 06/09/16 16:42

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	U	0.119	0.120	95.0	96.1	5	47.8-131			1.09	22.8
Ethylbenzene	0.0250	U	0.103	0.106	82.5	84.6	5	44.8-135			2.49	26.9
Methyl tert-butyl ether	0.0250	U	0.129	0.134	103	108	5	50.4-131			4.45	24.8
Naphthalene	0.0250	U	0.116	0.118	92.8	94.5	5	18.4-145			1.88	34
Toluene	0.0250	U	0.109	0.111	87.1	88.5	5	47.8-127			1.61	24.3
Xylenes, Total	0.0750	U	0.313	0.321	83.4	85.7	5	42.7-135			2.76	26.6
(S) Toluene-d8					*103*	*103*		*88.7-115*				
(S) Dibromofluoromethane					*103*	*103*		*76.3-123*				
(S) 4-Bromofluorobenzene					*96.5*	*97.7*		*69.7-129*				

Method Blank (MB)

(MB) R3142085-3 06/07/16 07:23

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*104*			*88.7-115*
(S) Dibromofluoromethane	*94.7*			*76.3-123*
(S) 4-Bromofluorobenzene	*98.4*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142085-1 06/07/16 05:22 • (LCSD) R3142085-2 06/07/16 05:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0221	0.0214	88.3	85.5	72.6-120			3.25	20
Ethylbenzene	0.0250	0.0264	0.0261	106	104	78.6-124			1.23	20
Methyl tert-butyl ether	0.0250	0.0223	0.0214	89.1	85.6	70.2-122			4.00	20
Naphthalene	0.0250	0.0287	0.0286	115	114	69.9-132			0.410	20
Toluene	0.0250	0.0224	0.0214	89.6	85.7	76.7-116			4.37	20
Xylenes, Total	0.0750	0.0799	0.0784	107	105	78.1-123			1.90	20
(S) Toluene-d8				*101*	*99.8*	*88.7-115*				
(S) Dibromofluoromethane				*98.8*	*99.3*	*76.3-123*				
(S) 4-Bromofluorobenzene				*101*	*98.8*	*69.7-129*				

L839481-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839481-05 06/07/16 20:34 • (MS) R3142085-4 06/07/16 13:55 • (MSD) R3142085-5 06/07/16 14:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	ND	0.0983	0.0903	78.6	72.3	5	47.8-131			8.41	22.8
Ethylbenzene	0.0250	0.00533	0.104	0.102	78.8	77.6	5	44.8-135			1.44	26.9
Methyl tert-butyl ether	0.0250	ND	0.0918	0.0885	73.5	70.8	5	50.4-131			3.73	24.8
Naphthalene	0.0250	0.170	0.303	0.300	106	104	5	18.4-145			1.10	34
Toluene	0.0250	ND	0.0976	0.0978	75.6	75.8	5	47.8-127			0.210	24.3
Xylenes, Total	0.0750	ND	0.290	0.286	73.5	72.5	5	42.7-135			1.31	26.6
(S) Toluene-d8					*102*	*102*		*88.7-115*				
(S) Dibromofluoromethane					*104*	*101*		*76.3-123*				
(S) 4-Bromofluorobenzene					*91.6*	*91.8*		*69.7-129*				

Method Blank (MB)

(MB) R3142806-3 06/10/16 04:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*105*			*88.7-115*
(S) Dibromofluoromethane	*107*			*76.3-123*
(S) 4-Bromofluorobenzene	*97.0*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142806-1 06/10/16 02:47 • (LCSD) R3142806-2 06/10/16 03:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0278	0.0291	111	117	72.6-120			4.72	20
Ethylbenzene	0.0250	0.0229	0.0236	91.7	94.2	78.6-124			2.65	20
Methyl tert-butyl ether	0.0250	0.0229	0.0254	91.6	102	70.2-122			10.4	20
Naphthalene	0.0250	0.0195	0.0216	77.9	86.2	69.9-132			10.1	20
Toluene	0.0250	0.0250	0.0266	100	106	76.7-116			6.01	20
Xylenes, Total	0.0750	0.0679	0.0713	90.6	95.1	78.1-123			4.88	20
(S) Toluene-d8				*104*	*104*	*88.7-115*				
(S) Dibromofluoromethane				*105*	*105*	*76.3-123*				
(S) 4-Bromofluorobenzene				*96.6*	*96.8*	*69.7-129*				

L839660-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839660-06 06/10/16 07:51 • (MS) R3142806-4 06/10/16 12:33 • (MSD) R3142806-5 06/10/16 12:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	ND	0.129	0.131	103	105	5	47.8-131			1.48	22.8
Ethylbenzene	0.0250	ND	0.103	0.108	82.7	86.5	5	44.8-135			4.43	26.9
Methyl tert-butyl ether	0.0250	ND	0.114	0.116	91.5	92.5	5	50.4-131			1.09	24.8
Naphthalene	0.0250	ND	0.0984	0.100	78.7	80.3	5	18.4-145			2.06	34
Toluene	0.0250	ND	0.119	0.120	94.9	96.2	5	47.8-127			1.42	24.3
Xylenes, Total	0.0750	ND	0.311	0.323	83.0	86.2	5	42.7-135			3.79	26.6
(S) Toluene-d8					*105*	*105*		*88.7-115*				
(S) Dibromofluoromethane					*105*	*104*		*76.3-123*				
(S) 4-Bromofluorobenzene					*98.0*	*99.0*		*69.7-129*				

Method Blank (MB)

(MB) R3142870-3 06/10/16 08:07

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*98.1*			*88.7-115*
(S) Dibromofluoromethane	*101*			*76.3-123*
(S) 4-Bromofluorobenzene	*97.1*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142870-1 06/10/16 06:29 • (LCSD) R3142870-2 06/10/16 06:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0211	0.0223	84.4	89.3	72.6-120			5.57	20
Ethylbenzene	0.0250	0.0221	0.0237	88.5	94.9	78.6-124			6.96	20
Methyl tert-butyl ether	0.0250	0.0219	0.0239	87.5	95.7	70.2-122			8.89	20
Naphthalene	0.0250	0.0227	0.0244	90.6	97.5	69.9-132			7.30	20
Toluene	0.0250	0.0206	0.0214	82.5	85.7	76.7-116			3.86	20
Xylenes, Total	0.0750	0.0658	0.0711	87.7	94.8	78.1-123			7.76	20
(S) Toluene-d8				*97.1*	*97.0*	*88.7-115*				
(S) Dibromofluoromethane				*99.5*	*101*	*76.3-123*				
(S) 4-Bromofluorobenzene				*97.8*	*100*	*69.7-129*				

L839321-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839321-11 06/10/16 12:12 • (MS) R3142870-4 06/10/16 12:31 • (MSD) R3142870-5 06/10/16 12:51

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	U	0.102	0.109	81.3	86.8	5	47.8-131			6.65	22.8
Ethylbenzene	0.0250	U	0.0984	0.113	78.8	90.3	5	44.8-135			13.7	26.9
Methyl tert-butyl ether	0.0250	U	0.108	0.113	86.8	90.7	5	50.4-131			4.43	24.8
Naphthalene	0.0250	U	0.0926	0.105	74.1	84.0	5	18.4-145			12.5	34
Toluene	0.0250	U	0.0957	0.104	76.5	83.4	5	47.8-127			8.59	24.3
Xylenes, Total	0.0750	U	0.299	0.336	79.8	89.6	5	42.7-135			11.5	26.6
(S) Toluene-d8					*98.6*	*97.6*		*88.7-115*				
(S) Dibromofluoromethane					*102*	*99.8*		*76.3-123*				
(S) 4-Bromofluorobenzene					*96.5*	*98.1*		*69.7-129*				

Method Blank (MB)

(MB) R3142707-3 06/09/16 21:54

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*110*			*88.7-115*
(S) Dibromofluoromethane	*120*			*76.3-123*
(S) 4-Bromofluorobenzene	*99.1*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142707-1 06/09/16 20:28 • (LCSD) R3142707-2 06/09/16 20:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0269	0.0266	107	107	72.6-120			0.780	20
Ethylbenzene	0.0250	0.0228	0.0222	91.2	88.9	78.6-124			2.50	20
Methyl tert-butyl ether	0.0250	0.0260	0.0264	104	106	70.2-122			1.51	20
Naphthalene	0.0250	0.0224	0.0234	89.7	93.8	69.9-132			4.44	20
Toluene	0.0250	0.0246	0.0245	98.3	98.0	76.7-116			0.290	20
Xylenes, Total	0.0750	0.0686	0.0682	91.4	91.0	78.1-123			0.500	20
(S) Toluene-d8				*110*	*111*	*88.7-115*				
(S) Dibromofluoromethane				*121*	*120*	*76.3-123*				
(S) 4-Bromofluorobenzene				*99.1*	*99.2*	*69.7-129*				

L839271-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839271-03 06/10/16 01:25 • (MS) R3142707-4 06/09/16 22:29 • (MSD) R3142707-5 06/09/16 22:46

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0284	0.206	3.22	3.00	103	95.3	103	47.8-131			7.22	22.8
Ethylbenzene	0.0284	5.59	6.55	6.53	32.5	32.0	103	44.8-135	J6	J6	0.220	26.9
Methyl tert-butyl ether	0.0284	U	3.05	2.87	104	97.9	103	50.4-131			6.25	24.8
Naphthalene	0.0284	9.15	10.6	9.96	51.0	27.9	103	18.4-145			6.57	34
Toluene	0.0284	U	2.82	2.64	96.4	90.0	103	47.8-127			6.81	24.3
Xylenes, Total	0.0853	0.270	6.72	7.37	73.4	80.8	103	42.7-135			9.27	26.6
(S) Toluene-d8					*112*	*111*		*88.7-115*				
(S) Dibromofluoromethane					*122*	*120*		*76.3-123*				
(S) 4-Bromofluorobenzene					*85.2*	*97.6*		*69.7-129*				

Method Blank (MB)

(MB) R3141871-1 06/06/16 13:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	2.20	J	0.274	4.00
(S) o-Terphenyl	*97.7*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3141871-2 06/06/16 13:16 • (LCSD) R3141871-3 06/06/16 13:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	52.1	52.6	86.8	87.7	50.0-150			1.09	20
(S) o-Terphenyl				*98.0*	*97.7*	*50.0-150*				

Method Blank (MB)

(MB) R3142853-1 06/10/16 09:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*82.6*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142853-2 06/10/16 09:54 • (LCSD) R3142853-3 06/10/16 10:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	49.5	50.2	82.5	83.6	50.0-150			1.33	20
(S) o-Terphenyl				*93.1*	*91.5*	*50.0-150*				

Method Blank (MB)

(MB) R3142209-1 06/07/16 21:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
C10-C28 Diesel Range	U		0.0222	0.100
C28-C40 Oil Range	U		0.0118	0.100
(S) o-Terphenyl	*111*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142209-2 06/07/16 21:46 • (LCSD) R3142209-3 06/07/16 22:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	1.50	1.59	1.57	106	104	70.0-130			1.54	20
(S) o-Terphenyl				*108*	*102*	*50.0-150*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

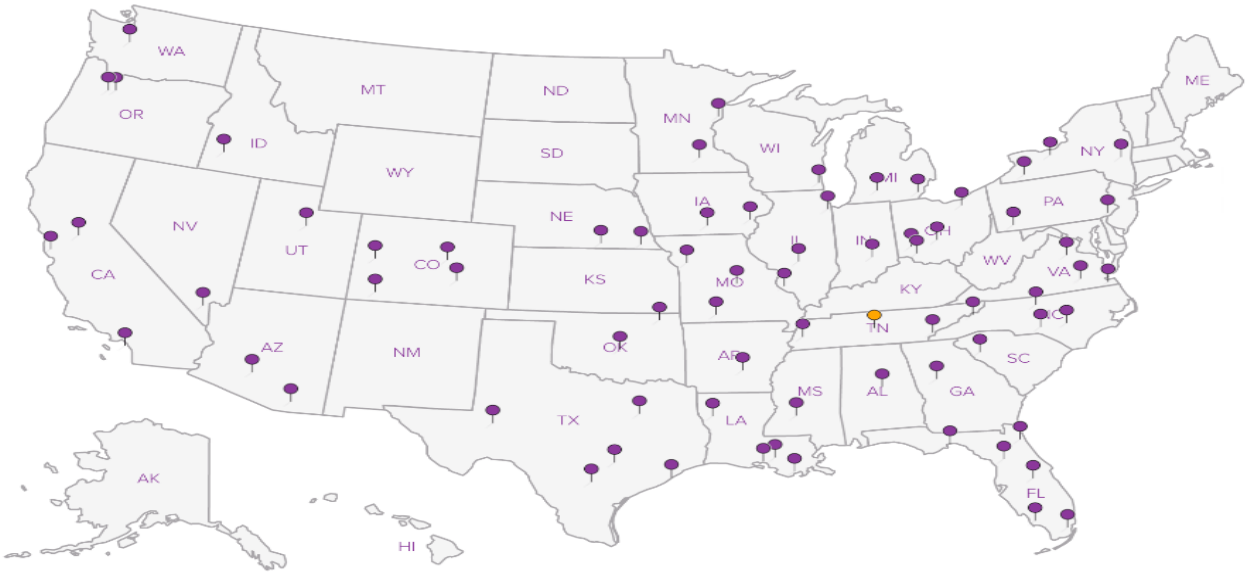
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Chain of Custody Page 1 of 3

ESC LABORATORIES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L839321

G127

AMEC Foster Wheeler - Houston, TX
585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: Pam Krueger

Email To: pamela.krueger@amecfw.com

Project Description: HollyFrontier Navajo Refinery

City/State Collected: Artesia, NM

Phone: 713-929-5674
Fax:

Client Project #

Lab Project # AMECFWHTX-HF

Collected by (print): Lillian Smith

Site/Facility ID # HFN-Artesia

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Acctnum: AMECFWHTX
Template: T112791
Prelogin: P555121
TSR: 526 - Chris McCord
PB:
Shipped Via: FedEX Standard

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	As,Hg,Pb,Se 250mlHDPE-HNO3	As,Hg,Pb,Se 2ozClr-NoPres	DROOROLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO- Trip Blank 40mlClr-HCl-Blk	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN,GRO 2ozClr-NoPres	V8260BTEXMN- TB 40mlClr-HCl-Blk		Rem./Contaminant	Sample # (lab only)
PG2-01		SS		6/1/16	15:00	1								X				-01
PG2-02		SS			15:05	1												-02
PG2-03		SS			15:10	1												-03
PG2-04		SS			15:15	1												-04
PG2-05		SS			15:20	1												-05
PG2-06		SS			15:25	1												-06
PG2-07		SS			15:30	1												-07
PG-2-08		SS			15:35	1												-08
PG-2-09		SS			15:40	1												-09
PG2-10		SS			15:45	1												-10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks: SEE PAGE 3-3

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/2/16	15:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.2 °C Bottles Received: 33

Date: 6-3-16 Time: 900

Condition: ok (lab use only) GXO

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF:

ATTACHMENT A

ANALYTICAL REPORT

May 19, 2016

AMEC Foster Wheeler - Houston, TX

Sample Delivery Group:	L835233
Samples Received:	05/12/2016
Project Number:	6703160012-003
Description:	HollyFrontier Navajo Refinery

Report To:

Pamela Krueger
585 N. Dairy Ashford
Houston, TX 77079

Entire Report Reviewed By:

Shane Gambill
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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PGT-1 L835233-01 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:15
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873223	5	05/17/16 23:25	05/18/16 17:23	DAH

PGT-2 L835233-02 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:20
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873223	5	05/17/16 23:25	05/18/16 17:45	DAH

PGT-3 L835233-03 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:25
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873223	5	05/17/16 23:25	05/18/16 18:07	DAH

PGT-4 L835233-04 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:30
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 18:20	JAH

PGT-5 L835233-05 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:35
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 18:43	JAH

PGT-6 L835233-06 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:40
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 19:05	JAH

PGT-6D L835233-07 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:45
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 19:27	JAH

PGT-7 L835233-08 Solid

Collected by: William Smith
Collected date/time: 05/10/16 12:50
Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 19:49	JAH

PGT-FC L835233-09 Solid

Collected by: William Smith

Collected date/time: 05/10/16 13:00

Received date/time: 05/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG872512	1	05/17/16 13:09	05/18/16 09:00	EL
Metals (ICP) by Method 6010B	WG873312	1	05/17/16 18:31	05/18/16 10:13	ST
Semi-Volatile Organic Compounds (GC) by Method 8015	WG873353	5	05/17/16 21:42	05/18/16 12:19	DMG
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 20:12	JAH

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Shane Gambill
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 17:23	WG873223
(S) a,a,a-Trifluorotoluene(FID)	*96.3*			*59.0-128*		*05/18/2016 17:23*	WG873223

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.114	J	0.108	0.500	5	05/18/2016 17:45	WG873223
(S) a,a,a-Trifluorotoluene(FID)	*96.0*			*59.0-128*		*05/18/2016 17:45*	WG873223

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 18:07	WG873223
(S) a,a,a-Trifluorotoluene(FID)	*96.3*			*59.0-128*		*05/18/2016 18:07*	WG873223

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.144	B J	0.108	0.500	5	05/18/2016 18:20	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*93.7*			*59.0-128*		*05/18/2016 18:20*	WG873226

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 18:43	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.6*			*59.0-128*		*05/18/2016 18:43*	WG873226

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.135	B J	0.108	0.500	5	05/18/2016 19:05	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*92.3*			*59.0-128*		*05/18/2016 19:05*	WG873226

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 19:27	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.6*			*59.0-128*		*05/18/2016 19:27*	WG873226

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 19:49	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.5*			*59.0-128*		*05/18/2016 19:49*	WG873226

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0298		0.00280	0.0200	1	05/18/2016 09:00	WG872512

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Antimony	U		0.750	2.00	1	05/18/2016 10:13	WG873312
Arsenic	6.56		0.650	2.00	1	05/18/2016 10:13	WG873312
Barium	120		0.170	0.500	1	05/18/2016 10:13	WG873312
Beryllium	0.860		0.0700	0.200	1	05/18/2016 10:13	WG873312
Cadmium	0.423	J	0.0700	0.500	1	05/18/2016 10:13	WG873312
Chromium	20.5		0.140	1.00	1	05/18/2016 10:13	WG873312
Cobalt	7.43		0.230	1.00	1	05/18/2016 10:13	WG873312
Copper	15.4		0.530	2.00	1	05/18/2016 10:13	WG873312
Lead	27.8		0.190	0.500	1	05/18/2016 10:13	WG873312
Nickel	13.5		0.490	2.00	1	05/18/2016 10:13	WG873312
Selenium	U		0.740	2.00	1	05/18/2016 10:13	WG873312
Silver	U		0.280	1.00	1	05/18/2016 10:13	WG873312
Vanadium	31.5		0.240	2.00	1	05/18/2016 10:13	WG873312
Zinc	40.8		0.590	5.00	1	05/18/2016 10:13	WG873312

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.114	B J	0.108	0.500	5	05/18/2016 20:12	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.7*			*59.0-128*		*05/18/2016 20:12*	WG873226

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	58.0		8.05	20.0	5	05/18/2016 12:19	WG873353
C28-C40 Oil Range	46.6		1.37	20.0	5	05/18/2016 12:19	WG873353
(S) o-Terphenyl	*77.4*			*50.0-150*		*05/18/2016 12:19*	WG873353

Method Blank (MB)

(MB) R3137909-1 05/18/16 08:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137909-2 05/18/16 08:47 • (LCSD) R3137909-3 05/18/16 08:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.253	0.264	84	88	80-120			4	20

Method Blank (MB)

(MB) R3138008-1 05/18/16 09:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Antimony	U		0.75	2.00
Arsenic	U		0.65	2.00
Barium	U		0.17	0.500
Beryllium	U		0.07	0.200
Cadmium	U		0.07	0.500
Chromium	U		0.14	1.00
Cobalt	U		0.23	1.00
Copper	U		0.53	2.00
Lead	U		0.19	0.500
Nickel	U		0.49	2.00
Selenium	U		0.74	2.00
Silver	U		0.28	1.00
Vanadium	U		0.24	2.00
Zinc	1.26	J	0.59	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3138008-2 05/18/16 09:54 • (LCSD) R3138008-3 05/18/16 09:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	100	102	103	102	103	80-120			1	20
Arsenic	100	102	102	102	102	80-120			0	20
Barium	100	105	106	105	106	80-120			1	20
Beryllium	100	103	104	103	104	80-120			1	20
Cadmium	100	104	104	104	104	80-120			0	20
Chromium	100	103	104	103	104	80-120			1	20
Cobalt	100	103	103	103	103	80-120			0	20
Copper	100	103	104	103	104	80-120			0	20
Lead	100	103	103	103	103	80-120			0	20
Nickel	100	102	102	102	102	80-120			0	20
Selenium	100	105	106	105	106	80-120			1	20
Silver	100	101	101	101	101	80-120			1	20
Vanadium	100	101	102	101	102	80-120			0	20
Zinc	100	102	102	102	102	80-120			1	20

L835540-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835540-18 05/18/16 09:59 • (MS) R3138008-6 05/18/16 10:08 • (MSD) R3138008-7 05/18/16 10:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	100	U	61.9	62.1	62	62	1	75-125	J6	J6	0	20
Arsenic	100	2.00	96.2	96.4	94	94	1	75-125			0	20
Barium	100	23.9	124	125	100	102	1	75-125			1	20
Beryllium	100	0.190	98.8	99.3	99	99	1	75-125			1	20
Cadmium	100	U	98.6	98.3	99	98	1	75-125			0	20
Chromium	100	8.11	104	105	95	97	1	75-125			1	20
Cobalt	100	1.15	104	104	103	102	1	75-125			0	20
Copper	100	3.31	105	105	102	102	1	75-125			0	20
Lead	100	4.21	105	105	101	101	1	75-125			0	20
Nickel	100	3.73	106	106	103	102	1	75-125			0	20
Selenium	100	U	97.8	97.9	98	98	1	75-125			0	20
Silver	100	U	95.7	95.9	96	96	1	75-125			0	20
Vanadium	100	14.4	109	110	95	96	1	75-125			1	20
Zinc	100	6.84	101	102	94	95	1	75-125			1	20

Method Blank (MB)

(MB) R3138228-5 05/18/16 14:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*96.5*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3138228-3 05/18/16 13:53 • (LCSD) R3138228-4 05/18/16 14:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.99	6.05	109	110	63.5-137			1.13	20
(S) a,a,a-Trifluorotoluene(FID)				*103*	*103*	*59.0-128*				

L835223-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835223-05 05/18/16 16:38 • (MS) R3138228-8 05/18/16 22:11 • (MSD) R3138228-9 05/18/16 22:33

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.91	ND	25.7	25.4	86.3	85.3	5	28.5-138			1.14	23.6
(S) a,a,a-Trifluorotoluene(FID)					*101*	*102*		*59.0-128*				

Method Blank (MB)

(MB) R3138217-3 05/18/16 14:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0252	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.9*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3138217-1 05/18/16 13:51 • (LCSD) R3138217-2 05/18/16 14:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.30	5.57	96.4	101	63.5-137			4.97	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*104*	*59.0-128*				

L835233-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835233-04 05/18/16 18:20 • (MS) R3138217-4 05/18/16 21:18 • (MSD) R3138217-5 05/18/16 21:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.144	9.36	9.09	33.5	32.5	5	28.5-138			2.98	23.6
(S) a,a,a-Trifluorotoluene(FID)					*94.1*	*94.7*		*59.0-128*				

Method Blank (MB)

(MB) R3137801-1 05/18/16 09:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*96.3*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137801-2 05/18/16 09:28 • (LCSD) R3137801-3 05/18/16 09:40

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
C10-C28 Diesel Range	60.0	46.9	46.3	78.2	77.2	50.0-100			1.32	20
(S) o-Terphenyl				*92.4*	*86.3*	*50.0-150*				

L836038-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L836038-01 05/18/16 09:53 • (MS) R3137801-4 05/18/16 10:05 • (MSD) R3137801-5 05/18/16 10:17

Analyte	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
C10-C28 Diesel Range	12.2	286	402	324	191	62.1	5	50.0-100	V	J3	21.6	20
(S) o-Terphenyl					*55.1*	*60.1*		*50.0-150*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
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California	01157CA	New York	11742
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Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
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Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
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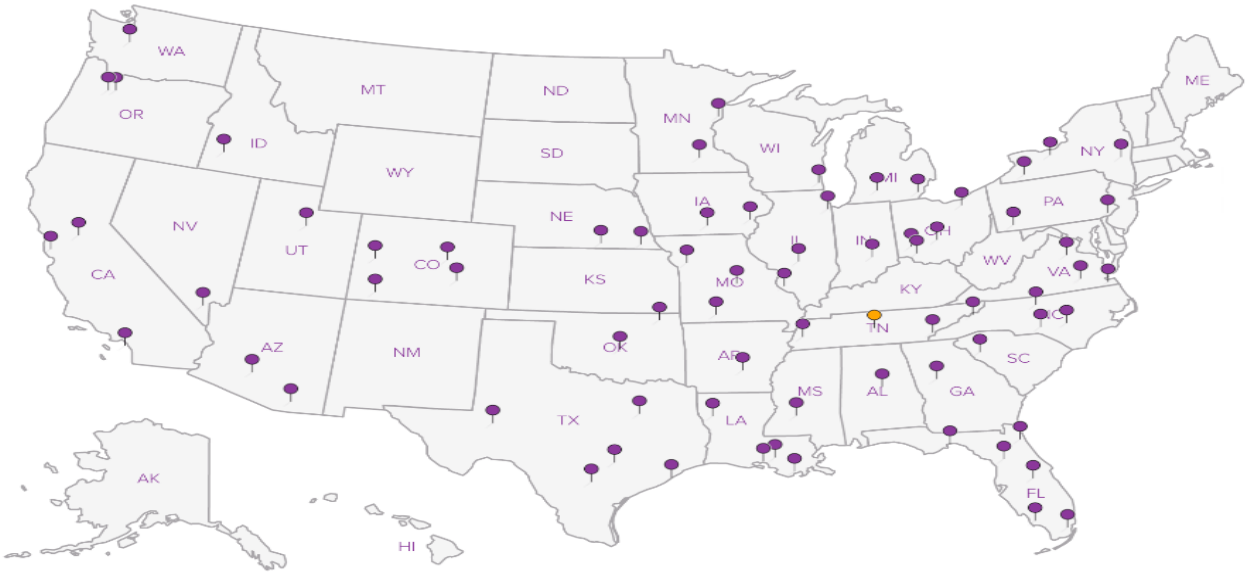
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



CHAIN OF CUSTODY

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XENCO LABORATORIES

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Xenco Quote # | Xenco Job # | **A088**

Client / Reporting Information

Company Name / Branch: Amoco Fasken Midland - Houston

Company Address: 585 N Dairy Rd. Hobbs, TX

Email: | Phone No: 713-929-5674

Project Contact: Pamela Krueger

Samplers's Name: Jillian Smith

Project Information

Project Name/Number: 6703160012 - 003

Project Location: Artesia, NM

Invoice To: Houston

PO Number:

Analytical Information

GRO 8015

DRO 8015

BTEX MTBE Naphthalene 8260

Metals Sr Ni Cr

Matrix Codes

A= Air
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
WW= Waste Water
W = Wipe
O = Oil

WW= Waste Water

L835233

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	PGT - 1		5/10/16	12:15	SS	1								X	-01
2	PGT - 2			12:20										X	-02
3	PGT - 3			12:25										X	-03
4	PGT - 4			12:30										X	-04
5	PGT - 5			12:35										X	-05
6	PGT - 6			12:40										X	-06
7	PGT - BD			12:45										X	-07
8	PGT - 7			12:50										X	-08
9	PGT - FC			13:00										X	-09
10															

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☐ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ 7 Day TAT
- ☐ 2 Day EMERGENCY
- ☐ Contract TAT
- ☐ 3 Day EMERGENCY Same as other

TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- ☐ Level II Std QC
- ☐ Level IV (Full Data Pkg /raw data)
- ☐ Level III Std QC+ Forms
- ☐ TRRP Level IV
- ☐ Level 3 (CLP Forms)
- ☐ UST / RG -411
- ☐ TRRP Checklist Same as other

Notes:

USE TAT and Report Based on other PG-COM2

FED-EX / UPS: Tracking # 671101338915

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Jillian Smith	5/11/16 15:00	1	2		2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time: 5/12/16 0900	Received By: 4 10=Total
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 2.4°C Thermo. Corr. Factor

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

COC5 I

Troy Dunlap

ESC Lab Sciences
Non-Conformance Form

Login #: L835233	Client: AMECFWHTX	Date: 5/12/16	Evaluated by: Troy Dunlap

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time	2	Login Clarification Needed		**If Broken Container:**
	Improper temperature		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type	1	Please specify Metals requested.		Insufficient packing material inside cooler
	Improper preservation		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: 1.) What Metals? 2.) Does client need DRO or DRORLA?

Client informed by:		Call		Email		Voice Mail		Date:	Time:
TSR Initials: CM	Client Contact:								

Login Instructions:

1. Metals = Ag, As, Ba, Be, Cd, Co, Cr, Cu, Hg, Ni, Pb, Sb, Se, V, Zn by 6010/7471.
2. Log for DRORLA.

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ANALYTICAL REPORT

May 24, 2016

AMEC Foster Wheeler - Houston, TX

Sample Delivery Group:	L835243
Samples Received:	05/12/2016
Project Number:	6703160012.003
Description:	Prime G Soil Piles
Site:	HFN
Report To:	Pamela Krueger 585 N. Dairy Ashford Houston, TX 77079

Entire Report Reviewed By:

Chris McCord
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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PG-1 L835243-01 Solid

Collected by: William Smith
Collected date/time: 05/10/16 08:50
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 20:34	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 20:37	JHH

PG-2 L835243-02 Solid

Collected by: William Smith
Collected date/time: 05/10/16 08:55
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/18/16 20:56	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 20:58	JHH

PG-3 L835243-03 Solid

Collected by: William Smith
Collected date/time: 05/10/16 09:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 00:07	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 21:19	JHH

PG-4 L835243-04 Solid

Collected by: William Smith
Collected date/time: 05/10/16 09:03
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 00:30	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 21:40	JHH

PG-5 L835243-05 Solid

Collected by: William Smith
Collected date/time: 05/10/16 09:05
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 00:52	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 22:01	JHH

PG-6 L835243-06 Solid

Collected by: William Smith
Collected date/time: 05/10/16 09:10
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 01:14	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 22:22	JHH

PG-7 L835243-07 Solid

Collected by: William Smith
Collected date/time: 05/10/16 09:12
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 01:36	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 22:44	JHH

PG-8 L835243-08 Solid

Collected by: William Smith | Collected date/time: 05/10/16 09:15 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 01:58	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 23:04	JHH

PG-9 L835243-09 Solid

Collected by: William Smith | Collected date/time: 05/10/16 09:20 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 02:21	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 23:25	JHH

PG-10 L835243-10 Solid

Collected by: William Smith | Collected date/time: 05/10/16 09:25 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 02:43	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/17/16 23:45	JHH

PG-10D L835243-11 Solid

Collected by: William Smith | Collected date/time: 05/10/16 09:27 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 03:05	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 00:06	JHH

PG-FC1 L835243-12 Solid

Collected by: William Smith | Collected date/time: 05/10/16 09:30 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG872437	1	05/13/16 18:16	05/16/16 09:08	NJB
Metals (ICP) by Method 6010B	WG872357	1	05/14/16 08:15	05/14/16 14:32	CCE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG872902	20	05/16/16 23:00	05/17/16 14:18	DMG
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 03:27	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 00:27	JHH

PG-11 L835243-13 Solid

Collected by: William Smith | Collected date/time: 05/10/16 10:00 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 03:49	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 00:48	JHH

PG-12 L835243-14 Solid

Collected by: William Smith | Collected date/time: 05/10/16 10:05 | Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873226	5	05/18/16 17:21	05/19/16 04:12	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 01:09	JHH

PG-13 L835243-15 Solid

Collected by: William Smith
Collected date/time: 05/10/16 10:10
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 19:39	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 01:30	JHH

PG-14 L835243-16 Solid

Collected by: William Smith
Collected date/time: 05/10/16 10:15
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 20:01	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 01:52	JHH

PG-15 L835243-17 Solid

Collected by: William Smith
Collected date/time: 05/10/16 10:20
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 20:22	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 02:13	JHH

PG-16 L835243-18 Solid

Collected by: William Smith
Collected date/time: 05/10/16 10:25
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 20:43	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 02:34	JHH

PG-17 L835243-19 Solid

Collected by: William Smith
Collected date/time: 05/10/16 10:30
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 21:05	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 02:55	JHH

PG-18 L835243-20 Solid

Collected by: William Smith
Collected date/time: 05/10/16 10:35
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 21:26	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872233	5	05/17/16 17:17	05/18/16 03:16	JHH

PG-19 L835243-21 Solid

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 21:47	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872246	5	05/13/16 16:01	05/14/16 04:39	JHH

PG-20 L835243-22 Solid

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 22:08	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872246	5	05/13/16 16:01	05/14/16 04:57	JHH

PG-20D L835243-23 Solid

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 22:30	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872246	5	05/13/16 16:01	05/14/16 05:15	JHH

PG-FC2 L835243-24 Solid

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG872437	1	05/13/16 18:16	05/16/16 09:11	NJB
Metals (ICP) by Method 6010B	WG872357	1	05/14/16 08:15	05/14/16 14:35	CCE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG872902	1	05/16/16 23:00	05/17/16 12:40	DMG
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 22:51	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872498	5	05/13/16 20:53	05/14/16 14:33	BMB

PG-FC2D L835243-25 Solid

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG872437	1	05/13/16 18:16	05/16/16 09:13	NJB
Metals (ICP) by Method 6010B	WG872357	1	05/14/16 08:15	05/14/16 14:37	BRJ
Semi-Volatile Organic Compounds (GC) by Method 8015	WG872902	10	05/16/16 23:00	05/17/16 12:52	DMG
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG873228	5	05/18/16 17:08	05/18/16 23:12	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872498	5	05/13/16 20:53	05/14/16 15:46	BMB

PG-EB1 L835243-26 GW

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG872754	1	05/17/16 09:27	05/17/16 14:29	TRB
Metals (ICP) by Method 6010B	WG872666	1	05/17/16 09:52	05/17/16 12:23	ST
Semi-Volatile Organic Compounds (GC) by Method 8015	WG872369	1	05/12/16 20:58	05/15/16 10:58	JNS
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG872894	1	05/17/16 00:11	05/17/16 00:11	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872391	1	05/13/16 23:29	05/13/16 23:29	LRL

PG-EB2 L835243-27 GW

Collected by: William Smith
Collected date/time: 05/10/16 00:00
Received date/time: 05/12/16 13:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG872754	1	05/17/16 09:27	05/17/16 14:32	TRB
Metals (ICP) by Method 6010B	WG872666	1	05/17/16 09:52	05/17/16 12:26	ST
Semi-Volatile Organic Compounds (GC) by Method 8015	WG872369	1	05/12/16 20:58	05/15/16 11:15	JNS
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG872364	1	05/17/16 06:52	05/17/16 06:52	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG872391	1	05/13/16 23:50	05/13/16 23:50	LRL

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 20:34	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*95.0*			*59.0-128*		*05/18/2016 20:34*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U	J3	0.00135	0.00500	5	05/17/2016 20:37	WG872233
Toluene	U	J3	0.00217	0.0250	5	05/17/2016 20:37	WG872233
Ethylbenzene	U	J3	0.00148	0.00500	5	05/17/2016 20:37	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 20:37	WG872233
Methyl tert-butyl ether	U	J3 J5	0.00106	0.00500	5	05/17/2016 20:37	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 20:37	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/17/2016 20:37*	WG872233
(S) Dibromofluoromethane	*101*			*76.3-123*		*05/17/2016 20:37*	WG872233
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*05/17/2016 20:37*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.115	B J	0.108	0.500	5	05/18/2016 20:56	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.5*			*59.0-128*		*05/18/2016 20:56*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 20:58	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 20:58	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 20:58	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 20:58	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 20:58	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 20:58	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 20:58*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/17/2016 20:58*	WG872233
(S) 4-Bromofluorobenzene	*105*			*69.7-129*		*05/17/2016 20:58*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.120	B J	0.108	0.500	5	05/19/2016 00:07	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*95.3*			*59.0-128*		*05/19/2016 00:07*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 21:19	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 21:19	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 21:19	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 21:19	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 21:19	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 21:19	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 21:19*	WG872233
(S) Dibromofluoromethane	*99.1*			*76.3-123*		*05/17/2016 21:19*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/17/2016 21:19*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 00:30	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*59.0-128*		*05/19/2016 00:30*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 21:40	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 21:40	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 21:40	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 21:40	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 21:40	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 21:40	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 21:40*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/17/2016 21:40*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/17/2016 21:40*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.110	B J	0.108	0.500	5	05/19/2016 00:52	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*59.0-128*		*05/19/2016 00:52*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 22:01	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 22:01	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 22:01	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 22:01	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 22:01	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 22:01	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 22:01*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/17/2016 22:01*	WG872233
(S) 4-Bromofluorobenzene	*106*			*69.7-129*		*05/17/2016 22:01*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.115	B J	0.108	0.500	5	05/19/2016 01:14	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*93.3*			*59.0-128*		*05/19/2016 01:14*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 22:22	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 22:22	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 22:22	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 22:22	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 22:22	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 22:22	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 22:22*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/17/2016 22:22*	WG872233
(S) 4-Bromofluorobenzene	*104*			*69.7-129*		*05/17/2016 22:22*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 01:36	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*93.7*			*59.0-128*		*05/19/2016 01:36*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 22:44	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 22:44	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 22:44	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 22:44	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 22:44	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 22:44	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 22:44*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/17/2016 22:44*	WG872233
(S) 4-Bromofluorobenzene	*104*			*69.7-129*		*05/17/2016 22:44*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 01:58	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.0*			*59.0-128*		*05/19/2016 01:58*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/17/2016 23:04	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 23:04	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 23:04	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 23:04	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 23:04	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 23:04	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 23:04*	WG872233
(S) Dibromofluoromethane	*101*			*76.3-123*		*05/17/2016 23:04*	WG872233
(S) 4-Bromofluorobenzene	*105*			*69.7-129*		*05/17/2016 23:04*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.109	B J	0.108	0.500	5	05/19/2016 02:21	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*92.1*			*59.0-128*		*05/19/2016 02:21*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 23:25	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 23:25	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 23:25	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 23:25	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 23:25	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 23:25	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/17/2016 23:25*	WG872233
(S) Dibromofluoromethane	*102*			*76.3-123*		*05/17/2016 23:25*	WG872233
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*05/17/2016 23:25*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 02:43	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*93.7*			*59.0-128*		*05/19/2016 02:43*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/17/2016 23:45	WG872233
Toluene	U		0.00217	0.0250	5	05/17/2016 23:45	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/17/2016 23:45	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/17/2016 23:45	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/17/2016 23:45	WG872233
Naphthalene	U		0.00500	0.0250	5	05/17/2016 23:45	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/17/2016 23:45*	WG872233
(S) Dibromofluoromethane	*102*			*76.3-123*		*05/17/2016 23:45*	WG872233
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*05/17/2016 23:45*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 03:05	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*59.0-128*		*05/19/2016 03:05*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 00:06	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 00:06	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 00:06	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 00:06	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 00:06	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 00:06	WG872233
(S) Toluene-d8	*104*			*88.7-115*		*05/18/2016 00:06*	WG872233
(S) Dibromofluoromethane	*104*			*76.3-123*		*05/18/2016 00:06*	WG872233
(S) 4-Bromofluorobenzene	*106*			*69.7-129*		*05/18/2016 00:06*	WG872233

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.161		0.00280	0.0200	1	05/16/2016 09:08	WG872437

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	8.34		0.650	2.00	1	05/14/2016 14:32	WG872357
Lead	70.3		0.190	0.500	1	05/14/2016 14:32	WG872357
Selenium	U		0.740	2.00	1	05/14/2016 14:32	WG872357

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.118	B J	0.108	0.500	5	05/19/2016 03:27	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.2*			*59.0-128*		*05/19/2016 03:27*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 00:27	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 00:27	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 00:27	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 00:27	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 00:27	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 00:27	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/18/2016 00:27*	WG872233
(S) Dibromofluoromethane	*101*			*76.3-123*		*05/18/2016 00:27*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 00:27*	WG872233

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	93.2		32.2	80.0	20	05/17/2016 14:18	WG872902
C28-C40 Oil Range	149		5.48	80.0	20	05/17/2016 14:18	WG872902
(S) o-Terphenyl	*100*	J7		*50.0-150*		*05/17/2016 14:18*	WG872902

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 03:49	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*94.7*			*59.0-128*		*05/19/2016 03:49*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 00:48	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 00:48	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 00:48	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 00:48	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 00:48	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 00:48	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/18/2016 00:48*	WG872233
(S) Dibromofluoromethane	*104*			*76.3-123*		*05/18/2016 00:48*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 00:48*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/19/2016 04:12	WG873226
(S) a,a,a-Trifluorotoluene(FID)	*95.4*			*59.0-128*		*05/19/2016 04:12*	WG873226

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 01:09	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 01:09	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 01:09	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 01:09	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 01:09	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 01:09	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/18/2016 01:09*	WG872233
(S) Dibromofluoromethane	*102*			*76.3-123*		*05/18/2016 01:09*	WG872233
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*05/18/2016 01:09*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 19:39	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.7*			*59.0-128*		*05/18/2016 19:39*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/18/2016 01:30	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 01:30	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 01:30	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 01:30	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 01:30	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 01:30	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/18/2016 01:30*	WG872233
(S) Dibromofluoromethane	*102*			*76.3-123*		*05/18/2016 01:30*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 01:30*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 20:01	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*59.0-128*		*05/18/2016 20:01*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 01:52	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 01:52	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 01:52	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 01:52	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 01:52	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 01:52	WG872233
(S) Toluene-d8	*104*			*88.7-115*		*05/18/2016 01:52*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/18/2016 01:52*	WG872233
(S) 4-Bromofluorobenzene	*104*			*69.7-129*		*05/18/2016 01:52*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 20:22	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*59.0-128*		*05/18/2016 20:22*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 02:13	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 02:13	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 02:13	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 02:13	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 02:13	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 02:13	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/18/2016 02:13*	WG872233
(S) Dibromofluoromethane	*104*			*76.3-123*		*05/18/2016 02:13*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 02:13*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 20:43	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*59.0-128*		*05/18/2016 20:43*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 02:34	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 02:34	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 02:34	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 02:34	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 02:34	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 02:34	WG872233
(S) Toluene-d8	*104*			*88.7-115*		*05/18/2016 02:34*	WG872233
(S) Dibromofluoromethane	*101*			*76.3-123*		*05/18/2016 02:34*	WG872233
(S) 4-Bromofluorobenzene	*100*			*69.7-129*		*05/18/2016 02:34*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 21:05	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*59.0-128*		*05/18/2016 21:05*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 02:55	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 02:55	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 02:55	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 02:55	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 02:55	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 02:55	WG872233
(S) Toluene-d8	*106*			*88.7-115*		*05/18/2016 02:55*	WG872233
(S) Dibromofluoromethane	*105*			*76.3-123*		*05/18/2016 02:55*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 02:55*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 21:26	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*59.0-128*		*05/18/2016 21:26*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/18/2016 03:16	WG872233
Toluene	U		0.00217	0.0250	5	05/18/2016 03:16	WG872233
Ethylbenzene	U		0.00148	0.00500	5	05/18/2016 03:16	WG872233
Total Xylenes	U		0.00349	0.0150	5	05/18/2016 03:16	WG872233
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/18/2016 03:16	WG872233
Naphthalene	U		0.00500	0.0250	5	05/18/2016 03:16	WG872233
(S) Toluene-d8	*105*			*88.7-115*		*05/18/2016 03:16*	WG872233
(S) Dibromofluoromethane	*103*			*76.3-123*		*05/18/2016 03:16*	WG872233
(S) 4-Bromofluorobenzene	*103*			*69.7-129*		*05/18/2016 03:16*	WG872233

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 21:47	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.2*			*59.0-128*		*05/18/2016 21:47*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/14/2016 04:39	WG872246
Toluene	U		0.00217	0.0250	5	05/14/2016 04:39	WG872246
Ethylbenzene	U		0.00148	0.00500	5	05/14/2016 04:39	WG872246
Total Xylenes	U		0.00349	0.0150	5	05/14/2016 04:39	WG872246
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/14/2016 04:39	WG872246
Naphthalene	U		0.00500	0.0250	5	05/14/2016 04:39	WG872246
(S) Toluene-d8	*104*			*88.7-115*		*05/14/2016 04:39*	WG872246
(S) Dibromofluoromethane	*97.8*			*76.3-123*		*05/14/2016 04:39*	WG872246
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*05/14/2016 04:39*	WG872246

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 22:08	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.5*			*59.0-128*		*05/18/2016 22:08*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/14/2016 04:57	WG872246
Toluene	U		0.00217	0.0250	5	05/14/2016 04:57	WG872246
Ethylbenzene	U		0.00148	0.00500	5	05/14/2016 04:57	WG872246
Total Xylenes	U		0.00349	0.0150	5	05/14/2016 04:57	WG872246
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/14/2016 04:57	WG872246
Naphthalene	U		0.00500	0.0250	5	05/14/2016 04:57	WG872246
(S) Toluene-d8	*104*			*88.7-115*		*05/14/2016 04:57*	WG872246
(S) Dibromofluoromethane	*98.9*			*76.3-123*		*05/14/2016 04:57*	WG872246
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*05/14/2016 04:57*	WG872246

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 22:30	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*59.0-128*		*05/18/2016 22:30*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	05/14/2016 05:15	WG872246
Toluene	U		0.00217	0.0250	5	05/14/2016 05:15	WG872246
Ethylbenzene	U		0.00148	0.00500	5	05/14/2016 05:15	WG872246
Total Xylenes	U		0.00349	0.0150	5	05/14/2016 05:15	WG872246
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/14/2016 05:15	WG872246
Naphthalene	U		0.00500	0.0250	5	05/14/2016 05:15	WG872246
(S) Toluene-d8	*106*			*88.7-115*		*05/14/2016 05:15*	WG872246
(S) Dibromofluoromethane	*96.8*			*76.3-123*		*05/14/2016 05:15*	WG872246
(S) 4-Bromofluorobenzene	*106*			*69.7-129*		*05/14/2016 05:15*	WG872246

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0204		0.00280	0.0200	1	05/16/2016 09:11	WG872437

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.27		0.650	2.00	1	05/14/2016 14:35	WG872357
Lead	25.9		0.190	0.500	1	05/14/2016 14:35	WG872357
Selenium	U		0.740	2.00	1	05/14/2016 14:35	WG872357

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 22:51	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.1*			*59.0-128*		*05/18/2016 22:51*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/14/2016 14:33	WG872498
Toluene	U		0.00217	0.0250	5	05/14/2016 14:33	WG872498
Ethylbenzene	U		0.00148	0.00500	5	05/14/2016 14:33	WG872498
Total Xylenes	U		0.00349	0.0150	5	05/14/2016 14:33	WG872498
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/14/2016 14:33	WG872498
Naphthalene	U		0.00500	0.0250	5	05/14/2016 14:33	WG872498
(S) Toluene-d8	*106*			*88.7-115*		*05/14/2016 14:33*	WG872498
(S) Dibromofluoromethane	*104*			*76.3-123*		*05/14/2016 14:33*	WG872498
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*05/14/2016 14:33*	WG872498

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		1.61	4.00	1	05/17/2016 12:40	WG872902
C28-C40 Oil Range	1.82	J	0.274	4.00	1	05/17/2016 12:40	WG872902
(S) o-Terphenyl	*99.6*			*50.0-150*		*05/17/2016 12:40*	WG872902

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0627		0.00280	0.0200	1	05/16/2016 09:13	WG872437

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.01		0.650	2.00	1	05/14/2016 14:37	WG872357
Lead	24.0		0.190	0.500	1	05/14/2016 14:37	WG872357
Selenium	U		0.740	2.00	1	05/14/2016 14:37	WG872357

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	05/18/2016 23:12	WG873228
(S) a,a,a-Trifluorotoluene(FID)	*99.0*			*59.0-128*		*05/18/2016 23:12*	WG873228

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	05/14/2016 15:46	WG872498
Toluene	U		0.00217	0.0250	5	05/14/2016 15:46	WG872498
Ethylbenzene	U		0.00148	0.00500	5	05/14/2016 15:46	WG872498
Total Xylenes	U		0.00349	0.0150	5	05/14/2016 15:46	WG872498
Methyl tert-butyl ether	U		0.00106	0.00500	5	05/14/2016 15:46	WG872498
Naphthalene	U		0.00500	0.0250	5	05/14/2016 15:46	WG872498
(S) Toluene-d8	*104*			*88.7-115*		*05/14/2016 15:46*	WG872498
(S) Dibromofluoromethane	*96.9*			*76.3-123*		*05/14/2016 15:46*	WG872498
(S) 4-Bromofluorobenzene	*93.2*			*69.7-129*		*05/14/2016 15:46*	WG872498

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		16.1	40.0	10	05/17/2016 12:52	WG872902
C28-C40 Oil Range	U		2.74	40.0	10	05/17/2016 12:52	WG872902
(S) o-Terphenyl	*106*			*50.0-150*		*05/17/2016 12:52*	WG872902

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	1	05/17/2016 14:29	WG872754

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Arsenic	U		0.00650	0.0100	1	05/17/2016 12:23	WG872666
Lead	U		0.00190	0.00500	1	05/17/2016 12:23	WG872666
Selenium	U		0.00740	0.0100	1	05/17/2016 12:23	WG872666

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	05/17/2016 00:11	WG872894
(S) a,a,a-Trifluorotoluene(FID)	*100*			*62.0-128*		*05/17/2016 00:11*	WG872894

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	05/13/2016 23:29	WG872391
Toluene	U		0.000780	0.00500	1	05/13/2016 23:29	WG872391
Ethylbenzene	U		0.000384	0.00100	1	05/13/2016 23:29	WG872391
Total Xylenes	U		0.00106	0.00300	1	05/13/2016 23:29	WG872391
Methyl tert-butyl ether	U		0.000367	0.00100	1	05/13/2016 23:29	WG872391
Naphthalene	U		0.00100	0.00500	1	05/13/2016 23:29	WG872391
(S) Toluene-d8	*106*			*90.0-115*		*05/13/2016 23:29*	WG872391
(S) Dibromofluoromethane	*108*			*79.0-121*		*05/13/2016 23:29*	WG872391
(S) a,a,a-Trifluorotoluene	*105*			*90.4-116*		*05/13/2016 23:29*	WG872391
(S) 4-Bromofluorobenzene	*102*			*80.1-120*		*05/13/2016 23:29*	WG872391

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
C10-C28 Diesel Range	0.0486	J	0.0222	0.100	1	05/15/2016 10:58	WG872369
C28-C40 Oil Range	0.0330	J	0.0118	0.100	1	05/15/2016 10:58	WG872369
(S) o-Terphenyl	*115*			*50.0-150*		*05/15/2016 10:58*	WG872369

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	1	05/17/2016 14:32	WG872754

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Arsenic	U		0.00650	0.0100	1	05/17/2016 12:26	WG872666
Lead	U		0.00190	0.00500	1	05/17/2016 12:26	WG872666
Selenium	U		0.00740	0.0100	1	05/17/2016 12:26	WG872666

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	05/17/2016 06:52	WG872364
(S) a,a,a-Trifluorotoluene(FID)	*101*			*62.0-128*		*05/17/2016 06:52*	WG872364

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	05/13/2016 23:50	WG872391
Toluene	U		0.000780	0.00500	1	05/13/2016 23:50	WG872391
Ethylbenzene	U		0.000384	0.00100	1	05/13/2016 23:50	WG872391
Total Xylenes	U		0.00106	0.00300	1	05/13/2016 23:50	WG872391
Methyl tert-butyl ether	U		0.000367	0.00100	1	05/13/2016 23:50	WG872391
Naphthalene	U		0.00100	0.00500	1	05/13/2016 23:50	WG872391
(S) Toluene-d8	*106*			*90.0-115*		*05/13/2016 23:50*	WG872391
(S) Dibromofluoromethane	*108*			*79.0-121*		*05/13/2016 23:50*	WG872391
(S) a,a,a-Trifluorotoluene	*105*			*90.4-116*		*05/13/2016 23:50*	WG872391
(S) 4-Bromofluorobenzene	*101*			*80.1-120*		*05/13/2016 23:50*	WG872391

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
C10-C28 Diesel Range	U		0.0222	0.100	1	05/15/2016 11:15	WG872369
C28-C40 Oil Range	0.0152	J	0.0118	0.100	1	05/15/2016 11:15	WG872369
(S) o-Terphenyl	*108*			*50.0-150*		*05/15/2016 11:15*	WG872369

Method Blank (MB)

(MB) R3137456-1 05/17/16 14:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000049	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137456-2 05/17/16 14:03 • (LCSD) R3137456-3 05/17/16 14:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	0.00309	0.00300	103	100	80-120			3	20

L835698-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835698-01 05/17/16 14:08 • (MS) R3137456-4 05/17/16 14:16 • (MSD) R3137456-5 05/17/16 14:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	U	0.00331	0.00326	110	109	1	75-125			2	20

Method Blank (MB)

(MB) R3136951-1 05/16/16 08:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3136951-2 05/16/16 08:55 • (LCSD) R3136951-3 05/16/16 08:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.267	0.263	89	88	80-120			2	20

L835350-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835350-01 05/16/16 09:00 • (MS) R3136951-4 05/16/16 09:03 • (MSD) R3136951-5 05/16/16 09:05

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.361	0.00391	0.321	0.346	88	95	1	75-125			7	20

Method Blank (MB)

(MB) R3136806-1 05/14/16 13:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500
Selenium	U		0.74	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3136806-2 05/14/16 13:46 • (LCSD) R3136806-3 05/14/16 13:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	93.5	92.4	93	92	80-120			1	20
Lead	100	97.7	96.2	98	96	80-120			2	20
Selenium	100	96.4	95.6	96	96	80-120			1	20

L835281-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835281-01 05/14/16 13:51 • (MS) R3136806-6 05/14/16 14:00 • (MSD) R3136806-7 05/14/16 14:03

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	109	12.2	114	109	93	89	1	75-125			4	20
Lead	109	19.0	133	126	104	97	1	75-125			6	20
Selenium	109	ND	104	98	95	90	1	75-125			6	20

Method Blank (MB)

(MB) R3137501-1 05/17/16 12:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.0065	0.0100
Lead	U		0.0019	0.00500
Selenium	U		0.0074	0.0100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137501-2 05/17/16 12:04 • (LCSD) R3137501-3 05/17/16 12:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	0.993	0.993	99	99	80-120			0	20
Lead	1.00	1.02	1.02	102	102	80-120			0	20
Selenium	1.00	1.03	1.03	103	103	80-120			0	20

Method Blank (MB)

(MB) R3137507-3 05/17/16 00:43

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*62.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137507-1 05/16/16 23:37 • (LCSD) R3137507-2 05/16/16 23:59

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
TPH (GC/FID) Low Fraction	5.50	6.29	6.07	114	110	67.0-132			3.50	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*101*	*62.0-128*				

L834732-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L834732-06 05/17/16 07:14 • (MS) R3137507-4 05/17/16 07:36 • (MSD) R3137507-5 05/17/16 07:58

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	2.43	4.38	4.32	35.6	34.4	1	50.0-143	J6	J6	1.50	20
(S) a,a,a-Trifluorotoluene(FID)					*109*	*109*		*62.0-128*				

Method Blank (MB)

(MB) R3137306-3 05/16/16 22:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*100*			*62.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137306-1 05/16/16 21:22 • (LCSD) R3137306-2 05/16/16 21:43

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
TPH (GC/FID) Low Fraction	5.50	6.14	6.04	112	110	67.0-132			1.66	20
(S) a,a,a-Trifluorotoluene(FID)				*102*	*101*	*62.0-128*				

L834446-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L834446-01 05/16/16 23:50 • (MS) R3137306-4 05/16/16 22:46 • (MSD) R3137306-5 05/16/16 23:07

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	ND	2.91	3.00	52.9	54.6	1	50.0-143			3.25	20
(S) a,a,a-Trifluorotoluene(FID)					*100*	*100*		*62.0-128*				

Method Blank (MB)

(MB) R3138217-3 05/18/16 14:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0252	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.9*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3138217-1 05/18/16 13:51 • (LCSD) R3138217-2 05/18/16 14:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.30	5.57	96.4	101	63.5-137			4.97	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*104*	*59.0-128*				

L835233-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835233-04 05/18/16 18:20 • (MS) R3138217-4 05/18/16 21:18 • (MSD) R3138217-5 05/18/16 21:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.144	9.36	9.09	33.5	32.5	5	28.5-138			2.98	23.6
(S) a,a,a-Trifluorotoluene(FID)					*94.1*	*94.7*		*59.0-128*				

Method Blank (MB)

(MB) R3138281-3 05/18/16 17:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3138281-1 05/18/16 16:43 • (LCSD) R3138281-2 05/18/16 17:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.23	5.99	113	109	63.5-137			3.88	20
(S) a,a,a-Trifluorotoluene(FID)				*102*	*101*	*59.0-128*				

L835243-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-15 05/18/16 19:39 • (MS) R3138281-4 05/18/16 18:36 • (MSD) R3138281-5 05/18/16 18:57

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	U	11.9	11.6	43.1	42.1	5	28.5-138			2.31	23.6
(S) a,a,a-Trifluorotoluene(FID)					*99.2*	*99.5*		*59.0-128*				

Method Blank (MB)

(MB) R3137902-3 05/17/16 18:29

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*106*			*88.7-115*
(S) Dibromofluoromethane	*102*			*76.3-123*
(S) 4-Bromofluorobenzene	*104*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137902-1 05/17/16 17:05 • (LCSD) R3137902-2 05/17/16 17:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0239	0.0257	95.6	103	72.6-120			7.09	20
Ethylbenzene	0.0250	0.0231	0.0246	92.5	98.2	78.6-124			6.04	20
Methyl tert-butyl ether	0.0250	0.0246	0.0267	98.6	107	70.2-122			7.97	20
Naphthalene	0.0250	0.0222	0.0245	88.6	98.1	69.9-132			10.1	20
Toluene	0.0250	0.0230	0.0247	92.1	98.7	76.7-116			6.87	20
Xylenes, Total	0.0750	0.0690	0.0747	91.9	99.6	78.1-123			7.96	20
(S) Toluene-d8				*106*	*105*	*88.7-115*				
(S) Dibromofluoromethane				*105*	*105*	*76.3-123*				
(S) 4-Bromofluorobenzene				*101*	*101*	*69.7-129*				

L835243-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-01 05/17/16 20:37 • (MS) R3137902-4 05/17/16 19:34 • (MSD) R3137902-5 05/17/16 19:55

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	U	0.120	0.153	95.8	123	5	47.8-131		J3	24.7	22.8
Ethylbenzene	0.0250	U	0.105	0.138	83.7	110	5	44.8-135		J3	27.1	26.9
Methyl tert-butyl ether	0.0250	U	0.129	0.166	103	133	5	50.4-131		J3 J5	25.2	24.8
Naphthalene	0.0250	U	0.0775	0.106	62.0	84.8	5	18.4-145			31.0	34
Toluene	0.0250	U	0.110	0.147	88.2	117	5	47.8-127		J3	28.3	24.3

L835243-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-01 05/17/16 20:37 • (MS) R3137902-4 05/17/16 19:34 • (MSD) R3137902-5 05/17/16 19:55

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Xylenes, Total	0.0750	U	0.315	0.409	84.1	109	5	42.7-135			25.9	26.6
(S) Toluene-d8					*105*	*104*		*88.7-115*				
(S) Dibromofluoromethane					*105*	*99.7*		*76.3-123*				
(S) 4-Bromofluorobenzene					*102*	*97.9*		*69.7-129*				

Method Blank (MB)

(MB) R3136916-3 05/13/16 22:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*98.0*			*88.7-115*
(S) Dibromofluoromethane	*98.3*			*76.3-123*
(S) 4-Bromofluorobenzene	*94.7*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3136916-1 05/13/16 21:57 • (LCSD) R3136916-2 05/13/16 22:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0229	0.0235	91.6	93.9	72.6-120			2.43	20
Ethylbenzene	0.0250	0.0217	0.0235	86.7	93.9	78.6-124			7.92	20
Methyl tert-butyl ether	0.0250	0.0210	0.0207	84.0	83.0	70.2-122			1.26	20
Naphthalene	0.0250	0.0198	0.0202	79.3	80.6	69.9-132			1.69	20
Toluene	0.0250	0.0234	0.0243	93.5	97.4	76.7-116			4.03	20
Xylenes, Total	0.0750	0.0654	0.0688	87.2	91.7	78.1-123			5.07	20
(S) Toluene-d8				*104*	*103*	*88.7-115*				
(S) Dibromofluoromethane				*101*	*99.3*	*76.3-123*				
(S) 4-Bromofluorobenzene				*92.3*	*97.0*	*69.7-129*				

L835243-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-23 05/14/16 05:15 • (MS) R3136916-4 05/14/16 05:34 • (MSD) R3136916-5 05/14/16 05:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	U	0.104	0.102	83.4	81.7	5	47.8-131			2.06	22.8
Ethylbenzene	0.0250	U	0.0874	0.0811	70.0	64.9	5	44.8-135			7.48	26.9
Methyl tert-butyl ether	0.0250	U	0.0964	0.0964	77.1	77.1	5	50.4-131			0.0400	24.8
Naphthalene	0.0250	U	0.0709	0.0613	56.7	49.0	5	18.4-145			14.6	34
Toluene	0.0250	U	0.102	0.0953	81.9	76.2	5	47.8-127			7.16	24.3

L835243-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-23 05/14/16 05:15 • (MS) R3136916-4 05/14/16 05:34 • (MSD) R3136916-5 05/14/16 05:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Xylenes, Total	0.0750	U	0.254	0.235	67.8	62.7	5	42.7-135			7.74	26.6
(S) Toluene-d8					*101*	*97.9*		*88.7-115*				
(S) Dibromofluoromethane					*101*	*105*		*76.3-123*				
(S) 4-Bromofluorobenzene					*98.8*	*97.2*		*69.7-129*				

Method Blank (MB)

(MB) R3136820-3 05/14/16 12:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*101*			*88.7-115*
(S) Dibromofluoromethane	*99.2*			*76.3-123*
(S) 4-Bromofluorobenzene	*97.4*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3136820-1 05/14/16 10:56 • (LCSD) R3136820-2 05/14/16 11:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0235	0.0229	94.0	91.8	72.6-120			2.42	20
Ethylbenzene	0.0250	0.0236	0.0233	94.2	93.0	78.6-124			1.28	20
Methyl tert-butyl ether	0.0250	0.0224	0.0210	89.8	84.2	70.2-122			6.46	20
Naphthalene	0.0250	0.0229	0.0216	91.5	86.3	69.9-132			5.77	20
Toluene	0.0250	0.0238	0.0229	95.1	91.5	76.7-116			3.84	20
Xylenes, Total	0.0750	0.0702	0.0700	93.5	93.3	78.1-123			0.250	20
(S) Toluene-d8				*98.3*	*96.6*	*88.7-115*				
(S) Dibromofluoromethane				*98.6*	*96.5*	*76.3-123*				
(S) 4-Bromofluorobenzene				*105*	*99.3*	*69.7-129*				

L835243-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-24 05/14/16 14:33 • (MS) R3136820-4 05/14/16 14:51 • (MSD) R3136820-5 05/14/16 15:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	U	0.104	0.106	83.2	84.5	5	47.8-131			1.63	22.8
Ethylbenzene	0.0250	U	0.104	0.104	83.2	82.8	5	44.8-135			0.380	26.9
Methyl tert-butyl ether	0.0250	U	0.0865	0.0965	69.2	77.2	5	50.4-131			10.9	24.8
Naphthalene	0.0250	U	0.0892	0.0948	71.4	75.8	5	18.4-145			5.99	34
Toluene	0.0250	U	0.107	0.108	85.5	86.2	5	47.8-127			0.810	24.3

L835243-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835243-24 05/14/16 14:33 • (MS) R3136820-4 05/14/16 14:51 • (MSD) R3136820-5 05/14/16 15:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Xylenes, Total	0.0750	U	0.300	0.305	80.1	81.2	5	42.7-135			1.38	26.6
(S) Toluene-d8					*102*	*104*		*88.7-115*				
(S) Dibromofluoromethane					*99.9*	*102*		*76.3-123*				
(S) 4-Bromofluorobenzene					*96.3*	*99.1*		*69.7-129*				

Method Blank (MB)

(MB) R3136702-3 05/13/16 15:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000780	0.00500
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	*105*			*88.5-111*
(S) Dibromofluoromethane	*103*			*78.3-121*
(S) a,a,a-Trifluorotoluene	*102*			*85.0-114*
(S) 4-Bromofluorobenzene	*99.3*			*71.0-126*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3136702-1 05/13/16 14:12 • (LCSD) R3136702-2 05/13/16 14:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0262	0.0257	105	103	73.0-122			1.98	20
Ethylbenzene	0.0250	0.0258	0.0255	103	102	80.9-121			1.17	20
Methyl tert-butyl ether	0.0250	0.0242	0.0238	96.9	95.2	70.1-125			1.72	20
Naphthalene	0.0250	0.0234	0.0237	93.6	94.7	69.7-134			1.20	20
Toluene	0.0250	0.0258	0.0254	103	101	77.9-116			1.93	20
Xylenes, Total	0.0750	0.0793	0.0782	106	104	79.2-122			1.42	20
(S) Toluene-d8				*106*	*105*	*88.5-111*				
(S) Dibromofluoromethane				*99.7*	*100*	*78.3-121*				
(S) a,a,a-Trifluorotoluene				*101*	*101*	*85.0-114*				
(S) 4-Bromofluorobenzene				*97.8*	*98.9*	*71.0-126*				

L834071-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L834071-06 05/13/16 22:07 • (MS) R3136702-4 05/13/16 22:28 • (MSD) R3136702-5 05/13/16 22:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.00828	0.0328	0.0325	98.0	96.8	1	58.6-133			0.930	20
Ethylbenzene	0.0250	ND	0.0244	0.0245	97.4	97.9	1	62.7-136			0.410	20
Methyl tert-butyl ether	0.0250	0.00238	0.0285	0.0293	105	108	1	61.4-136			2.75	20

L834071-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L834071-06 05/13/16 22:07 • (MS) R3136702-4 05/13/16 22:28 • (MSD) R3136702-5 05/13/16 22:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Naphthalene	0.0250	ND	0.0257	0.0271	103	108	1	61.8-143			5.41	20
Toluene	0.0250	ND	0.0242	0.0241	97.0	96.3	1	67.8-124			0.760	20
Xylenes, Total	0.0750	ND	0.0751	0.0754	100	101	1	65.6-133			0.450	20
(S) Toluene-d8					*107*	*108*		*88.5-111*				
(S) Dibromofluoromethane					*105*	*105*		*78.3-121*				
(S) a,a,a-Trifluorotoluene					*106*	*107*		*85.0-114*				
(S) 4-Bromofluorobenzene					*103*	*104*		*71.0-126*				

Method Blank (MB)

(MB) R3139237-1 05/15/16 09:51

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
C10-C28 Diesel Range	U		0.0222	0.100
C28-C40 Oil Range	U		0.0118	0.100
(S) o-Terphenyl	*112*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3139237-2 05/15/16 10:07 • (LCSD) R3139237-3 05/15/16 10:24

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
C10-C28 Diesel Range	1.50	1.53	1.54	102	102	70.0-130			0.680	20
(S) o-Terphenyl				*110*	*117*	*50.0-150*				

Method Blank (MB)

(MB) R3137450-1 05/17/16 10:13

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*103*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3137450-2 05/17/16 10:25 • (LCSD) R3137450-3 05/17/16 10:37

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
C10-C28 Diesel Range	60.0	48.2	52.7	80.3	87.9	50.0-100			9.05	20
(S) o-Terphenyl				*93.1*	*93.4*	*50.0-150*				

L835078-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L835078-01 05/17/16 12:02 • (MS) R3137450-4 05/17/16 12:15 • (MSD) R3137450-5 05/17/16 12:27

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
C10-C28 Diesel Range	60.0	7.31	57.8	64.7	84.1	95.7	1	50.0-100			11.4	20
(S) o-Terphenyl					*72.6*	*68.2*		*50.0-150*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

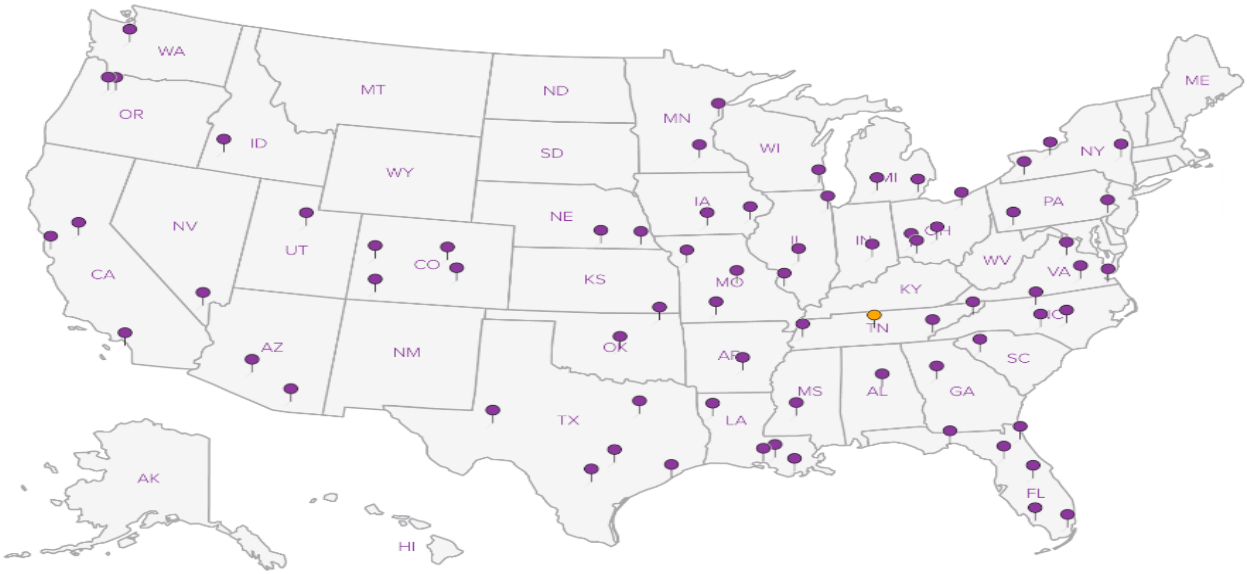
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1.] Drinking Water [2.] Underground Storage Tanks [3.] Aquatic Toxicity [4.] Chemical/Microbiological [5.] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



AMEC Foster Wheeler - Houston, TX

585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: Pamela Krueger

Email To: pamela.krueger@amecfw.com

Project Description: Prime G Soil Piles

City/State Collected: Artesia, NM

Phone: 713-929-5674
Fax:

Client Project # 6703160012.003

Lab Project # AMECFWHTX-PRIME

Collected by (print): Kiana Smith

Site/Facility ID # HFN

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ASICP,HG,PBICP,SEICP 250mlHDPE-HNO3	DROOROLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO,V8260BTEXMN 2ozClr-NoPres	Metals 2ozClr-NoPres	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN- TB 40mlAmb-HCl-Blk			Rem./Contaminant	Sample # (lab only)
PG-1		SS		5/10/16	8:50	1			X		X	X						01
PG-2		SS			8:55	1			X		X	X						02
PG-3		SS			9:00	1			X		X	X						03
PG-4		SS			9:03	1			X		X	X						04
PG-5		SS			9:05	1			X		X	X						05
PG-6		SS			9:10	1					X							06
PG-7		SS			9:12	1					X							07
PG-8		SS			9:15	1					X							08
PG-9		SS			9:20	1					X							09
PG-10		SS			9:25	1					X							10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

671101328823

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	5/11/16	11:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.1 °C Bottles Received: 42+2TB

Date: 5-12-16 Time: 1300

Hold #

Condition: (lab use only) a SW

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page ___ of ___

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12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 835243

G183

Acctnum: AMECFWHTX
Template: T112075
Prelogin: P552514
TSR: 526 - Chris McCord
PB: 5-4-16 KH
Shipped Via: FedEx Ground

AMEC Foster Wheeler - Houston, TX

585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: **Pamela Krueger**

Email To: **pamela.krueger@amecfw.com**

Project Description: **Prime G Soil Piles**

City/State Collected: Artesia, NM

Phone: **713-929-5674**
Fax:

Client Project # **6703160012.003**

Lab Project # **AMECFWHTX-PRIME**

Collected by (print): Gillian Smith

Site/Facility ID # HFN

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X___Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ASICP,HG,PBICP,SEICP 250mlHDPE-HNO3	DROORGLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO,V8260BTEXMN 2ozClr-NoPres	Metals 2ozClr-NoPres	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN- TB 40mlAmb-HCl-Blk			Rem./Contaminant	Sample # (lab only)
PG-10D		SS		5/10/16	9:27	1					X							11
PG-FC1	Comp	SS			9:30	1 2dd			X		X	X						12
PG-11		SS			10:00	1					X							13
PG-12		SS			10:05	1					X							14
PG-13		SS			10:10	1					X							15
PG-14		SS			10:15	1					X							16
PG-15		SS			10:20	1					X							17
PG-16		SS			10:25	1					X							18
PG-17		SS			10:30	1					X							19
PG-18		SS			10:35	1					X							20

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	5/11/16	15:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____

Temp: 3.1 °C Bottles Received: 42+2TB

Date: 5-12-16 Time: 1300

Hold #

Condition: (lab use only) L JW

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page ___ of ___

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 875243

Table #

Acctnum: **AMECFWHTX**

Template: **T112075**

Prelogin: **P552514**

TSR: **526 - Chris McCord**

PB: 5-4-16 KH

Shipped Via: **FedEx Ground**

AMEC Foster Wheeler - Houston, TX

585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: Pamela Krueger

Email To: pamela.krueger@amecfw.com

Project Description: Prime G Soil Piles

City/State Collected: Artesia, NM

Phone: 713-929-5674
Fax:

Client Project # 6703160012.003

Lab Project # AMECFWHTX-PRIME

Collected by (print): [signature]

Site/Facility ID # HFN

P.O. #

Collected by (signature): [signature]

Immediately Packed on Ice N___ Y___

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ASICP,HG,PBICP,SEICP 250mlHDPE-HNO3 <2	DROORLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO,V8260BTEXMN 2ozClr-NoPres	Metals 2ozClr-NoPres	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN-TB 40mlAmb-HCl-Blk			Rem./Contaminant	Sample # (lab only)
PG-19		SS		5/10/16		1					X							21
PG-20		SS				1					X							22
PG-20D		SS				1					X							23
PG-FC2	Comp	SS				1			X		X	X						24
PG-FC2D	Comp	SS				1			X		X	X						25
PG-EB1		GW				8	X	X		X			X					27
PG-EB2		GW				8	X	X		X			X					27
		GW				1								X				
		GW				1								X				
		GW				1								X				

dd 2 dd 2 dd 6

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	5/11/16	15:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			[signature]

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____

Temp: 3.1 °C Bottles Received: 4 2 2TB

Date: 5-12-16 Time: 1300

Chain of Custody Page ___ of ___

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 833243

Table #

Acctnum: AMECFWHTX

Template: T112075

Prelogin: P552514

TSR: 526 - Chris McCord

PB: 5-4-16 KM

Shipped Via: FedEX Ground

Hold #

Condition: (lab use only) ok

COC Seal Intact: ___Y ___N ___NA

pH Checked: <2

NCF:

ANALYTICAL REPORT

June 14, 2016

AMEC Foster Wheeler - Houston, TX

Sample Delivery Group:	L839321
Samples Received:	06/03/2016
Project Number:	6703160012.003
Description:	HollyFrontier Navajo Refinery
Site:	HFN - ARTESIA
Report To:	Pam Krueger 585 N. Dairy Ashford Houston, TX 77079

Entire Report Reviewed By:

Chris McCord
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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PG2-01 L839321-01 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:00
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 02:37	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 04:58	DAH

PG2-02 L839321-02 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:05
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 03:00	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 05:15	DAH

PG2-03 L839321-03 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:10
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 03:22	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 17:26	JHH

PG2-04 L839321-04 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:15
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 03:44	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 17:47	JHH

PG2-05 L839321-05 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:20
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 04:06	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 18:08	JHH

PG2-06 L839321-06 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:25
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 04:28	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 18:30	JHH

PG2-07 L839321-07 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:30
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879398	5	06/10/16 21:00	06/11/16 04:50	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 18:51	JHH

PG2-08 L839321-08 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:35
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879235	5	06/09/16 17:29	06/10/16 15:46	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 19:13	JHH

PG2-09 L839321-09 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:40
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879235	5	06/09/16 17:29	06/10/16 16:08	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877784	5	06/06/16 00:02	06/09/16 19:34	JHH

PG2-10 L839321-10 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:45
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879235	5	06/09/16 17:29	06/10/16 16:30	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878936	5	06/10/16 05:00	06/10/16 11:52	DWR

PG2-10D L839321-11 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:50
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879235	5	06/09/16 17:29	06/10/16 16:53	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878936	5	06/10/16 05:00	06/10/16 12:12	DWR

PG2-11 L839321-12 Solid

Collected by: William S.
Collected date/time: 06/01/16 15:55
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 12:44	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 05:32	DAH

PG2-12 L839321-13 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:00
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 13:13	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 05:50	DAH

PG2-13 L839321-14 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:05
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 13:42	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 06:07	DAH

PG2-14 L839321-15 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:10
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 14:10	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 06:24	DAH

PG2-15 L839321-16 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:15
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 14:39	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 07:09	DAH

PG2-16 L839321-17 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:20
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 15:08	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 07:26	DAH

PG2-17 L839321-18 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:25
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 15:37	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 07:43	DAH

PG2-18 L839321-19 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:30
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 16:06	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879247	5	06/09/16 17:18	06/10/16 08:01	DAH

PG2-19 L839321-20 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:35
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 16:34	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878670	5	06/10/16 08:52	06/10/16 10:57	ACG

PG2-20 L839321-21 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:40
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 17:03	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878265	5	06/07/16 11:03	06/07/16 23:23	BMB

PG2-20D L839321-22 Solid

Collected by: William S.
Collected date/time: 06/01/16 16:45
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 17:32	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878265	5	06/07/16 11:03	06/07/16 23:48	BMB

PG2-FC1 L839321-23 Solid

Collected by: William S.
Collected date/time: 06/01/16 17:00
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG877793	1	06/04/16 08:29	06/06/16 10:58	NJB
Metals (ICP) by Method 6010B	WG878492	1	06/07/16 18:13	06/08/16 08:11	CCE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG878027	20	06/06/16 10:47	06/06/16 14:15	TRF
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878164	5	06/09/16 17:41	06/10/16 18:01	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG878265	5	06/07/16 11:03	06/08/16 00:12	BMB

EB-1 L839321-24 GW

Collected by: William S.
Collected date/time: 06/01/16 17:30
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG877995	1	06/06/16 12:36	06/07/16 10:45	NJB
Metals (ICP) by Method 6010B	WG877684	1	06/07/16 14:43	06/08/16 04:47	LTB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG878029	1	06/05/16 17:11	06/07/16 22:19	JNS
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878474	1	06/09/16 22:09	06/09/16 22:09	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877772	1	06/10/16 13:46	06/10/16 13:46	DWR

TRIP BLANK L839321-25 GW

Collected by: William S.
Collected date/time: 06/01/16 00:00
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG878474	1	06/09/16 14:29	06/09/16 14:29	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG877772	1	06/10/16 13:07	06/10/16 13:07	DWR

COMP 1 L839321-26 Solid

Collected by: William S.
Collected date/time: 06/01/16 00:00
Received date/time: 06/03/16 09:00

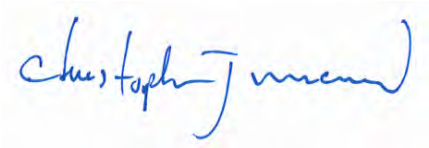
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG879153	1	06/09/16 18:33	06/10/16 08:13	TRB
Metals (ICP) by Method 6010B	WG879261	1	06/09/16 19:06	06/10/16 15:42	BRJ
Semi-Volatile Organic Compounds (GC) by Method 8015	WG879301	1	06/09/16 20:36	06/10/16 10:30	DMG

COMP 2 L839321-27 Solid

Collected by: William S.
Collected date/time: 06/01/16 00:00
Received date/time: 06/03/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG879153	1	06/09/16 18:33	06/10/16 08:16	TRB
Metals (ICP) by Method 6010B	WG879261	1	06/09/16 19:06	06/10/16 15:45	BRJ
Semi-Volatile Organic Compounds (GC) by Method 8015	WG879301	1	06/09/16 20:36	06/10/16 10:45	DMG

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris McCord
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.213	B J	0.108	0.500	5	06/11/2016 02:37	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*92.7*			*59.0-128*		*06/11/2016 02:37*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	06/10/2016 04:58	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 04:58	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 04:58	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 04:58	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 04:58	WG879247
Naphthalene	0.00664	J	0.00500	0.0250	5	06/10/2016 04:58	WG879247
(S) Toluene-d8	*112*			*88.7-115*		*06/10/2016 04:58*	WG879247
(S) Dibromofluoromethane	*121*			*76.3-123*		*06/10/2016 04:58*	WG879247
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*06/10/2016 04:58*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.142	B J	0.108	0.500	5	06/11/2016 03:00	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*88.1*			*59.0-128*		*06/11/2016 03:00*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	06/10/2016 05:15	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 05:15	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 05:15	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 05:15	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 05:15	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 05:15	WG879247
(S) Toluene-d8	*113*			*88.7-115*		*06/10/2016 05:15*	WG879247
(S) Dibromofluoromethane	*121*			*76.3-123*		*06/10/2016 05:15*	WG879247
(S) 4-Bromofluorobenzene	*104*			*69.7-129*		*06/10/2016 05:15*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/11/2016 03:22	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*92.3*			*59.0-128*		*06/11/2016 03:22*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 17:26	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 17:26	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 17:26	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 17:26	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 17:26	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 17:26	WG877784
(S) Toluene-d8	*103*			*88.7-115*		*06/09/2016 17:26*	WG877784
(S) Dibromofluoromethane	*104*			*76.3-123*		*06/09/2016 17:26*	WG877784
(S) 4-Bromofluorobenzene	*98.8*			*69.7-129*		*06/09/2016 17:26*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/11/2016 03:44	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*93.0*			*59.0-128*		*06/11/2016 03:44*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 17:47	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 17:47	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 17:47	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 17:47	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 17:47	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 17:47	WG877784
(S) Toluene-d8	*102*			*88.7-115*		*06/09/2016 17:47*	WG877784
(S) Dibromofluoromethane	*104*			*76.3-123*		*06/09/2016 17:47*	WG877784
(S) 4-Bromofluorobenzene	*100*			*69.7-129*		*06/09/2016 17:47*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/11/2016 04:06	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*93.9*			*59.0-128*		*06/11/2016 04:06*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 18:08	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 18:08	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 18:08	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 18:08	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 18:08	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 18:08	WG877784
(S) Toluene-d8	*102*			*88.7-115*		*06/09/2016 18:08*	WG877784
(S) Dibromofluoromethane	*105*			*76.3-123*		*06/09/2016 18:08*	WG877784
(S) 4-Bromofluorobenzene	*99.1*			*69.7-129*		*06/09/2016 18:08*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/11/2016 04:28	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*93.8*			*59.0-128*		*06/11/2016 04:28*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 18:30	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 18:30	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 18:30	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 18:30	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 18:30	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 18:30	WG877784
(S) Toluene-d8	*102*			*88.7-115*		*06/09/2016 18:30*	WG877784
(S) Dibromofluoromethane	*105*			*76.3-123*		*06/09/2016 18:30*	WG877784
(S) 4-Bromofluorobenzene	*99.7*			*69.7-129*		*06/09/2016 18:30*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/11/2016 04:50	WG879398
(S) a,a,a-Trifluorotoluene(FID)	*93.2*			*59.0-128*		*06/11/2016 04:50*	WG879398

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 18:51	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 18:51	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 18:51	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 18:51	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 18:51	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 18:51	WG877784
(S) Toluene-d8	*102*			*88.7-115*		*06/09/2016 18:51*	WG877784
(S) Dibromofluoromethane	*106*			*76.3-123*		*06/09/2016 18:51*	WG877784
(S) 4-Bromofluorobenzene	*99.2*			*69.7-129*		*06/09/2016 18:51*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 15:46	WG879235
(S) a,a,a-Trifluorotoluene(FID)	*96.6*			*59.0-128*		*06/10/2016 15:46*	WG879235

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 19:13	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 19:13	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 19:13	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 19:13	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 19:13	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 19:13	WG877784
(S) Toluene-d8	*101*			*88.7-115*		*06/09/2016 19:13*	WG877784
(S) Dibromofluoromethane	*106*			*76.3-123*		*06/09/2016 19:13*	WG877784
(S) 4-Bromofluorobenzene	*98.6*			*69.7-129*		*06/09/2016 19:13*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 16:08	WG879235
(S) a,a,a-Trifluorotoluene(FID)	*96.8*			*59.0-128*		*06/10/2016 16:08*	WG879235

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/09/2016 19:34	WG877784
Toluene	U		0.00217	0.0250	5	06/09/2016 19:34	WG877784
Ethylbenzene	U		0.00148	0.00500	5	06/09/2016 19:34	WG877784
Total Xylenes	U		0.00349	0.0150	5	06/09/2016 19:34	WG877784
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/09/2016 19:34	WG877784
Naphthalene	U		0.00500	0.0250	5	06/09/2016 19:34	WG877784
(S) Toluene-d8	*102*			*88.7-115*		*06/09/2016 19:34*	WG877784
(S) Dibromofluoromethane	*106*			*76.3-123*		*06/09/2016 19:34*	WG877784
(S) 4-Bromofluorobenzene	*99.7*			*69.7-129*		*06/09/2016 19:34*	WG877784

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 16:30	WG879235
(S) a,a,a-Trifluorotoluene(FID)	*96.9*			*59.0-128*		*06/10/2016 16:30*	WG879235

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 11:52	WG878936
Toluene	U		0.00217	0.0250	5	06/10/2016 11:52	WG878936
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 11:52	WG878936
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 11:52	WG878936
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 11:52	WG878936
Naphthalene	U		0.00500	0.0250	5	06/10/2016 11:52	WG878936
(S) Toluene-d8	*97.8*			*88.7-115*		*06/10/2016 11:52*	WG878936
(S) Dibromofluoromethane	*98.1*			*76.3-123*		*06/10/2016 11:52*	WG878936
(S) 4-Bromofluorobenzene	*95.4*			*69.7-129*		*06/10/2016 11:52*	WG878936

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 16:53	WG879235
(S) a,a,a-Trifluorotoluene(FID)	*96.8*			*59.0-128*		*06/10/2016 16:53*	WG879235

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 12:12	WG878936
Toluene	U		0.00217	0.0250	5	06/10/2016 12:12	WG878936
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 12:12	WG878936
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 12:12	WG878936
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 12:12	WG878936
Naphthalene	U		0.00500	0.0250	5	06/10/2016 12:12	WG878936
(S) Toluene-d8	*99.3*			*88.7-115*		*06/10/2016 12:12*	WG878936
(S) Dibromofluoromethane	*98.5*			*76.3-123*		*06/10/2016 12:12*	WG878936
(S) 4-Bromofluorobenzene	*96.2*			*69.7-129*		*06/10/2016 12:12*	WG878936

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 12:44	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 12:44*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 05:32	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 05:32	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 05:32	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 05:32	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 05:32	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 05:32	WG879247
(S) Toluene-d8	*107*			*88.7-115*		*06/10/2016 05:32*	WG879247
(S) Dibromofluoromethane	*119*			*76.3-123*		*06/10/2016 05:32*	WG879247
(S) 4-Bromofluorobenzene	*95.5*			*69.7-129*		*06/10/2016 05:32*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 13:13	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 13:13*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 05:50	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 05:50	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 05:50	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 05:50	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 05:50	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 05:50	WG879247
(S) Toluene-d8	*107*			*88.7-115*		*06/10/2016 05:50*	WG879247
(S) Dibromofluoromethane	*121*			*76.3-123*		*06/10/2016 05:50*	WG879247
(S) 4-Bromofluorobenzene	*97.1*			*69.7-129*		*06/10/2016 05:50*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 13:42	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*100*			*59.0-128*		*06/10/2016 13:42*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 06:07	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 06:07	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 06:07	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 06:07	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 06:07	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 06:07	WG879247
(S) Toluene-d8	*113*			*88.7-115*		*06/10/2016 06:07*	WG879247
(S) Dibromofluoromethane	*126*	J1		*76.3-123*		*06/10/2016 06:07*	WG879247
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*06/10/2016 06:07*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 14:10	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*100*			*59.0-128*		*06/10/2016 14:10*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 06:24	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 06:24	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 06:24	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 06:24	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 06:24	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 06:24	WG879247
(S) Toluene-d8	*113*			*88.7-115*		*06/10/2016 06:24*	WG879247
(S) Dibromofluoromethane	*125*	J1		*76.3-123*		*06/10/2016 06:24*	WG879247
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*06/10/2016 06:24*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 14:39	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 14:39*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 07:09	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 07:09	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 07:09	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 07:09	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 07:09	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 07:09	WG879247
(S) Toluene-d8	*110*			*88.7-115*		*06/10/2016 07:09*	WG879247
(S) Dibromofluoromethane	*126*	J1		*76.3-123*		*06/10/2016 07:09*	WG879247
(S) 4-Bromofluorobenzene	*100*			*69.7-129*		*06/10/2016 07:09*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 15:08	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 15:08*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 07:26	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 07:26	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 07:26	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 07:26	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 07:26	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 07:26	WG879247
(S) Toluene-d8	*111*			*88.7-115*		*06/10/2016 07:26*	WG879247
(S) Dibromofluoromethane	*128*	J1		*76.3-123*		*06/10/2016 07:26*	WG879247
(S) 4-Bromofluorobenzene	*100*			*69.7-129*		*06/10/2016 07:26*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 15:37	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 15:37*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 07:43	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 07:43	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 07:43	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 07:43	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 07:43	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 07:43	WG879247
(S) Toluene-d8	*109*			*88.7-115*		*06/10/2016 07:43*	WG879247
(S) Dibromofluoromethane	*124*	J1		*76.3-123*		*06/10/2016 07:43*	WG879247
(S) 4-Bromofluorobenzene	*99.0*			*69.7-129*		*06/10/2016 07:43*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 16:06	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 16:06*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 08:01	WG879247
Toluene	U		0.00217	0.0250	5	06/10/2016 08:01	WG879247
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 08:01	WG879247
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 08:01	WG879247
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 08:01	WG879247
Naphthalene	U		0.00500	0.0250	5	06/10/2016 08:01	WG879247
(S) Toluene-d8	*108*			*88.7-115*		*06/10/2016 08:01*	WG879247
(S) Dibromofluoromethane	*122*			*76.3-123*		*06/10/2016 08:01*	WG879247
(S) 4-Bromofluorobenzene	*96.1*			*69.7-129*		*06/10/2016 08:01*	WG879247

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 16:34	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 16:34*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/10/2016 10:57	WG878670
Toluene	U		0.00217	0.0250	5	06/10/2016 10:57	WG878670
Ethylbenzene	U		0.00148	0.00500	5	06/10/2016 10:57	WG878670
Total Xylenes	U		0.00349	0.0150	5	06/10/2016 10:57	WG878670
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/10/2016 10:57	WG878670
Naphthalene	U		0.00500	0.0250	5	06/10/2016 10:57	WG878670
(S) Toluene-d8	*106*			*88.7-115*		*06/10/2016 10:57*	WG878670
(S) Dibromofluoromethane	*109*			*76.3-123*		*06/10/2016 10:57*	WG878670
(S) 4-Bromofluorobenzene	*99.1*			*69.7-129*		*06/10/2016 10:57*	WG878670

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 17:03	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 17:03*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/07/2016 23:23	WG878265
Toluene	U		0.00217	0.0250	5	06/07/2016 23:23	WG878265
Ethylbenzene	U		0.00148	0.00500	5	06/07/2016 23:23	WG878265
Total Xylenes	U		0.00349	0.0150	5	06/07/2016 23:23	WG878265
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/07/2016 23:23	WG878265
Naphthalene	U		0.00500	0.0250	5	06/07/2016 23:23	WG878265
(S) Toluene-d8	*107*			*88.7-115*		*06/07/2016 23:23*	WG878265
(S) Dibromofluoromethane	*104*			*76.3-123*		*06/07/2016 23:23*	WG878265
(S) 4-Bromofluorobenzene	*97.0*			*69.7-129*		*06/07/2016 23:23*	WG878265

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 17:32	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 17:32*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/07/2016 23:48	WG878265
Toluene	U		0.00217	0.0250	5	06/07/2016 23:48	WG878265
Ethylbenzene	U		0.00148	0.00500	5	06/07/2016 23:48	WG878265
Total Xylenes	U		0.00349	0.0150	5	06/07/2016 23:48	WG878265
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/07/2016 23:48	WG878265
Naphthalene	U		0.00500	0.0250	5	06/07/2016 23:48	WG878265
(S) Toluene-d8	*105*			*88.7-115*		*06/07/2016 23:48*	WG878265
(S) Dibromofluoromethane	*101*			*76.3-123*		*06/07/2016 23:48*	WG878265
(S) 4-Bromofluorobenzene	*94.7*			*69.7-129*		*06/07/2016 23:48*	WG878265

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0464		0.00280	0.0200	1	06/06/2016 10:58	WG877793

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.06		0.650	2.00	1	06/08/2016 08:11	WG878492
Lead	19.9		0.190	0.500	1	06/08/2016 08:11	WG878492
Selenium	U		0.740	2.00	1	06/08/2016 08:11	WG878492

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/10/2016 18:01	WG878164
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/10/2016 18:01*	WG878164

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	06/08/2016 00:12	WG878265
Toluene	U		0.00217	0.0250	5	06/08/2016 00:12	WG878265
Ethylbenzene	U		0.00148	0.00500	5	06/08/2016 00:12	WG878265
Total Xylenes	U		0.00349	0.0150	5	06/08/2016 00:12	WG878265
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/08/2016 00:12	WG878265
Naphthalene	U		0.00500	0.0250	5	06/08/2016 00:12	WG878265
(S) Toluene-d8	*104*			*88.7-115*		*06/08/2016 00:12*	WG878265
(S) Dibromofluoromethane	*101*			*76.3-123*		*06/08/2016 00:12*	WG878265
(S) 4-Bromofluorobenzene	*97.4*			*69.7-129*		*06/08/2016 00:12*	WG878265

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		32.2	80.0	20	06/06/2016 14:15	WG878027
C28-C40 Oil Range	29.5	B J	5.48	80.0	20	06/06/2016 14:15	WG878027
(S) o-Terphenyl	*55.2*	J7		*50.0-150*		*06/06/2016 14:15*	WG878027

Sample Narrative:

8015 L839321-23 WG878027: Cannot run at lower dilution due to viscosity of extract

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	1	06/07/2016 10:45	WG877995

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Arsenic	0.00793	J	0.00650	0.0100	1	06/08/2016 04:47	WG877684
Lead	U		0.00190	0.00500	1	06/08/2016 04:47	WG877684
Selenium	U		0.00740	0.0100	1	06/08/2016 04:47	WG877684

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	06/09/2016 22:09	WG878474
(S) a,a,a-Trifluorotoluene(FID)	*101*			*62.0-128*		*06/09/2016 22:09*	WG878474

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	06/10/2016 13:46	WG877772
Toluene	U		0.000780	0.00500	1	06/10/2016 13:46	WG877772
Ethylbenzene	U		0.000384	0.00100	1	06/10/2016 13:46	WG877772
Total Xylenes	U		0.00106	0.00300	1	06/10/2016 13:46	WG877772
Methyl tert-butyl ether	U		0.000367	0.00100	1	06/10/2016 13:46	WG877772
Naphthalene	U		0.00100	0.00500	1	06/10/2016 13:46	WG877772
(S) Toluene-d8	*104*			*90.0-115*		*06/10/2016 13:46*	WG877772
(S) Dibromofluoromethane	*104*			*79.0-121*		*06/10/2016 13:46*	WG877772
(S) a,a,a-Trifluorotoluene	*97.3*			*90.4-116*		*06/10/2016 13:46*	WG877772
(S) 4-Bromofluorobenzene	*95.8*			*80.1-120*		*06/10/2016 13:46*	WG877772

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
C10-C28 Diesel Range	0.0319	J	0.0222	0.100	1	06/07/2016 22:19	WG878029
C28-C40 Oil Range	U		0.0118	0.100	1	06/07/2016 22:19	WG878029
(S) o-Terphenyl	*100*			*50.0-150*		*06/07/2016 22:19*	WG878029

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	06/09/2016 14:29	WG878474
(S) a,a,a-Trifluorotoluene(FID)	*101*			*62.0-128*		*06/09/2016 14:29*	WG878474

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	06/10/2016 13:07	WG877772
Toluene	U		0.000780	0.00500	1	06/10/2016 13:07	WG877772
Ethylbenzene	U		0.000384	0.00100	1	06/10/2016 13:07	WG877772
Total Xylenes	U		0.00106	0.00300	1	06/10/2016 13:07	WG877772
Methyl tert-butyl ether	U		0.000367	0.00100	1	06/10/2016 13:07	WG877772
Naphthalene	U		0.00100	0.00500	1	06/10/2016 13:07	WG877772
(S) Toluene-d8	*103*			*90.0-115*		*06/10/2016 13:07*	WG877772
(S) Dibromofluoromethane	*103*			*79.0-121*		*06/10/2016 13:07*	WG877772
(S) a,a,a-Trifluorotoluene	*97.7*			*90.4-116*		*06/10/2016 13:07*	WG877772
(S) 4-Bromofluorobenzene	*97.5*			*80.1-120*		*06/10/2016 13:07*	WG877772

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0186	J	0.00280	0.0200	1	06/10/2016 08:13	WG879153

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.60		0.650	2.00	1	06/10/2016 15:42	WG879261
Lead	28.6		0.190	0.500	1	06/10/2016 15:42	WG879261
Selenium	U		0.740	2.00	1	06/10/2016 15:42	WG879261

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	1.80	J	1.61	4.00	1	06/10/2016 10:30	WG879301
C28-C40 Oil Range	2.91	J	0.274	4.00	1	06/10/2016 10:30	WG879301
(S) o-Terphenyl	*85.3*			*50.0-150*		*06/10/2016 10:30*	WG879301

Mercury by Method 7471A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0238		0.00280	0.0200	1	06/10/2016 08:16	WG879153

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	4.14		0.650	2.00	1	06/10/2016 15:45	WG879261
Lead	32.4		0.190	0.500	1	06/10/2016 15:45	WG879261
Selenium	U		0.740	2.00	1	06/10/2016 15:45	WG879261

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C10-C28 Diesel Range	5.00		1.61	4.00	1	06/10/2016 10:45	WG879301
C28-C40 Oil Range	10.6		0.274	4.00	1	06/10/2016 10:45	WG879301
(S) o-Terphenyl	*85.4*			*50.0-150*		*06/10/2016 10:45*	WG879301

Method Blank (MB)

(MB) R3142055-1 06/07/16 10:24

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Mercury	U		0.000049	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142055-2 06/07/16 10:27 • (LCSD) R3142055-3 06/07/16 10:30

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Mercury	0.00300	0.00328	0.00289	109	96	80-120			13	20

L839509-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839509-01 06/07/16 10:32 • (MS) R3142055-4 06/07/16 10:35 • (MSD) R3142055-5 06/07/16 10:42

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	ND	0.00306	0.00319	102	106	1	75-125			4	20

Method Blank (MB)

(MB) R3141769-1 06/06/16 10:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3141769-2 06/06/16 10:29 • (LCSD) R3141769-3 06/06/16 10:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.257	0.285	86	95	80-120			11	20

L839342-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839342-09 06/06/16 10:35 • (MS) R3141769-4 06/06/16 10:37 • (MSD) R3141769-5 06/06/16 10:40

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.324	0.0484	0.347	0.337	92	89	1	75-125			3	20

Method Blank (MB)

(MB) R3142759-1 06/10/16 07:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142759-2 06/10/16 07:58 • (LCSD) R3142759-3 06/10/16 08:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.277	0.291	92	97	80-120			5	20

L840339-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840339-01 06/10/16 08:04 • (MS) R3142759-4 06/10/16 08:07 • (MSD) R3142759-5 06/10/16 08:10

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.324	0.0269	0.306	0.309	86	87	1	75-125			1	20

Method Blank (MB)

(MB) R3142189-1 06/08/16 04:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.0065	0.0100
Lead	U		0.0019	0.00500
Selenium	U		0.0074	0.0100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142189-2 06/08/16 04:06 • (LCSD) R3142189-3 06/08/16 04:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	0.985	1.01	99	101	80-120			2	20
Lead	1.00	1.01	1.03	101	103	80-120			2	20
Selenium	1.00	1.04	1.06	104	106	80-120			2	20

L839299-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839299-02 06/08/16 04:12 • (MS) R3142189-5 06/08/16 04:17 • (MSD) R3142189-6 06/08/16 04:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	ND	1.03	1.07	103	107	1	75-125			4	20
Lead	1.00	0.00640	1.03	1.07	103	106	1	75-125			3	20
Selenium	1.00	0.0188	1.13	1.16	112	115	1	75-125			3	20

Method Blank (MB)

(MB) R3142244-1 06/08/16 07:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500
Selenium	U		0.74	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142244-2 06/08/16 07:52 • (LCSD) R3142244-3 06/08/16 07:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	103	101	103	101	80-120			1	20
Lead	100	104	103	104	103	80-120			1	20
Selenium	100	104	104	104	104	80-120			0	20

L839426-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839426-02 06/08/16 07:58 • (MS) R3142244-6 06/08/16 08:05 • (MSD) R3142244-7 06/08/16 08:08

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	6.89	107	104	100	97	1	75-125			3	20
Lead	100	12.2	119	116	107	104	1	75-125			3	20
Selenium	100	ND	103	99.9	103	100	1	75-125			3	20

Method Blank (MB)

(MB) R3142918-1 06/10/16 15:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500
Selenium	U		0.74	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142918-2 06/10/16 15:22 • (LCSD) R3142918-3 06/10/16 15:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	104	103	104	103	80-120			1	20
Lead	100	102	102	102	102	80-120			0	20
Selenium	100	104	103	104	103	80-120			1	20

L840314-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840314-01 06/10/16 15:28 • (MS) R3142918-6 06/10/16 15:36 • (MSD) R3142918-7 06/10/16 15:39

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	119	4.87	133	131	108	106	1	75-125			1	20
Lead	119	5.96	134	130	108	104	1	75-125			3	20
Selenium	119	U	131	127	110	107	1	75-125			2	20

Method Blank (MB)

(MB) R3143002-3 06/10/16 10:41

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143002-1 06/10/16 09:15 • (LCSD) R3143002-2 06/10/16 09:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.06	6.52	110	119	63.5-137			7.38	20
(S) a,a,a-Trifluorotoluene(FID)				*101*	*101*	*59.0-128*				

L839321-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839321-12 06/10/16 12:44 • (MS) R3143002-4 06/10/16 18:30 • (MSD) R3143002-5 06/10/16 18:59

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	U	16.8	17.7	60.9	64.3	5	28.5-138			5.38	23.6
(S) a,a,a-Trifluorotoluene(FID)					*98.6*	*98.4*		*59.0-128*				

Method Blank (MB)

(MB) R3143012-3 06/10/16 10:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.5*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143012-1 06/10/16 08:59 • (LCSD) R3143012-2 06/10/16 09:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.95	6.04	108	110	63.5-137			1.57	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*104*	*59.0-128*				

L840030-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840030-04 06/10/16 19:50 • (MS) R3143012-4 06/10/16 14:39 • (MSD) R3143012-5 06/10/16 15:01

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	6.70	ND	25.7	27.5	76.6	82.2	5	28.5-138			7.07	23.6
(S) a,a,a-Trifluorotoluene(FID)					*101*	*102*		*59.0-128*				

Method Blank (MB)

(MB) R3143015-3 06/10/16 11:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0233	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*93.2*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143015-1 06/10/16 09:08 • (LCSD) R3143015-2 06/10/16 09:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.59	5.81	102	106	63.5-137			3.86	20
(S) a,a,a-Trifluorotoluene(FID)				*103*	*105*	*59.0-128*				

L840296-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840296-01 06/10/16 21:49 • (MS) R3143015-4 06/10/16 20:43 • (MSD) R3143015-5 06/10/16 21:05

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	6.56	33.5	42.3	31.7	27.0	0.000	5	28.5-138	J6	J3 J6	28.7	23.6
(S) a,a,a-Trifluorotoluene(FID)					*106*	*101*		*59.0-128*				

Method Blank (MB)

(MB) R3142754-3 06/09/16 14:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*62.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142754-1 06/09/16 12:34 • (LCSD) R3142754-2 06/09/16 13:03

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
TPH (GC/FID) Low Fraction	5.50	5.31	5.54	96.5	101	67.0-132			4.27	20
(S) a,a,a-Trifluorotoluene(FID)				*99.9*	*100*	*62.0-128*				

L839041-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839041-02 06/09/16 17:22 • (MS) R3142754-4 06/09/16 15:27 • (MSD) R3142754-5 06/09/16 15:55

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	0.0753	6.59	6.35	118	114	1	50.0-143			3.72	20
(S) a,a,a-Trifluorotoluene(FID)					*100*	*100*		*62.0-128*				

Method Blank (MB)

(MB) R3143007-3 06/10/16 07:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000780	0.00500
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	*103*			*90.0-115*
(S) Dibromofluoromethane	*105*			*79.0-121*
(S) a,a,a-Trifluorotoluene	*98.1*			*90.4-116*
(S) 4-Bromofluorobenzene	*96.8*			*80.1-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143007-1 06/10/16 06:27 • (LCSD) R3143007-2 06/10/16 06:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0253	0.0258	101	103	73.0-122			1.84	20
Ethylbenzene	0.0250	0.0243	0.0248	97.3	99.1	80.9-121			1.84	20
Methyl tert-butyl ether	0.0250	0.0249	0.0243	99.6	97.3	70.1-125			2.37	20
Naphthalene	0.0250	0.0239	0.0232	95.4	92.7	69.7-134			2.91	20
Toluene	0.0250	0.0243	0.0250	97.3	100	77.9-116			2.95	20
Xylenes, Total	0.0750	0.0723	0.0738	96.4	98.4	79.2-122			2.05	20
(S) Toluene-d8				*102*	*104*	*90.0-115*				
(S) Dibromofluoromethane				*103*	*104*	*79.0-121*				
(S) a,a,a-Trifluorotoluene				*95.3*	*98.1*	*90.4-116*				
(S) 4-Bromofluorobenzene				*97.3*	*97.2*	*80.1-120*				

L839306-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839306-01 06/10/16 13:26 • (MS) R3143007-4 06/10/16 16:22 • (MSD) R3143007-5 06/10/16 16:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	ND	0.0241	0.0254	96.6	102	1	58.6-133			5.22	20
Ethylbenzene	0.0250	ND	0.0220	0.0243	88.0	97.3	1	62.7-136			10.0	20
Methyl tert-butyl ether	0.0250	ND	0.0246	0.0248	98.5	99.1	1	61.4-136			0.650	20
Naphthalene	0.0250	ND	0.0233	0.0232	93.2	92.7	1	61.8-143			0.510	20
Toluene	0.0250	ND	0.0232	0.0246	92.6	98.2	1	67.8-124			5.83	20
Xylenes, Total	0.0750	ND	0.0660	0.0715	88.1	95.3	1	65.6-133			7.92	20
(S) Toluene-d8					*105*	*103*		*90.0-115*				

L839306-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839306-01 06/10/16 13:26 • (MS) R3143007-4 06/10/16 16:22 • (MSD) R3143007-5 06/10/16 16:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) Dibromofluoromethane					*108*	*106*		*79.0-121*				
(S) α,α,α-Trifluorotoluene					*96.3*	*95.5*		*90.4-116*				
(S) 4-Bromofluorobenzene					*94.9*	*97.0*		*80.1-120*				

Method Blank (MB)

(MB) R3142627-3 06/09/16 10:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*102*			*88.7-115*
(S) Dibromofluoromethane	*105*			*76.3-123*
(S) 4-Bromofluorobenzene	*94.3*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142627-1 06/09/16 08:44 • (LCSD) R3142627-2 06/09/16 09:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0264	0.0273	106	109	72.6-120			3.50	20
Ethylbenzene	0.0250	0.0241	0.0244	96.6	97.7	78.6-124			1.17	20
Methyl tert-butyl ether	0.0250	0.0279	0.0291	112	117	70.2-122			4.32	20
Naphthalene	0.0250	0.0251	0.0271	100	108	69.9-132			7.50	20
Toluene	0.0250	0.0244	0.0252	97.7	101	76.7-116			3.27	20
Xylenes, Total	0.0750	0.0738	0.0751	98.3	100	78.1-123			1.82	20
(S) Toluene-d8				*102*	*102*	*88.7-115*				
(S) Dibromofluoromethane				*104*	*105*	*76.3-123*				
(S) 4-Bromofluorobenzene				*95.8*	*94.9*	*69.7-129*				

L839321-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839321-03 06/09/16 17:26 • (MS) R3142627-4 06/09/16 16:21 • (MSD) R3142627-5 06/09/16 16:42

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	U	0.119	0.120	95.0	96.1	5	47.8-131			1.09	22.8
Ethylbenzene	0.0250	U	0.103	0.106	82.5	84.6	5	44.8-135			2.49	26.9
Methyl tert-butyl ether	0.0250	U	0.129	0.134	103	108	5	50.4-131			4.45	24.8
Naphthalene	0.0250	U	0.116	0.118	92.8	94.5	5	18.4-145			1.88	34
Toluene	0.0250	U	0.109	0.111	87.1	88.5	5	47.8-127			1.61	24.3
Xylenes, Total	0.0750	U	0.313	0.321	83.4	85.7	5	42.7-135			2.76	26.6
(S) Toluene-d8					*103*	*103*		*88.7-115*				
(S) Dibromofluoromethane					*103*	*103*		*76.3-123*				
(S) 4-Bromofluorobenzene					*96.5*	*97.7*		*69.7-129*				

Method Blank (MB)

(MB) R3142085-3 06/07/16 07:23

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*104*			*88.7-115*
(S) Dibromofluoromethane	*94.7*			*76.3-123*
(S) 4-Bromofluorobenzene	*98.4*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142085-1 06/07/16 05:22 • (LCSD) R3142085-2 06/07/16 05:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0221	0.0214	88.3	85.5	72.6-120			3.25	20
Ethylbenzene	0.0250	0.0264	0.0261	106	104	78.6-124			1.23	20
Methyl tert-butyl ether	0.0250	0.0223	0.0214	89.1	85.6	70.2-122			4.00	20
Naphthalene	0.0250	0.0287	0.0286	115	114	69.9-132			0.410	20
Toluene	0.0250	0.0224	0.0214	89.6	85.7	76.7-116			4.37	20
Xylenes, Total	0.0750	0.0799	0.0784	107	105	78.1-123			1.90	20
(S) Toluene-d8				*101*	*99.8*	*88.7-115*				
(S) Dibromofluoromethane				*98.8*	*99.3*	*76.3-123*				
(S) 4-Bromofluorobenzene				*101*	*98.8*	*69.7-129*				

L839481-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839481-05 06/07/16 20:34 • (MS) R3142085-4 06/07/16 13:55 • (MSD) R3142085-5 06/07/16 14:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	ND	0.0983	0.0903	78.6	72.3	5	47.8-131			8.41	22.8
Ethylbenzene	0.0250	0.00533	0.104	0.102	78.8	77.6	5	44.8-135			1.44	26.9
Methyl tert-butyl ether	0.0250	ND	0.0918	0.0885	73.5	70.8	5	50.4-131			3.73	24.8
Naphthalene	0.0250	0.170	0.303	0.300	106	104	5	18.4-145			1.10	34
Toluene	0.0250	ND	0.0976	0.0978	75.6	75.8	5	47.8-127			0.210	24.3
Xylenes, Total	0.0750	ND	0.290	0.286	73.5	72.5	5	42.7-135			1.31	26.6
(S) Toluene-d8					*102*	*102*		*88.7-115*				
(S) Dibromofluoromethane					*104*	*101*		*76.3-123*				
(S) 4-Bromofluorobenzene					*91.6*	*91.8*		*69.7-129*				

Method Blank (MB)

(MB) R3142806-3 06/10/16 04:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*105*			*88.7-115*
(S) Dibromofluoromethane	*107*			*76.3-123*
(S) 4-Bromofluorobenzene	*97.0*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142806-1 06/10/16 02:47 • (LCSD) R3142806-2 06/10/16 03:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0278	0.0291	111	117	72.6-120			4.72	20
Ethylbenzene	0.0250	0.0229	0.0236	91.7	94.2	78.6-124			2.65	20
Methyl tert-butyl ether	0.0250	0.0229	0.0254	91.6	102	70.2-122			10.4	20
Naphthalene	0.0250	0.0195	0.0216	77.9	86.2	69.9-132			10.1	20
Toluene	0.0250	0.0250	0.0266	100	106	76.7-116			6.01	20
Xylenes, Total	0.0750	0.0679	0.0713	90.6	95.1	78.1-123			4.88	20
(S) Toluene-d8				*104*	*104*	*88.7-115*				
(S) Dibromofluoromethane				*105*	*105*	*76.3-123*				
(S) 4-Bromofluorobenzene				*96.6*	*96.8*	*69.7-129*				

L839660-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839660-06 06/10/16 07:51 • (MS) R3142806-4 06/10/16 12:33 • (MSD) R3142806-5 06/10/16 12:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	ND	0.129	0.131	103	105	5	47.8-131			1.48	22.8
Ethylbenzene	0.0250	ND	0.103	0.108	82.7	86.5	5	44.8-135			4.43	26.9
Methyl tert-butyl ether	0.0250	ND	0.114	0.116	91.5	92.5	5	50.4-131			1.09	24.8
Naphthalene	0.0250	ND	0.0984	0.100	78.7	80.3	5	18.4-145			2.06	34
Toluene	0.0250	ND	0.119	0.120	94.9	96.2	5	47.8-127			1.42	24.3
Xylenes, Total	0.0750	ND	0.311	0.323	83.0	86.2	5	42.7-135			3.79	26.6
(S) Toluene-d8					*105*	*105*		*88.7-115*				
(S) Dibromofluoromethane					*105*	*104*		*76.3-123*				
(S) 4-Bromofluorobenzene					*98.0*	*99.0*		*69.7-129*				

Method Blank (MB)

(MB) R3142870-3 06/10/16 08:07

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*98.1*			*88.7-115*
(S) Dibromofluoromethane	*101*			*76.3-123*
(S) 4-Bromofluorobenzene	*97.1*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142870-1 06/10/16 06:29 • (LCSD) R3142870-2 06/10/16 06:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0211	0.0223	84.4	89.3	72.6-120			5.57	20
Ethylbenzene	0.0250	0.0221	0.0237	88.5	94.9	78.6-124			6.96	20
Methyl tert-butyl ether	0.0250	0.0219	0.0239	87.5	95.7	70.2-122			8.89	20
Naphthalene	0.0250	0.0227	0.0244	90.6	97.5	69.9-132			7.30	20
Toluene	0.0250	0.0206	0.0214	82.5	85.7	76.7-116			3.86	20
Xylenes, Total	0.0750	0.0658	0.0711	87.7	94.8	78.1-123			7.76	20
(S) Toluene-d8				*97.1*	*97.0*	*88.7-115*				
(S) Dibromofluoromethane				*99.5*	*101*	*76.3-123*				
(S) 4-Bromofluorobenzene				*97.8*	*100*	*69.7-129*				

L839321-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839321-11 06/10/16 12:12 • (MS) R3142870-4 06/10/16 12:31 • (MSD) R3142870-5 06/10/16 12:51

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	U	0.102	0.109	81.3	86.8	5	47.8-131			6.65	22.8
Ethylbenzene	0.0250	U	0.0984	0.113	78.8	90.3	5	44.8-135			13.7	26.9
Methyl tert-butyl ether	0.0250	U	0.108	0.113	86.8	90.7	5	50.4-131			4.43	24.8
Naphthalene	0.0250	U	0.0926	0.105	74.1	84.0	5	18.4-145			12.5	34
Toluene	0.0250	U	0.0957	0.104	76.5	83.4	5	47.8-127			8.59	24.3
Xylenes, Total	0.0750	U	0.299	0.336	79.8	89.6	5	42.7-135			11.5	26.6
(S) Toluene-d8					*98.6*	*97.6*		*88.7-115*				
(S) Dibromofluoromethane					*102*	*99.8*		*76.3-123*				
(S) 4-Bromofluorobenzene					*96.5*	*98.1*		*69.7-129*				

Method Blank (MB)

(MB) R3142707-3 06/09/16 21:54

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*110*			*88.7-115*
(S) Dibromofluoromethane	*120*			*76.3-123*
(S) 4-Bromofluorobenzene	*99.1*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142707-1 06/09/16 20:28 • (LCSD) R3142707-2 06/09/16 20:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0269	0.0266	107	107	72.6-120			0.780	20
Ethylbenzene	0.0250	0.0228	0.0222	91.2	88.9	78.6-124			2.50	20
Methyl tert-butyl ether	0.0250	0.0260	0.0264	104	106	70.2-122			1.51	20
Naphthalene	0.0250	0.0224	0.0234	89.7	93.8	69.9-132			4.44	20
Toluene	0.0250	0.0246	0.0245	98.3	98.0	76.7-116			0.290	20
Xylenes, Total	0.0750	0.0686	0.0682	91.4	91.0	78.1-123			0.500	20
(S) Toluene-d8				*110*	*111*	*88.7-115*				
(S) Dibromofluoromethane				*121*	*120*	*76.3-123*				
(S) 4-Bromofluorobenzene				*99.1*	*99.2*	*69.7-129*				

L839271-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L839271-03 06/10/16 01:25 • (MS) R3142707-4 06/09/16 22:29 • (MSD) R3142707-5 06/09/16 22:46

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0284	0.206	3.22	3.00	103	95.3	103	47.8-131			7.22	22.8
Ethylbenzene	0.0284	5.59	6.55	6.53	32.5	32.0	103	44.8-135	J6	J6	0.220	26.9
Methyl tert-butyl ether	0.0284	U	3.05	2.87	104	97.9	103	50.4-131			6.25	24.8
Naphthalene	0.0284	9.15	10.6	9.96	51.0	27.9	103	18.4-145			6.57	34
Toluene	0.0284	U	2.82	2.64	96.4	90.0	103	47.8-127			6.81	24.3
Xylenes, Total	0.0853	0.270	6.72	7.37	73.4	80.8	103	42.7-135			9.27	26.6
(S) Toluene-d8					*112*	*111*		*88.7-115*				
(S) Dibromofluoromethane					*122*	*120*		*76.3-123*				
(S) 4-Bromofluorobenzene					*85.2*	*97.6*		*69.7-129*				

Method Blank (MB)

(MB) R3141871-1 06/06/16 13:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	2.20	J	0.274	4.00
(S) o-Terphenyl	*97.7*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3141871-2 06/06/16 13:16 • (LCSD) R3141871-3 06/06/16 13:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	52.1	52.6	86.8	87.7	50.0-150			1.09	20
(S) o-Terphenyl				*98.0*	*97.7*	*50.0-150*				

Method Blank (MB)

(MB) R3142853-1 06/10/16 09:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*82.6*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142853-2 06/10/16 09:54 • (LCSD) R3142853-3 06/10/16 10:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	49.5	50.2	82.5	83.6	50.0-150			1.33	20
(S) o-Terphenyl				*93.1*	*91.5*	*50.0-150*				

Method Blank (MB)

(MB) R3142209-1 06/07/16 21:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
C10-C28 Diesel Range	U		0.0222	0.100
C28-C40 Oil Range	U		0.0118	0.100
(S) o-Terphenyl	*111*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142209-2 06/07/16 21:46 • (LCSD) R3142209-3 06/07/16 22:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	1.50	1.59	1.57	106	104	70.0-130			1.54	20
(S) o-Terphenyl				*108*	*102*	*50.0-150*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

ACCREDITATIONS & LOCATIONS

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

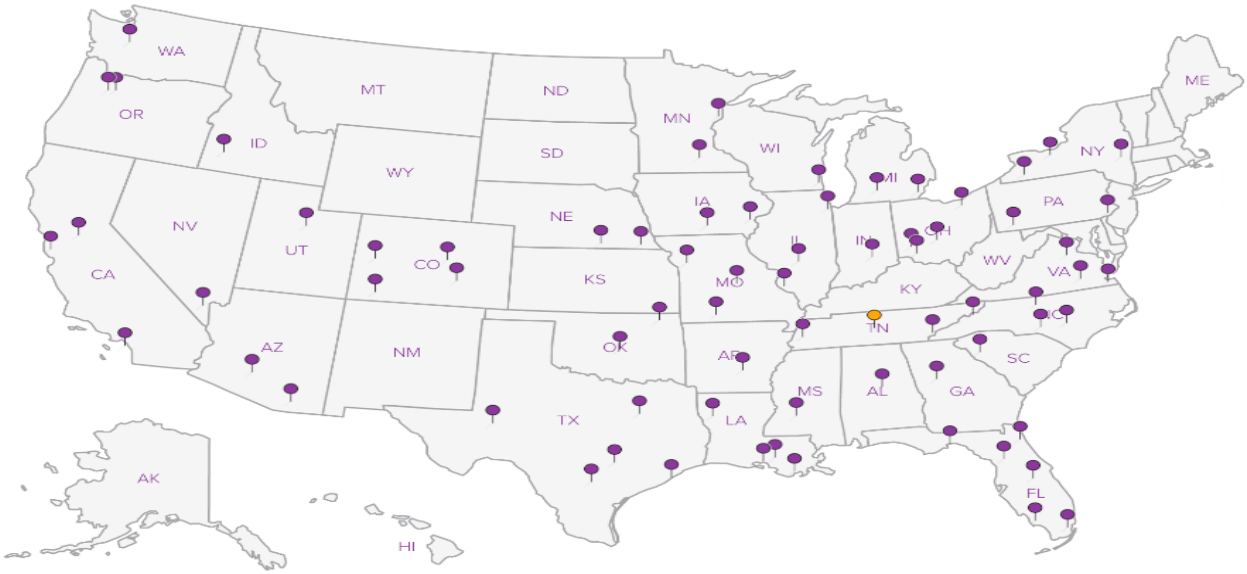
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Chain of Custody Page 1 of 3

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Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L839321

G127

AMEC Foster Wheeler - Houston, TX
585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: Pam Krueger

Email To: pamela.krueger@amecfw.com

Project Description: HollyFrontier Navajo Refinery

City/State Collected: Artesia, NM

Phone: 713-929-5674
Fax:

Client Project #

Lab Project # AMECFWHTX-HF

Collected by (print): Lillian Smith

Site/Facility ID # HFN-Artesia

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Acctnum: AMECFWHTX
Template: T112791
Prelogin: P555121
TSR: 526 - Chris McCord
PB:
Shipped Via: FedEX Standard

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	As,Hg,Pb,Se 250mlHDPE-HNO3	As,Hg,Pb,Se 2ozClr-NoPres	DROOROLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO- Trip Blank 40mlClr-HCl-Blk	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN,GRO 2ozClr-NoPres	V8260BTEXMN- TB 40mlClr-HCl-Blk		Rem./Contaminant	Sample # (lab only)
PG2-01		SS		6/1/16	15:00	1								X				-01
PG2-02		SS			15:05	1												-02
PG2-03		SS			15:10	1												-03
PG2-04		SS			15:15	1												-04
PG2-05		SS			15:20	1												-05
PG2-06		SS			15:25	1												-06
PG2-07		SS			15:30	1												-07
PG-2-08		SS			15:35	1												-08
PG-2-09		SS			15:40	1												-09
PG2-10		SS			15:45	1												-10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks: SEE PAGE 3-3

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/2/16	15:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.2 °C Bottles Received: 33

Date: 6-3-16 Time: 900

Condition: ok (lab use only) GXO

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF:

AMEC Foster Wheeler - Houston, TX

585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: **Pam Krueger**

Email To: **pamela.krueger@amecfw.com**

Project Description: **HollyFrontier Navajo Refinery**

City/State Collected: ARTESIA, NM

Phone: **713-929-5674**
Fax:

Client Project # 6703160012.003

Lab Project # **AMECFWHTX-HF**

Collected by (print): William Smith

Site/Facility ID # HFN - ARTESIA

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	As,Hg,Pb,Se 250mlHDPE-HNO3	As,Hg,Pb,Se 2ozClr-NoPres	DROOROLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO- Trip Blank 40mlClr-HCl-Blk	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN,GRO 2ozClr-NoPres	V8260BTEXMN- TB 40mlClr-HCl-Blk		Rem./Contaminant	Sample # (lab only)
PG2-10D		SS		6/1/16	15:50	1								X				-11
PG2-11		SS			15:55	1												-12
PG2-12		SS			16:00	1												-13
PG2-13		SS			16:05	1												-14
PG2-14		SS			16:10	1												-15
PG2-15		SS			16:15	1												-16
PG2-16		SS			16:20	1												-17
PG2-17		SS			16:25	1												-18
PG2-18		SS			16:30	1												-19
PG2-19		SS			16:35	1												-20

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:
SCDS PAGE 3 of 3

pH _____ Temp _____
Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/2/16	15:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.2 °C Bottles Received: 33

Date: 6-3-16 Time: 900

Hold #

Condition: OK (lab use only)

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page 2 of 3

ESC LABORATORY SCIENCES
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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L839321

Table #

Acctnum: **AMECFWHTX**
Template: **T112791**
Prelogin: **P555121**
TSR: **526 - Chris McCord**
PB:

Shipped Via: **FedEX Standard**

AMEC Foster Wheeler - Houston, TX

585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: **Pam Krueger**

Email To: pamela.krueger@amecfw.com

Project Description: **HollyFrontier Navajo Refinery**

City/State Collected: Artesia, NM

Phone: **713-929-5674**
Fax:

Client Project # 6703160012.003

Lab Project # **AMECFWHTX-HF**

Collected by (print): William Smith

Site/Facility ID # HFN-ARTESIA

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	As,Hg,Pb,Se 250mlHDPE-HNO3	As,Hg,Pb,Se 2ozClr-NoPres	DROOROLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO- Trip Blank 40mlClr-HCl-Blk	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN,GRO 2ozClr-NoPres	V8260BTEXMN- TB 40mlClr-HCl-Blk			Rem./Contaminant	Sample # (lab only)
PG2-20		SS		6/1/16	16:40	1								X					-21
PG2-20D		SS		6/1/16	16:45	1								X					-22
PG2-FC1	Comp	SS		6/1/16	17:00	3		X		X				X					-23
		SS																	
		SS																	
EB-1		GW		6/1/16	17:30	7	X		X		X		X						-24
		GW																	
TRIP BLANK		GW		NA	NA	1						X			X				-25
TRIP BLANK		GW																	
TRIP BLANK		GW																	

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks: NOTE: SOIL DRO SHOULD ALSO REPORT ORO

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/2/16	1530	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.2 °C Bottles Received: 33

Date: 6-3-16 Time: 9:15

Hold #

Condition: ok (lab use only) GOOD

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF:

Chain of Custody Page ___ of ___

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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L839321

Table #

Acctnum: **AMECFWHTX**

Template: **T112791**

Prelogin: **P555121**

TSR: **526 - Chris McCord**

PB:

Shipped Via: **FedEX Standard**

Andy Vann

From: Chris McCord
Sent: Wednesday, June 08, 2016 11:37 AM
To: Login; Sample Storage; Due SVOC; Due Metals
Subject: L839321 *AMECFWHTX*

Please prepare 2 composite samples from L839321-01 through -10 and L839321-12 through -21. Add as -26 and -27 and log for DRORLA, ASICP, HG, PBICP and SEICP. No TS needed. Log those two as R5 due 6/15.

Thanks,
Christopher McCord
Technical Service Representative
ESC Lab Sciences | 12065 Lebanon Rd. Mt. Juliet, TN 37122
Office: (615) 773-3281 Cell: (615) 504-3183
cmccord@esclabsciences.com | www.esclabsciences.com

ESC
L·A·B S·C·I·E·N·C·E·S

From: Krueger, Pamela [mailto:pamela.krueger@amecfw.com]
Sent: Wednesday, June 08, 2016 11:00 AM
To: Chris McCord
Subject: RE: ESC Lab Sciences Login for 6703160012.003 HollyFrontier Navajo Refinery L839321

Chris - Would it be possible to create two composite samples from the normal samples to run for DRO/ORO and 4 metals (As, Pb, Hg, Se)? If so, I need you to build one composite from PG-1 through PG-10 and a second from PG-11 through PG-20 (exclude the PG-xD samples) and run those analyses. You can reach me on my cell phone (713-249-8548) if you have questions.

-----Original Message-----
From: Chris McCord [mailto:cmccord@esclabsciences.com]
Sent: Friday, June 03, 2016 5:00 PM
To: Krueger, Pamela <pamela.krueger@amec.com>
Subject: ESC Lab Sciences Login for 6703160012.003 HollyFrontier Navajo Refinery L839321

Thank you for choosing ESC Lab Sciences! Please find enclosed PDF files containing your laboratory login confirmation and chain of custody.

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Visit ESC's secure data management web site - myESC - for all your reporting and data management needs at https://myesc.esclabsciences.com.

ESC ... "Your Lab of Choice"

Chris McCord
Technical Service Representative
615-773-3281

ESC Lab Sciences
12065 Lebanon Rd.
Mt. Juliet, TN 37122

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ANALYTICAL REPORT

June 17, 2016

AMEC Foster Wheeler - Houston, TX

Sample Delivery Group:	L840904
Samples Received:	06/10/2016
Project Number:	6703160012.003
Description:	HollyFrontier Navajo Refinery
Site:	HFN-ARTESIA
Report To:	Pam Krueger 585 N. Dairy Ashford Houston, TX 77079

Entire Report Reviewed By:

Chris McCord
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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PGT-01-2 L840904-01 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/15/16 17:46	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 12:30	BMB

PGT-02-2 L840904-02 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 02:03	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 12:50	BMB

PGT-03-2 L840904-03 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 02:32	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 13:09	BMB

PGT-04-2 L840904-04 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 03:01	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 13:28	BMB

PGT-05-2 L840904-05 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 03:29	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 13:47	BMB

PGT-06-2 L840904-06 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 03:58	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 14:07	BMB

PGT-06D-2 L840904-07 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 04:27	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 14:26	BMB

PGT-07-2 L840904-08 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879679	5	06/11/16 18:00	06/12/16 04:55	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879879	5	06/15/16 16:32	06/16/16 14:45	BMB

PGT-FC-2 L840904-09 Solid

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG879590	1	06/11/16 08:58	06/14/16 09:32	NJB
Metals (ICP) by Method 6010B	WG879610	1	06/14/16 21:06	06/15/16 09:46	CCE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG879683	1	06/12/16 11:35	06/12/16 23:14	JM
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG880374	5	06/14/16 17:46	06/15/16 04:15	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG880520	5	06/15/16 14:52	06/16/16 09:32	JAH

PGT-EB-2 L840904-10 GW

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG879591	1	06/11/16 09:50	06/13/16 12:25	NJB
Metals (ICP) by Method 6010B	WG880626	1	06/15/16 22:25	06/16/16 00:33	CCE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG879736	1	06/12/16 11:40	06/12/16 19:51	JNS
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879803	1	06/15/16 04:18	06/15/16 04:18	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879824	1	06/16/16 10:28	06/16/16 10:28	BMB

TRIP BLANK L840904-11 GW

Collected by: William R. Smith
Collected date/time: 06/09/16 00:00
Received date/time: 06/10/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG879803	1	06/14/16 13:52	06/14/16 13:52	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG879824	1	06/16/16 11:07	06/16/16 11:07	BMB

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.113	B J	0.108	0.500	5	06/15/2016 17:46	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*93.5*			*59.0-128*		*06/15/2016 17:46*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	06/16/2016 12:30	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 12:30	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 12:30	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 12:30	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 12:30	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 12:30	WG879879
(S) Toluene-d8	*101*			*88.7-115*		*06/16/2016 12:30*	WG879879
(S) Dibromofluoromethane	*110*			*76.3-123*		*06/16/2016 12:30*	WG879879
(S) 4-Bromofluorobenzene	*100*			*69.7-129*		*06/16/2016 12:30*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 02:03	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 02:03*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 12:50	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 12:50	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 12:50	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 12:50	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 12:50	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 12:50	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 12:50*	WG879879
(S) Dibromofluoromethane	*109*			*76.3-123*		*06/16/2016 12:50*	WG879879
(S) 4-Bromofluorobenzene	*99.0*			*69.7-129*		*06/16/2016 12:50*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 02:32	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 02:32*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 13:09	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 13:09	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 13:09	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 13:09	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 13:09	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 13:09	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 13:09*	WG879879
(S) Dibromofluoromethane	*110*			*76.3-123*		*06/16/2016 13:09*	WG879879
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*06/16/2016 13:09*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 03:01	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 03:01*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 13:28	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 13:28	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 13:28	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 13:28	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 13:28	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 13:28	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 13:28*	WG879879
(S) Dibromofluoromethane	*111*			*76.3-123*		*06/16/2016 13:28*	WG879879
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*06/16/2016 13:28*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 03:29	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 03:29*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 13:47	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 13:47	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 13:47	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 13:47	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 13:47	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 13:47	WG879879
(S) Toluene-d8	*103*			*88.7-115*		*06/16/2016 13:47*	WG879879
(S) Dibromofluoromethane	*112*			*76.3-123*		*06/16/2016 13:47*	WG879879
(S) 4-Bromofluorobenzene	*102*			*69.7-129*		*06/16/2016 13:47*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 03:58	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 03:58*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 14:07	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 14:07	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 14:07	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 14:07	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 14:07	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 14:07	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 14:07*	WG879879
(S) Dibromofluoromethane	*113*			*76.3-123*		*06/16/2016 14:07*	WG879879
(S) 4-Bromofluorobenzene	*99.7*			*69.7-129*		*06/16/2016 14:07*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 04:27	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 04:27*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 14:26	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 14:26	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 14:26	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 14:26	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 14:26	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 14:26	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 14:26*	WG879879
(S) Dibromofluoromethane	*110*			*76.3-123*		*06/16/2016 14:26*	WG879879
(S) 4-Bromofluorobenzene	*101*			*69.7-129*		*06/16/2016 14:26*	WG879879

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/12/2016 04:55	WG879679
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*		*06/12/2016 04:55*	WG879679

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Benzene	U		0.00135	0.00500	5	06/16/2016 14:45	WG879879
Toluene	U		0.00217	0.0250	5	06/16/2016 14:45	WG879879
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 14:45	WG879879
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 14:45	WG879879
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 14:45	WG879879
Naphthalene	U		0.00500	0.0250	5	06/16/2016 14:45	WG879879
(S) Toluene-d8	*102*			*88.7-115*		*06/16/2016 14:45*	WG879879
(S) Dibromofluoromethane	*111*			*76.3-123*		*06/16/2016 14:45*	WG879879
(S) 4-Bromofluorobenzene	*99.5*			*69.7-129*		*06/16/2016 14:45*	WG879879

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0260		0.00280	0.0200	1	06/14/2016 09:32	WG879590

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.70		0.650	2.00	1	06/15/2016 09:46	WG879610
Lead	20.0		0.190	0.500	1	06/15/2016 09:46	WG879610
Selenium	U		0.740	2.00	1	06/15/2016 09:46	WG879610

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.108	0.500	5	06/15/2016 04:15	WG880374
(S) a,a,a-Trifluorotoluene(FID)	*102*			*59.0-128*		*06/15/2016 04:15*	WG880374

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.00135	0.00500	5	06/16/2016 09:32	WG880520
Toluene	U		0.00217	0.0250	5	06/16/2016 09:32	WG880520
Ethylbenzene	U		0.00148	0.00500	5	06/16/2016 09:32	WG880520
Total Xylenes	U		0.00349	0.0150	5	06/16/2016 09:32	WG880520
Methyl tert-butyl ether	U		0.00106	0.00500	5	06/16/2016 09:32	WG880520
Naphthalene	U		0.00500	0.0250	5	06/16/2016 09:32	WG880520
(S) Toluene-d8	*97.6*			*88.7-115*		*06/16/2016 09:32*	WG880520
(S) Dibromofluoromethane	*95.3*			*76.3-123*		*06/16/2016 09:32*	WG880520
(S) 4-Bromofluorobenzene	*95.4*			*69.7-129*		*06/16/2016 09:32*	WG880520

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	12.0		1.61	4.00	1	06/12/2016 23:14	WG879683
C28-C40 Oil Range	7.78		0.274	4.00	1	06/12/2016 23:14	WG879683
(S) o-Terphenyl	*61.3*			*50.0-150*		*06/12/2016 23:14*	WG879683

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	1	06/13/2016 12:25	WG879591

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Arsenic	U		0.00650	0.0100	1	06/16/2016 00:33	WG880626
Lead	U		0.00190	0.00500	1	06/16/2016 00:33	WG880626
Selenium	U		0.00740	0.0100	1	06/16/2016 00:33	WG880626

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	06/15/2016 04:18	WG879803
(S) a,a,a-Trifluorotoluene(FID)	*104*			*62.0-128*		*06/15/2016 04:18*	WG879803

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	06/16/2016 10:28	WG879824
Toluene	U		0.000780	0.00500	1	06/16/2016 10:28	WG879824
Ethylbenzene	U		0.000384	0.00100	1	06/16/2016 10:28	WG879824
Total Xylenes	U		0.00106	0.00300	1	06/16/2016 10:28	WG879824
Methyl tert-butyl ether	U		0.000367	0.00100	1	06/16/2016 10:28	WG879824
Naphthalene	U		0.00100	0.00500	1	06/16/2016 10:28	WG879824
(S) Toluene-d8	*107*			*90.0-115*		*06/16/2016 10:28*	WG879824
(S) Dibromofluoromethane	*105*			*79.0-121*		*06/16/2016 10:28*	WG879824
(S) a,a,a-Trifluorotoluene	*102*			*90.4-116*		*06/16/2016 10:28*	WG879824
(S) 4-Bromofluorobenzene	*97.6*			*80.1-120*		*06/16/2016 10:28*	WG879824

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
C10-C28 Diesel Range	0.0333	J	0.0222	0.100	1	06/12/2016 19:51	WG879736
C28-C40 Oil Range	U		0.0118	0.100	1	06/12/2016 19:51	WG879736
(S) o-Terphenyl	*98.3*			*50.0-150*		*06/12/2016 19:51*	WG879736

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	1	06/14/2016 13:52	WG879803
(S) a,a,a-Trifluorotoluene(FID)	*104*			*62.0-128*		*06/14/2016 13:52*	WG879803

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.000331	0.00100	1	06/16/2016 11:07	WG879824
Toluene	U		0.000780	0.00500	1	06/16/2016 11:07	WG879824
Ethylbenzene	U		0.000384	0.00100	1	06/16/2016 11:07	WG879824
Total Xylenes	U		0.00106	0.00300	1	06/16/2016 11:07	WG879824
Methyl tert-butyl ether	U		0.000367	0.00100	1	06/16/2016 11:07	WG879824
Naphthalene	U		0.00100	0.00500	1	06/16/2016 11:07	WG879824
(S) Toluene-d8	*106*			*90.0-115*		*06/16/2016 11:07*	WG879824
(S) Dibromofluoromethane	*108*			*79.0-121*		*06/16/2016 11:07*	WG879824
(S) a,a,a-Trifluorotoluene	*102*			*90.4-116*		*06/16/2016 11:07*	WG879824
(S) 4-Bromofluorobenzene	*100*			*80.1-120*		*06/16/2016 11:07*	WG879824

Method Blank (MB)

(MB) R3143143-1 06/13/16 10:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000049	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143143-2 06/13/16 11:05 • (LCSD) R3143143-3 06/13/16 11:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	0.00288	0.00277	96	92	80-120			4	20

L840657-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840657-01 06/13/16 11:11 • (MS) R3143143-4 06/13/16 11:13 • (MSD) R3143143-5 06/13/16 11:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00252	0.00292	84	97	1	75-125			14	20

Method Blank (MB)

(MB) R3143332-1 06/14/16 08:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143332-2 06/14/16 08:22 • (LCSD) R3143332-3 06/14/16 08:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.269	0.258	90	86	80-120			4	20

L840484-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840484-21 06/14/16 08:27 • (MS) R3143332-4 06/14/16 08:30 • (MSD) R3143332-5 06/14/16 08:33

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.343	0.0338	0.385	0.379	102	101	1	75-125			2	20

Method Blank (MB)

(MB) R3143611-1 06/15/16 08:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Lead	U		0.19	0.500
Selenium	U		0.74	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143611-2 06/15/16 08:28 • (LCSD) R3143611-3 06/15/16 08:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	99.0	101	99	101	80-120			2	20
Lead	100	99.0	101	99	101	80-120			2	20
Selenium	100	99.9	102	100	102	80-120			2	20

L840855-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840855-08 06/15/16 08:33 • (MS) R3143611-6 06/15/16 08:41 • (MSD) R3143611-7 06/15/16 08:44

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	4.38	96.4	95.8	92	91	1	75-125			1	20
Lead	100	34.5	138	125	103	91	1	75-125			9	20
Selenium	100	ND	88.7	86.4	89	86	1	75-125			3	20

Method Blank (MB)

(MB) R3143824-1 06/16/16 00:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.0065	0.0100
Lead	U		0.0019	0.00500
Selenium	U		0.0074	0.0100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143824-2 06/16/16 00:15 • (LCSD) R3143824-3 06/16/16 00:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	1.02	1.02	102	102	80-120			0	20
Lead	1.00	1.04	1.04	104	104	80-120			0	20
Selenium	1.00	1.04	1.05	104	105	80-120			1	20

L841088-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841088-02 06/16/16 00:23 • (MS) R3143824-5 06/16/16 00:28 • (MSD) R3143824-6 06/16/16 00:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	0.0103	1.02	1.03	101	102	1	75-125			2	20
Lead	1.00	ND	1.02	1.03	101	103	1	75-125			1	20
Selenium	1.00	ND	1.05	1.06	105	106	1	75-125			1	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3143071-3 06/11/16 20:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143071-1 06/11/16 18:51 • (LCSD) R3143071-2 06/11/16 19:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.21	5.75	113	105	63.5-137			7.76	20
(S) a,a,a-Trifluorotoluene(FID)				*100*	*100*	*59.0-128*				

L840904-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840904-01 06/15/16 17:46 • (MS) R3143781-4 06/15/16 18:31 • (MSD) R3143781-5 06/15/16 18:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.113	25.2	23.9	91.4	86.5	5	28.5-138			5.48	23.6
(S) a,a,a-Trifluorotoluene(FID)					*103*	*101*		*59.0-128*				

Method Blank (MB)

(MB) R3143592-3 06/15/16 01:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*102*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143592-1 06/14/16 23:55 • (LCSD) R3143592-2 06/15/16 00:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.14	5.09	93.5	92.6	63.5-137			0.990	20
(S) a,a,a-Trifluorotoluene(FID)				*99.8*	*100*	*59.0-128*				

L841292-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841292-01 06/15/16 09:04 • (MS) R3143592-4 06/15/16 02:19 • (MSD) R3143592-5 06/15/16 02:48

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	2.03	18.9	19.5	61.3	63.7	5	28.5-138			3.40	23.6
(S) a,a,a-Trifluorotoluene(FID)					*99.2*	*99.2*		*59.0-128*				

Method Blank (MB)

(MB) R3143668-3 06/14/16 13:02

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*103*			*62.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143668-1 06/14/16 11:05 • (LCSD) R3143668-2 06/14/16 11:27

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
TPH (GC/FID) Low Fraction	5.50	5.28	5.18	96.0	94.1	67.0-132			1.95	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*104*	*62.0-128*				

L840841-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840841-01 06/15/16 02:49 • (MS) R3143668-4 06/14/16 14:14 • (MSD) R3143668-5 06/14/16 14:36

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	ND	5.47	5.32	99.5	96.7	1	50.0-143			2.86	20
(S) a,a,a-Trifluorotoluene(FID)					*104*	*102*		*62.0-128*				

Method Blank (MB)

(MB) R3144075-3 06/16/16 10:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000780	0.00500
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	*107*			*90.0-115*
(S) Dibromofluoromethane	*109*			*79.0-121*
(S) a,a,a-Trifluorotoluene	*101*			*90.4-116*
(S) 4-Bromofluorobenzene	*98.7*			*80.1-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3144075-1 06/16/16 08:31 • (LCSD) R3144075-2 06/16/16 08:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0238	0.0237	95.1	95.0	73.0-122			0.0800	20
Ethylbenzene	0.0250	0.0230	0.0233	91.9	93.2	80.9-121			1.42	20
Methyl tert-butyl ether	0.0250	0.0250	0.0243	100	97.4	70.1-125			2.73	20
Naphthalene	0.0250	0.0227	0.0227	90.6	90.8	69.7-134			0.140	20
Toluene	0.0250	0.0238	0.0233	95.3	93.3	77.9-116			2.11	20
Xylenes, Total	0.0750	0.0707	0.0709	94.2	94.5	79.2-122			0.310	20
(S) Toluene-d8				*108*	*106*	*90.0-115*				
(S) Dibromofluoromethane				*109*	*109*	*79.0-121*				
(S) a,a,a-Trifluorotoluene				*104*	*102*	*90.4-116*				
(S) 4-Bromofluorobenzene				*99.5*	*97.6*	*80.1-120*				

L841091-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841091-07 06/16/16 11:26 • (MS) R3144075-4 06/16/16 11:46 • (MSD) R3144075-5 06/16/16 12:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	ND	0.0223	0.0227	89.1	90.9	1	58.6-133			1.93	20
Ethylbenzene	0.0250	ND	0.0213	0.0195	85.1	78.2	1	62.7-136			8.53	20
Methyl tert-butyl ether	0.0250	ND	0.0250	0.0249	99.9	99.6	1	61.4-136			0.320	20
Naphthalene	0.0250	ND	0.0223	0.0239	89.1	95.6	1	61.8-143			7.01	20
Toluene	0.0250	ND	0.0216	0.0217	86.3	86.7	1	67.8-124			0.460	20
Xylenes, Total	0.0750	ND	0.0646	0.0611	86.2	81.5	1	65.6-133			5.53	20
(S) Toluene-d8					*107*	*108*		*90.0-115*				

L841091-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841091-07 06/16/16 11:26 • (MS) R3144075-4 06/16/16 11:46 • (MSD) R3144075-5 06/16/16 12:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) Dibromofluoromethane					*111*	*110*		*79.0-121*				
(S) α,α,α-Trifluorotoluene					*102*	*102*		*90.4-116*				
(S) 4-Bromofluorobenzene					*99.5*	*97.4*		*80.1-120*				

Method Blank (MB)

(MB) R3144080-3 06/16/16 10:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*102*			*88.7-115*
(S) Dibromofluoromethane	*109*			*76.3-123*
(S) 4-Bromofluorobenzene	*98.6*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3144080-1 06/16/16 09:44 • (LCSD) R3144080-2 06/16/16 10:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0246	0.0245	98.5	98.1	72.6-120			0.350	20
Ethylbenzene	0.0250	0.0260	0.0263	104	105	78.6-124			1.26	20
Methyl tert-butyl ether	0.0250	0.0235	0.0232	93.9	92.9	70.2-122			1.08	20
Naphthalene	0.0250	0.0245	0.0251	97.9	100	69.9-132			2.55	20
Toluene	0.0250	0.0251	0.0253	100	101	76.7-116			1.18	20
Xylenes, Total	0.0750	0.0749	0.0761	99.8	101	78.1-123			1.60	20
(S) Toluene-d8				*104*	*104*	*88.7-115*				
(S) Dibromofluoromethane				*106*	*105*	*76.3-123*				
(S) 4-Bromofluorobenzene				*104*	*104*	*69.7-129*				

L840833-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L840833-19 06/16/16 15:04 • (MS) R3144080-4 06/16/16 11:33 • (MSD) R3144080-5 06/16/16 11:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	ND	0.112	0.117	89.9	93.5	5	47.8-131			3.98	22.8
Ethylbenzene	0.0250	ND	0.116	0.120	92.5	95.8	5	44.8-135			3.47	26.9
Methyl tert-butyl ether	0.0250	ND	0.108	0.110	86.7	88.2	5	50.4-131			1.63	24.8
Naphthalene	0.0250	ND	0.114	0.118	84.3	87.7	5	18.4-145			3.73	34
Toluene	0.0250	ND	0.115	0.117	91.8	93.3	5	47.8-127			1.58	24.3
Xylenes, Total	0.0750	ND	0.332	0.352	88.5	93.8	5	42.7-135			5.75	26.6
(S) Toluene-d8					*103*	*103*		*88.7-115*				
(S) Dibromofluoromethane					*107*	*108*		*76.3-123*				
(S) 4-Bromofluorobenzene					*104*	*107*		*69.7-129*				

Method Blank (MB)

(MB) R3143893-5 06/16/16 03:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000270	0.00100
Ethylbenzene	U		0.000297	0.00100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000434	0.00500
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*103*			*88.7-115*
(S) Dibromofluoromethane	*95.5*			*76.3-123*
(S) 4-Bromofluorobenzene	*96.8*			*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143893-1 06/15/16 23:02 • (LCSD) R3143893-2 06/15/16 23:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0282	0.0284	113	114	72.6-120			0.990	20
Ethylbenzene	0.0250	0.0265	0.0262	106	105	78.6-124			1.04	20
Methyl tert-butyl ether	0.0250	0.0269	0.0273	107	109	70.2-122			1.49	20
Naphthalene	0.0250	0.0246	0.0263	98.5	105	69.9-132			6.67	20
Toluene	0.0250	0.0278	0.0275	111	110	76.7-116			1.14	20
Xylenes, Total	0.0750	0.0803	0.0793	107	106	78.1-123			1.32	20
(S) Toluene-d8				*102*	*102*	*88.7-115*				
(S) Dibromofluoromethane				*96.4*	*96.4*	*76.3-123*				
(S) 4-Bromofluorobenzene				*97.2*	*96.0*	*69.7-129*				

L841081-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L841081-04 06/16/16 05:57 • (MS) R3143893-6 06/16/16 07:17 • (MSD) R3143893-7 06/16/16 07:37

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0264	U	0.0891	0.0947	67.4	71.7	5	47.8-131			6.12	22.8
Ethylbenzene	0.0264	U	0.0897	0.0926	67.9	70.1	5	44.8-135			3.18	26.9
Methyl tert-butyl ether	0.0264	U	0.0711	0.103	53.8	77.6	5	50.4-131		J3	36.2	24.8
Naphthalene	0.0264	U	0.0768	0.0843	58.1	63.8	5	18.4-145			9.35	34
Toluene	0.0264	U	0.0876	0.0940	66.3	71.1	5	47.8-127			7.07	24.3
Xylenes, Total	0.0793	U	0.271	0.278	68.4	70.2	5	42.7-135			2.64	26.6
(S) Toluene-d8					*99.4*	*101*		*88.7-115*				
(S) Dibromofluoromethane					*88.1*	*91.1*		*76.3-123*				
(S) 4-Bromofluorobenzene					*89.2*	*95.0*		*69.7-129*				

Method Blank (MB)

(MB) R3143133-1 06/12/16 18:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*89.8*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143133-2 06/12/16 18:54 • (LCSD) R3143133-3 06/12/16 19:06

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
C10-C28 Diesel Range	60.0	45.6	46.3	76.0	77.1	50.0-150			1.40	20
(S) o-Terphenyl				*86.9*	*86.7*	*50.0-150*				

Method Blank (MB)

(MB) R3143504-1 06/12/16 17:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
C10-C28 Diesel Range	U		0.0222	0.100
C28-C40 Oil Range	U		0.0118	0.100
(S) o-Terphenyl	*99.9*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3143504-2 06/12/16 17:20 • (LCSD) R3143504-3 06/12/16 17:36

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
C10-C28 Diesel Range	1.50	1.18	1.20	78.7	80.1	70.0-130			1.71	20
(S) o-Terphenyl				*93.4*	*93.5*	*50.0-150*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [14]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

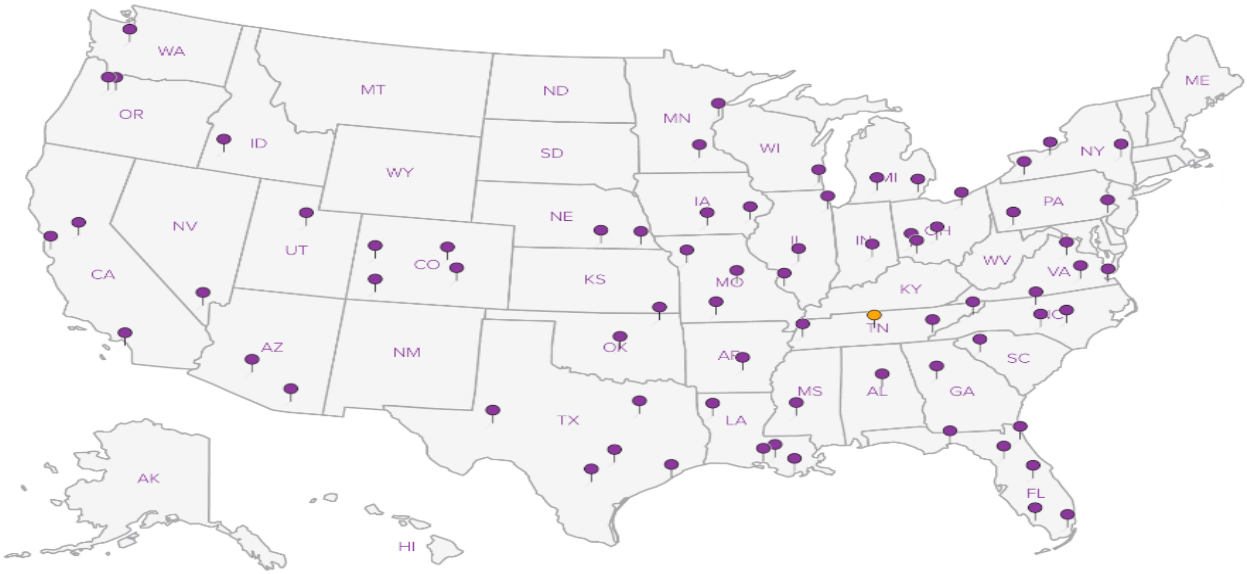
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



AMEC Foster Wheeler - Houston, TX

585 N. Dairy Ashford
Houston, TX 77079

Billing Information:
Accounts Payable
585 N. Dairy Ashford
Houston, TX 77079

Report to: Pam Krueger

Email To: pamela.krueger@amecfw.com

Project Description: HollyFrontier Navajo Refinery

City/State Collected: Artesia, NM

Phone: 713-929-5674
Fax:

Client Project # 6703160012.003

Lab Project # AMECFWHTX-HF

Collected by (print): William Rutter

Site/Facility ID # HFN-ARTESIA

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	As,Hg,Pb,Se 250mlHDPE-HNO3	As,Hg,Pb,Se 2ozClr-NoPres	DROOROLVI 40mlAmb-HCl-BT	DRORLA 4ozClr-NoPres	GRO 40mlAmb HCl	GRO-Trip Blank 40mlClr-HCl-Blk	V8260BTEXMN 40mlAmb-HCl	V8260BTEXMN,GRO 2ozClr-NoPres	V8260BTEXMN-TB 40mlClr-HCl-Blk		Rem./Contaminant	Sample # (lab only)
PGT-01-2		SS		6/9/16		1								X				-01
PGT-02-2		SS				1								X				-02
PGT-03-2		SS				1								X				-03
PGT-04-2		SS				1								X				-04
PGT-05-2		SS				1								X				-05
PGT-06-2		SS				1								X				-06
PGT-06D-2		SS				1								X				-07
PGT-07-2		SS				1								X				-08
PGT-FC-2	Comp	SS				3		X		X				X				-09
PGT-GB-2		~~SS~~ GW				10	X		X		X		X					

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks: TRIP BLANK

6/10/16

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature) — Date: 6/9/16 — Time: 14:45 — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received by: (Signature)

Relinquished by : (Signature) — Date: — Time: — Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: 2.2 °C Bottles Received: 32

Date: 6/10/16 Time: 900

Hold #

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: L2 NCF: X

C36109133764

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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PB:

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Lieutenant Governor

RYAN FLYNN
Cabinet Secretary
BUTCH TONGATE
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

April 10, 2015

Mr. Scott Denton
Environmental Manager
Navajo Refining Company, L.L.C.
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: SOIL CHARACTERIZATION EVALUATION
NAVAJO REFINING COMPANY, L.L.C., ARTESIA REFINERY
EPA ID NO. NMD048918817
HWB-NRC-MISC

Dear Mr. Denton:

The New Mexico Environment Department (NMED) has reviewed Navajo Refining Company, L.L.C., Artesia Refinery's (the Permittee) letter, *Soil Characterization Evaluation*, received March 2, 2015, that includes an attached letter from ARCADIS, *Evaluation of Soil for Reuse in Refinery* dated February 12, 2015. The Permittee requests to reuse excavated soil generated from tank installation preparation and repair activities at Tanks 400, 433, and 434 for use as berm material within the refinery. Four composite soil samples were submitted for chemical analysis that were collected from the soil stockpiles to demonstrate that the excavated soils were nonhazardous and do not contain concentrations of contaminants greater than the applicable soil screening levels (i.e., industrial and construction worker). As discussed in the March 30, 2015 conference call between NMED and Refinery representatives, and based on input from New Mexico Energy, Minerals, and Natural Resources Department Oil Conservation Division, the Permittee must analyze samples obtained from the excavated soils using the synthetic precipitation leaching procedure (SPLP) to provide additional support for reusing the soil at the refinery. Once the analytical data has been received, NMED will review the additional information and determine if the soil can be reused at the refinery.

If you have any questions regarding this letter, please contact Leona Tsinnajinnie of my staff at (505) 476-6057.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
N. Dhawan, NMED HWB
K. Van Horn, NMED HWB
L. Tsinnajinnie, NMED HWB
C. Chavez, EMNRD OCD
R. Combs, Navajo Refinery, L.L.C., Artesia Refinery
P. Krueger, ARCADIS

File: Reading File and NRC 2015, HWB-NRC-MISC

BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 16, 2009

Darrell Moore
Navajo Refining Company
501 East Main Street, P. O. Drawer 159
Artesia, New Mexico 88210

Pamela Krueger
Arcadis
11490 Westheimer, Suite 600
Houston, TX 77077

RE: SUMMARY OF EVALUATION OF SOIL FOR REUSE IN CONTAINMENT BERMS
NAVAJO REFINING COMPANY, ARTESIA REFINERY
EPA ID # NMD048918817
HWB-NRC-09-006

Dear Mr. Moore and Ms Krueger:

NMED has reviewed Navajo Refining Company, Artesia Refinery's (the Permittee) Report *Summary of Evaluation of Soil for Reuse in Containment Berms* submitted by Arcadis, dated September 23, 2009 which summarizes the laboratory results and identifies petroleum-effected soils proposed to be used in containment berms within the refinery. NMED hereby approves the use of the designated soils in containment berms within the refinery as identified in the Report. The Permittee must also adhere to the comment provided below.

Comment 1
On page 4/6, the Permittee discusses background values for arsenic and states "[t]he Environmental Protection Agency (EPA) document *2003 Guidance for Development of Eco-SSLs* provides a state-wide background value for arsenic in New Mexico of 5.9 mg/kg." NMED does not accept state wide background values. For the purpose of soil reuse in this situation, NMED compared the analytical results to the industrial New Mexico Soil Screening Level for arsenic of 17.7 mg/kg.

Please contact Hope Monzeglio of my staff at 505-476-6045 if you have questions regarding this letter.

Sincerely,

John E. Kieling
Program Manager
Permits Management Program
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
H. Monzeglio NMED HWB
J. Lackey, Navajo
C. Chavez, OCD
Reading and NRC 2009 file
HWB-NRC-09-006

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, October 15, 2009 10:11 AM
To: Monzeglio, Hope, NMENV
Cc: Cobrain, Dave, NMENV; VonGonten, Glenn, EMNRD
Subject: RE: Navajo Refining Company- Artesia Refinery (GW-028) Construction Soil Recycling & Reuse Within the Property for Process Area Berm Construction, etc.

OCD is ok with the soil reuse. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Monzeglio, Hope, NMENV
Sent: Thursday, October 15, 2009 10:07 AM
To: Chavez, Carl J, EMNRD
Cc: Cobrain, Dave, NMENV
Subject: FW: soil reuse

Carl

NMED is ok with the soil reuse. It meets our guidance. Let me know if OCD is ok with the soil reuse before I send an approval letter.

Thanks
Hope

From: Krueger, Pamela [mailto:pam.krueger@arcadis-us.com]
Sent: Wednesday, October 14, 2009 3:37 PM
To: Monzeglio, Hope, NMENV; 'darrell.moore@hollycorp.com'
Cc: 'Johnny.Lackey@hollycorp.com'; Swett, Geoffrey; Cobrain, Dave, NMENV; Chavez, Carl J, EMNRD
Subject: Re: soil reuse

It would be the whole area represented by the composite sample. Navajo does not want to go back and subdivide farther.
Pam Krueger

From: Monzeglio, Hope, NMENV
To: Krueger, Pamela; Moore, Darrell
Cc: Lackey, Johnny ; Swett, Geoffrey; Cobrain, Dave, NMENV ; Chavez, Carl J, EMNRD
Sent: Wed Oct 14 15:33:11 2009
Subject: RE: soil reuse
Pam

2) From the diagram - clarify for me what portions of the diagram will be disposed of off-site. For example, page 5/6 identifies the soil location HP-1-HC to be sent off-site for disposal. Will the entire area identified as HP-1-HC on the diagram be sent off-site for disposal or some portion within the area identified as HP-1-HC be sent off-site for disposal?

Hope

From: Krueger, Pamela [mailto:pam.krueger@arcadis-us.com]
Sent: Wednesday, October 14, 2009 2:33 PM
To: Monzeglio, Hope, NMENV; Moore, Darrell
Cc: Lackey, Johnny; Swett, Geoffrey
Subject: RE: soil reuse

Hope –

1) The soil has not been shipped off-site for disposal nor has it been used in berms yet. Navajo has tentatively scheduled off-site disposal to begin next week, depending on availability of trucks, etc. We'd like to know if there are any concerns regarding the analytical data in order to proceed with use of the soil in berm amendments as soon as possible.
2) I have attached a sketch from the field crew that depicts the division of the soil piles prior to sampling. The division was performed visually but the pinflags for each composite sample location remain in place, as documented in the photographic log included in the letter report.

Please let us know if you have any additional questions.

Pamela R. Krueger | Senior Project Manager | pam.krueger@arcadis-us.com

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T. 281.509.6416 | M. 713.249.8548 | F. 281.497.7258
www.arcadis-us.com

ARCADIS, Imagine the result
Please consider the environment before printing this email.

From: Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]
Sent: Friday, October 02, 2009 4:45 PM
To: Krueger, Pamela; Moore, Darrell
Cc: Cobrain, Dave, NMENV; Chavez, Carl J, EMNRD
Subject: soil reuse

Pam

I have a few questions in reference to the document "Summary of Evaluation of Soil for Reuse in Containment Berms."

1) Have the soil stock piles already been used in the berm construction or are you awaiting approval from NMED and OCD?

2) Page 5/6 states "Soil from the portions of the stockpiles associated with the following samples will be transported off-site for disposal as non-hazardous waste:" Can you provide me with an explanation of how Navajo distinguished between the contaminated and non-contaminated soils to determine what portions of the stock piles were transported off-site.

Thanks

Hope

Hope Monzeglio
Environmental Specialist
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, BLDG 1
Santa Fe NM 87505
Phone: (505) 476-6045; Main No.: (505)-476-6000
Fax: (505)-476-6060
hope.monzeglio@state.nm.us

Websites:
New Mexico Environment Department
Hazardous Waste Bureau

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Chavez, Carl J, EMNRD

From: Monzeglio, Hope, NMENV
Sent: Wednesday, October 14, 2009 3:00 PM
To: Chavez, Carl J, EMNRD; Cobrain, Dave, NMENV
Subject: FW: soil reuse
Attachments: Navajo soil sampling locations.pdf

FYI

From: Krueger, Pamela [mailto:pam.krueger@arcadis-us.com]
Sent: Wednesday, October 14, 2009 2:33 PM
To: Monzeglio, Hope, NMENV; Moore, Darrell
Cc: Lackey, Johnny; Swett, Geoffrey
Subject: RE: soil reuse

Hope –

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Please let us know if you have any additional questions.

Pamela R. Krueger | Senior Project Manager | pam.krueger@arcadis-us.com

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www.arcadis-us.com

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From: Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]
Sent: Friday, October 02, 2009 4:45 PM
To: Krueger, Pamela; Moore, Darrell
Cc: Cobrain, Dave, NMENV; Chavez, Carl J, EMNRD
Subject: soil reuse

Pam

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Thanks

Hope

Hope Monzeglio
Environmental Specialist
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, BLDG 1
Santa Fe NM 87505
Phone: (505) 476-6045; Main No.: (505)-476-6000
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hope.monzeglio@state.nm.us

Websites:
New Mexico Environment Department
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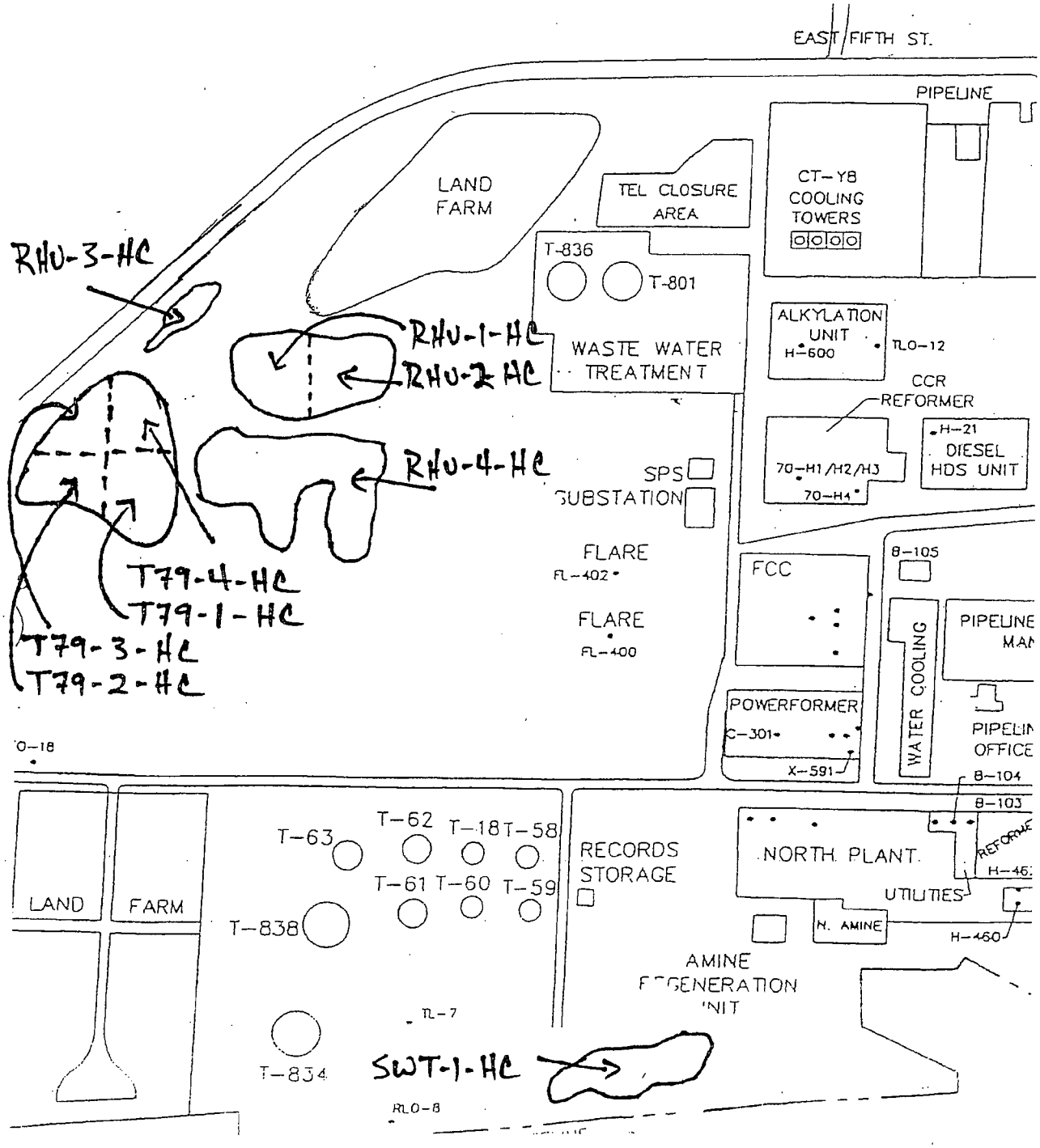
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T-836
T-801
WASTE WATER TREATMENT
ALKYLATION UNIT
H-600
TLO-12
CCR REFORMER
H-21
DIESEL HDS UNIT
70-H1/H2/H3
70-H4
RHU-3-HC
RHU-1-HC
RHU-2-HC
RHU-4-HC
SPS
SUBSTATION
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FL-402
FLARE
FL-400
T79-4-HC
T79-1-HC
T79-3-HC
T79-2-HC
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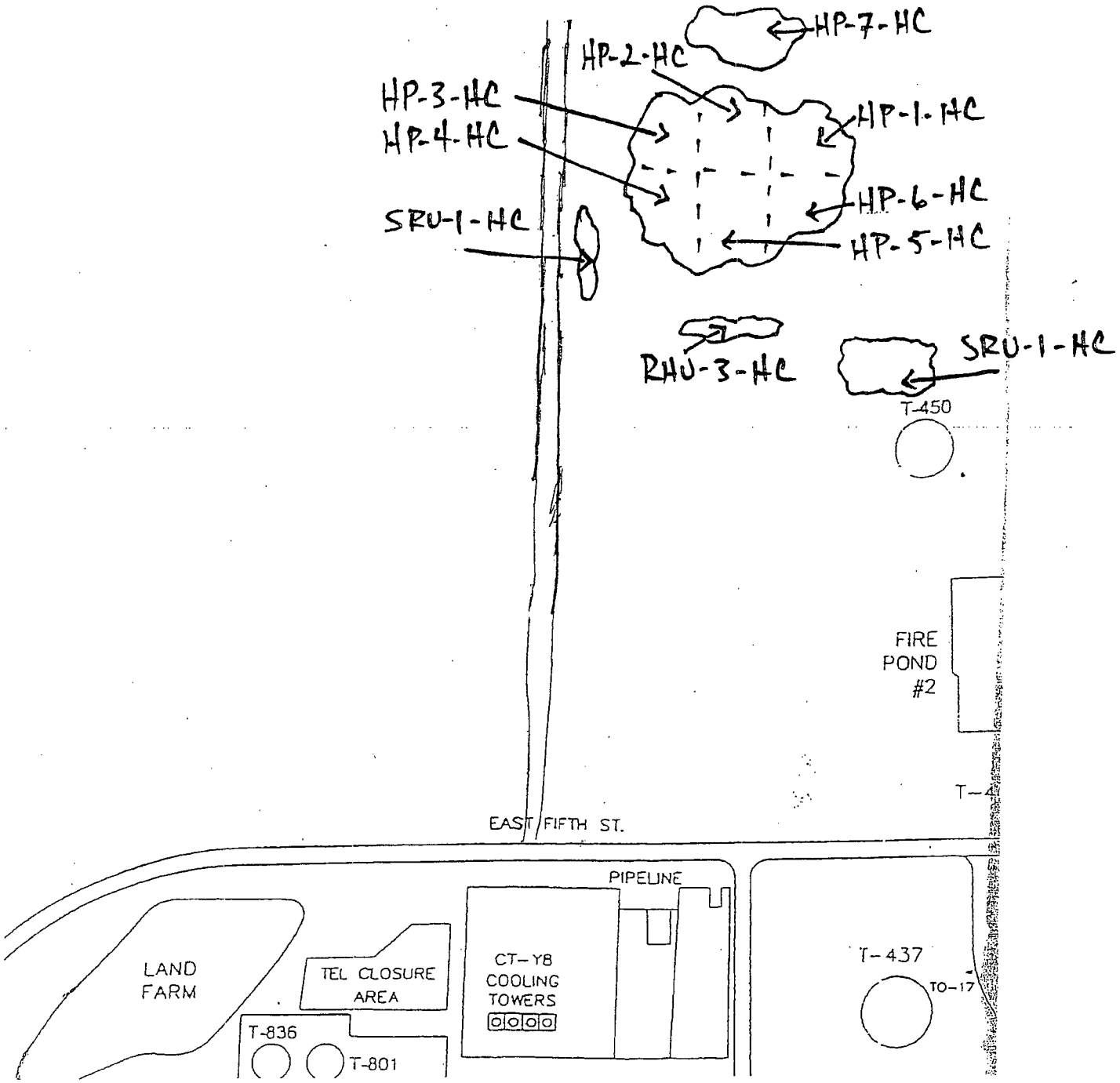
T-59
T-838
T-834
TL-7
SWT-1-HC
RLO-8
LAND
FARM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HP-3-HC
HP-4-HC
HP-1-HC
HP-6-HC
HP-5-HC
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SRU-1-HC
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ENVIRONMENT

Ms. Hope Monzeglio
New Mexico Environment Department, Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Mr. Carl Chavez
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Date:
September 23, 2009

Contact:
Pam Krueger

Phone:
281-509-6416

Email:
pam.krueger@arcadis-us.com

Our ref:
Navajo

ARCADIS U.S., Inc.
TX Engineering License # F-533

Subject:
Summary of Evaluation of Soil for Reuse in Containment Berms at the
Navajo Refining Company Artesia Refinery
Artesia, New Mexico

Dear Ms. Monzeglio and Mr. Chavez:

On behalf of the Navajo Refining Company (Navajo) Artesia Refinery, ARCADIS submitted a request dated June 16, 2009 for reuse of soil generated during recent construction activities within the refinery. The request summarized the characterization of the soil performed to date and requested permission to use non-hazardous soil that does not contain constituents of concern (COCs) above risk-based levels in containment berms in the interior of the refinery.

Navajo and ARCADIS received comments and additional requests from both the Oil Conservation Division (OCD) and New Mexico Environment Department Hazardous Waste Bureau (NMED HWB) regarding that request. Based on that input, a second letter dated July 6, 2009 was submitted that summarized the agreed-upon procedures for additional characterization to be performed and the procedures to be followed prior to reuse of the soil for construction of containment berms.

The characterization samples were collected between July 29 and August 3, 2009. This letter presents the sample collection procedures followed, the laboratory reports, a summary of the analytical results, an evaluation of the data obtained and recommendations for disposition of the various soil piles.

Initial Characterization of Soil Piles

Table 1 contains a summary of waste characterization data that was obtained from the soils generated from the various areas in which construction activities have occurred. The analytical data was collected to evaluate whether any of the soil would be characterized as hazardous. As can be seen from the data in Table 1, all of the soil can be characterized as non-hazardous. However, the suitability of this soil for reuse in construction of berms could not be determined based on this analytical data and thus additional characterization sampling was performed.

Sample Collection for Characterization for Reuse

The July 6, 2009 letter outlined the approach for further characterization of the soils generated during construction activities to be reused for berm construction. The sampling procedures implemented were as follows:

1. Each soil pile was identified by plant personnel according to the source of the soil. These sources included:

   a. Hydrogen Plant (HP)

   b. Sulfur Recovery Unit (SRU)

   c. Sour Water Tank (SWT)

   d. Tank 79 Tank Ring (T79)

   e. Rose / Hydrocracker Unit (RHU)

2. The volume of soil from each source area was estimated based on field measurements. The volumes were estimated as follows:

   a. HP ~ 6,650 cubic yards (cy)

   b. SRU ~ 944 cy

   c. SWT ~ 596 cy

d. T79 ~3,745 cy

e. RHU ~ 3,280 cy

3. One homogenized composite soil sample and one set of 10 discrete soil samples, for creation of a bench composite sample, were collected for every 1,000 cubic yards, as follows:

   a. Discrete portions of soil were gathered from 10 points within each 1,000 cubic yards of soil, from random depths and locations in order to ensure the composite sample was appropriately representative. The discrete portions of soil were placed into a stainless steel bowl, composited with a stainless steel trowel, and quickly placed into three soil jars for laboratory analysis. Each composite soil sample was named with a unique identifier that included the source of the soil and a number and "HC" indicating that this was a homogenized composite sample. For example, there were seven composite samples created from the Hydrogen Plant soil pile and the samples were identified as HP-1-HC through HP-7-HC.

   b. At each of the 10 points within each 1,000 cubic yards of soil, a discrete sample was collected and placed in a 2-ounce soil jar. These discrete samples were sent to the laboratory to create a bench composite sample in a controlled setting. Each jar was labeled with a unique identifier indicating the source of the soil, the sample within the soil pile, and the sequence within the bench composite sample. For example, the discrete samples collected from the same locations that were used to create the homogenized sample HP-1-HC were labeled HP-1-BC 1 through HP-1-BC 10.

4. The homogenized composite samples were analyzed for the following:

   a. Total Recoverable Petroleum Hydrocarbons (TRPH) by Method 418.1;

   b. Benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butyl ether (MTBE) and naphthalene by Method 8260B; and

   c. Arsenic, lead, mercury and selenium by Methods 6010/6020 and 7471.

5. The bench composite samples were analyzed for Total Petroleum Hydrocarbons – Gasoline Range Organics (TPH – GRO) by Method 8015 Modified. If any of the TPH – GRO results were reported to be greater than 80 mg/kg, then those samples were to be analyzed by Method 8260.

The list of COCs selected for analyses was based on input from OCD and NMED and includes those compounds that have been present above the screening levels in more than one of the 220 soil samples collected throughout the refinery as part of on-going facility investigations.

Photographs of the soil stockpiles and the sample locations within each stockpile are provided in Appendix A.

Summary and Evaluation of Characterization Sample Results

Table 2 provides a summary of the analytical results for both the homogenized composite samples and the bench composite samples. Laboratory reports are provided in Appendix B on a CD. The reported concentrations were compared to screening levels, as follows:

- BTEX and MTBE concentrations were all reported as not detected in all of the homogenized composite samples.

- GRO was detected in only one of the bench composite samples. The reported concentration in sample RHU-1-BC was 0.054 mg/kg. Because no samples were reported to contain GRO above 80 mg/kg, none of the bench composite samples were analyzed for VOCs.

- TPH was reported at concentrations ranging from 26.6 mg/kg to 2,170 mg/kg. Reported concentrations exceed the screening level of 200 mg/kg in 7 of the 17 samples collected: HP-1-HC, SRU-1-HC, SWT-1-HC, T79-1-HC, T79-3-HC, RHU-1-HC and RHU-3-HC.

- Arsenic was reported at concentrations ranging from 3.96 mg/kg to 6.33 mg/kg. A background study for soil metals concentrations in the area of the Evaporation Ponds was performed in 2004. The data was determined to be not statistically valid; however the detected concentrations of arsenic ranged from 0.868 to 4.52 mg/kg. The Environmental Protection Agency (EPA) document *2003 Guidance for Development of Eco-SSLs* provides a state-wide background value for arsenic in New Mexico of 5.9 mg/kg. Three of the

samples contained concentrations of arsenic above 5.9 mg/kg: HP-3-HC, SWT-1-HC and T79-4-HC.

- Lead was reported at concentrations ranging from 6.39 to 342 mg/kg, all of which are below the screening value of 800 mg/kg.

- Mercury was reported at concentrations ranging from 0.00993 to 0.247 mg/kg. Two of the samples contained concentrations above the screening level of 0.05870 mg/kg: SWT-1-HC and T79-1-HC.

- Selenium was reported in 12 of the samples at concentrations ranging from 0.532 to 1.05 mg/kg, all of which are below the screening value of 19.3 mg/kg.

Based on the characterization sample results, approximately one-half of the soil has been determined to be appropriate for use in construction of berms in the interior of the refinery.

Soil from the portions of the stockpiles associated with the following samples will be transported off-site for disposal as non-hazardous waste:

- HP-1-HC
- HP-3-HC
- SRU-1-HC
- SWT-1-HC
- T79-1-HC
- T79-3-HC
- T79-4-HC
- RHU-1-HC
- RHU-3-HC

Schedule

Navajo had planned to begin berm construction and amendment activities in August 2009. The soil determined to be appropriate for use in berm construction will be utilized as soon as required for construction activities. Navajo will maintain a record of the final disposition of the soil.

Off-site disposal of the remaining soil will be conducted as soon as possible. The soil will be disposed of as non-hazardous material at CRI landfill.

If you have any questions or comments, please feel free to contact me at 281.509.6416.

Sincerely,

ARCADIS

Pamela R. Krueger
Senior Project Manager

Copies:
Mr. Johnny Lackey, Navajo Refining Company
Mr. Darrell Moore, Navajo Refining Company
Mr. Dave Polter, ARCADIS
Mr. Tim Wippold, ARCADIS

ARCADIS

Tables

Table 1
Summary of Initial Characterization Sample Analytical Results
Soil Piles Generated During Various Construction Activities
Navajo Refinery, Artesia, New Mexico

		Source:	SRU Soils								Mild Hydrocracker				Hydrogen Plant									
		Sample ID:	SRU		SRU Hyd.		SRU3 #1		SRU3 #2		MHU		MHV		Gary Davis HP		East Pile #1		East Pile #2		West Pile #1		West Pile #2	
Analyte	Screening Level	Screening Level Source	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
TPH (mg/kg)																								
Gasoline Range Organics (C-6-C1	–	–	NA		NA			49		49	NA		NA		NA			49		49		49		49
Diesel Range Organics (C10-C28)	2.00E+02	NMED-TPH	NA		NA			49		49	NA		NA		NA			49	**150**	49		49		49
Oil Range Organics (>C28-C40)	2.00E+02	NMED-TPH	NA		NA			49		49	NA		NA		NA			49	**49**	49		49		49
TCLP VOCs (mg/L)																								
1,1 -Dichloroethene	7.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
1,2-Dichloroethane	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
1,4-Dichlorobenzene	7.50E+00	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
2-Butanone (MEK)	2.00E+02	40 CFR 261.24(b)		0.2		0.2	NA		NA			0.2		0.2		0.2	NA		NA		NA		NA	
Benzene	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Carbon tetrachloride	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Chlorobenzene	1.00E+02	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Chloroform	6.00E+00	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Tetrachloroethene	7.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Trichloroethene	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Vinyl chloride	2.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
TCLP SVOCs (mg/L)																								
2,4,5-Trichlorophenol	4.00E+02	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
2,4,6-Trichlorophenol	2.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
2,4-Dinitrotoluene	1.30E-01	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Cresols, Total	2.00E+02	40 CFR 261.24(b)		0.03		0.015	NA		NA			0.03		0.015		0.03	NA		NA		NA		NA	
Hexachlorobenzene	1.30E-01	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Hexachlorocyclopentadiene	5.00E-01	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Hexachloroethane	3.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Nitrobenzene	2.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Pentachlorophenol	1.00E+02	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Pyridine	5.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
TCLP Metals (mg/L)																								
Arsenic	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA	
Barium	1.00E+02	40 CFR 261.24(b)	**2.08**	0.05	**1.48**	0.05	NA		NA		**2.3**	0.05	**0.268**	0.05	**0.483**	0.05	NA		NA		NA		NA	
Cadmium	1.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA	
Chromium	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA	
Lead	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05	**0.141**	0.05	NA		NA		NA		NA	
Mercury	2.00E-01	40 CFR 261.24(b)		0.0002		0.0002	NA		NA			0.0002		0.0002		0.0002	NA		NA		NA		NA	
Selenium	1.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA		**0.0504**	0.05		0.05		0.05	NA		NA		NA		NA	
Silver	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA	
Other Compounds																								
Reactive Cyanide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40		40	NA		NA			40		40		40	NA		NA		NA		NA	
Reactive Sulfide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40		40	NA		NA			40		40		40	NA		NA		NA		NA	
Chloride (mg/kg)	--	--	**244**	4.99	NA		NA		NA		**52.5**	4.99	NA		**200**	4.99	NA		NA		NA		NA	
Ignitability	Not ignitable	40 CFR 261.21	No		No		NA		NA		No		No		No		NA		NA		NA		NA	
Paint Filter Test (positive or negativ	Positive	–	Negative		NA		NA		NA		Negative		NA		Negative		NA		NA		NA		NA	
pH (standard units)	<2 or >12	40 CFR 261.22	**8.39**	0.1	**9.23**	0.1	NA		NA		**7.18**	0.1	**7.73**	0.1	**8.19**	0.1	NA		NA		NA		NA	

CFR = Code of Federal Regulations
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
NA = Sample not analyzed for this compound
NMED TPH = New Mexico Environment Department TPH Screening Guidance, October 2006.
RL = Reporting Limit

Table 1
Summary of Initial Characterization Sample Analytical Results
Soil Piles Generated During Various Construction Activities
Navajo Refinery, Artesia, New Mexico

		Source:	LP Tank						Tank 1227						ROSE Hydrocracker						Sour Water Tank	
		Sample ID:	LP Tank Soils		LP Tank Foundation #1		LP Tank Foundation #2		T-1227 Excavation		T-1227 Ring #1		T-1227 Ring #2		Rose Foundation Soil		New ROSE #1		New ROSE #2		Sour Water Tank Ring	
Analyte	**Screening Level**	**Screening Level Source**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**
TPH (mg/kg)																						
Gasoline Range Organics (C-6-C1	--	--	NA			49		49	NA			49		49	NA		**78**	49		49		500
Diesel Range Organics (C10-C28)	2.00E+02	NMED-TPH	NA			49		49	NA			49		49	NA		**910**	49		49	**7800**	*500*
Oil Range Organics (>C28-C40)	2.00E+02	NMED-TPH	NA			49		49	NA			49		49	NA		**300**	49		49	**1200**	*500*
TCLP VOCs (mg/L)																						
1,1 -Dichloroethene	7.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
1,2-Dichloroethane	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
1,4-Dichlorobenzene	7.50E+00	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
2-Butanone (MEK)	2.00E+02	40 CFR 261.24(b)		0.2	NA		NA			0.2	NA		NA			0.2	NA		NA			0.2
Benzene	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Carbon tetrachloride	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Chlorobenzene	1.00E+02	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Chloroform	6.00E+00	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Tetrachloroethene	7.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Trichloroethene	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Vinyl chloride	2.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
TCLP SVOCs (mg/L)																						
2,4,5-Trichlorophenol	4.00E+02	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
2,4,6-Trichlorophenol	2.00E+00	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
2,4-Dinitrotoluene	1.30E-01	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Cresols, Total	2.00E+02	40 CFR 261.24(b)		0.030	NA		NA			0.015	NA		NA			0.015	NA		NA		**18**	0.015
Hexachlorobenzene	1.30E-01	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Hexachlorocyclopentadiene	5.00E-01	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Hexachloroethane	3.00E+00	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Nitrobenzene	2.00E+00	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Pentachlorophenol	1.00E+02	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Pyridine	5.00E+00	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
TCLP Metals (mg/L)																						
Arsenic	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Barium	1.00E+02	40 CFR 261.24(b)	**2.25**	0.05	NA		NA		**2.47**	0.05	NA		NA		**0.881**	0.05	NA		NA		**0.402**	0.05
Cadmium	1.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Chromium	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Lead	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Mercury	2.00E-01	40 CFR 261.24(b)		0.0002	NA		NA			0.0002	NA		NA			0.0002	NA		NA			0.0002
Selenium	1.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Silver	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Other Compounds																						
Reactive Cyanide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40	NA		NA			40	NA		NA			40	NA		NA			40
Reactive Sulfide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40	NA		NA			40	NA		NA			40	NA		NA			40
Chloride (mg/kg)	--	--	**56.7**		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ignitability	Not ignitable	40 CFR 261.21	No		NA		NA		No		NA		NA		No		NA		NA		No	
Paint Filter Test (positive or negati	Positive	--	Negative		NA		NA		NA		NA		NA		NA		NA		NA		NA	
pH (standard units)	<2 or >12	40 CFR 261.22	**8.66**	0.1	NA		NA		**8.48**	0.1	NA		NA		**7.72**	0.1	NA		NA		**8.76**	0.1

CFR = Code of Federal Regulations
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
NA = Sample not analyzed for this compound
NMED TPH = New Mexico Environment Department TPH Screening Guidan
RL = Reporting Limit

Table 2
Summary of Additional Characterization Sample Analytical Results
Soil Piles Generated During Various Construction Activities
Navajo Refinery, Artesia, New Mexico

Soil Pile Source	Estimated Volume (cy)	Sample	Date Collected	CSSL:	TRPH by 418.1 (mg/kg) 200	TPH - GRO by 8015 Mod (mg/kg) NA	Metals by 6020 or 7471 (mg/kg) Arsenic 5.9	Lead 800	Mercury 0.05870	Selenium 19.3	VOCs by 8260 (mg/kg) Benzene 0.0370	Ethylbenzene 0.291	MTBE 0.459	Naphthalene 0.0839	Toluene 27.7	Total Xylenes 3.52
Hydrogen Plant	6650	HP-1-HC	7/29/2009		***287***		3.96	6.58	0.0121	0.782	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		HP-1-BC	7/29/2009			< 0.050										
		HP-2-HC	7/29/2009		90.4		4.78	10.3	0.0141	0.726	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		HP-2-BC	7/29/2009			< 0.050										
		HP-3-HC	7/29/2009		176		***6.15***	33.5	0.0445	0.829	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		HP-3-BC	7/29/2009			< 0.050										
		HP-4-HC	7/30/2009		42.1		5.71	26	0.0304	0.697	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		HP-4-BC	7/30/2009			< 0.050										
		HP-5-HC	7/30/2009		80.3		4.75	10.8	0.0151	<0.467	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		HP-5-BC	7/30/2009			< 0.050										
		HP-6-HC	7/30/2009		34.6		4.38	8.88	0.00993	<0.485	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		HP-6-BC	7/30/2009			< 0.050										
		HP-7-HC	7/30/2009		69		3.98	23.6	0.0152	<0.439	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		HP-7-BC	7/30/2009			< 0.050										
Sulfur Recovery Unit	994	SRU-1-HC	7/30/2009		***364***		4.47	11.7	0.0224	<0.472	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		SRU-1-BC	7/30/2009			< 0.050										
Sour Water Tank	596	SWT-1-HC	7/30/2009		***1660***		***5.97***	342	***0.247***	0.701	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		SWT-1-BC	7/30/2009			< 0.050										
T79 Tank Ring	3745	T79-1-HC	7/31/2009		***2170***		4.7	14.4	***0.213***	1.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		T79-1-BC	7/31/2009			< 0.050										
		T79-2-HC	7/31/2009		86.6		5.09	12	0.0138	0.532	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		T79-2-BC	7/31/2009			< 0.050										
		T79-3-HC	7/31/2009		***352***		4.77	11.7	0.0126	0.886	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		T79-3-BC	7/31/2009			< 0.050										
		T79-4-HC	7/31/2009		59.6		***6.33***	12.6	0.0269	1.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		T79-4-BC	7/31/2009			< 0.050										
Rose/Hydrocracker Unit	3280	RHU-1-HC	7/31/2009		***1470***		4.99	11.8	0.0105	0.541	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		RHU-1-BC	7/31/2009			0.054										
		RHU-2-HC	7/31/2009		115		4.36	6.39	0.0106	<0.439	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		RHU-2-BC	7/31/2009			< 0.050										
		RHU-3-HC	8/3/2009		***751***		4.89	9.97	0.0261	0.68	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		RHU-3-BC	8/3/2009			< 0.050										
		RHU-4-HC	8/3/2009		26.6		4.77	8.88	0.0224	0.659	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.015
		RHU-4-BC	8/3/2009			< 0.050										

Reported values shown in bold, italics font exceed the screening level.

Critical Soil Screening Level, determined as described below.
- Metals - Except for Arsenic, the lower value of the following is used as CSSL:
  - NMED Industrial/Occupational Soil Screening Level
  - NMED Construction Worker Soil Screening Level
  - NMED DAF 20 Soil Screening Level
  - Arsenic is compared to the EPA background value for New Mexico
- VOCs - Lower value of the following is used as the CSSL:
  - NMED Industrial/Occupational Soil Screening Level
  - NMED Construction Worker Soil Screening Level
  - NMED DAF 20 Soil Screening Level
- TRPH - Screening value for "unknown" oils used.

Definitions of Acronyms and Abbreviations:
- CSSL = Critical Soil Screening Level
- mg/kg = milligrams per kilogram
- MTBE = Methyl tert butyl ether
- NMED = New Mexico Environment Department
- TPH = Total Petroleum Hydrocarbons
- TRPH = Total Recoverable Hydrocarbons
- VOCs = Volatile Organic Compounds

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Appendix A

Photo Log

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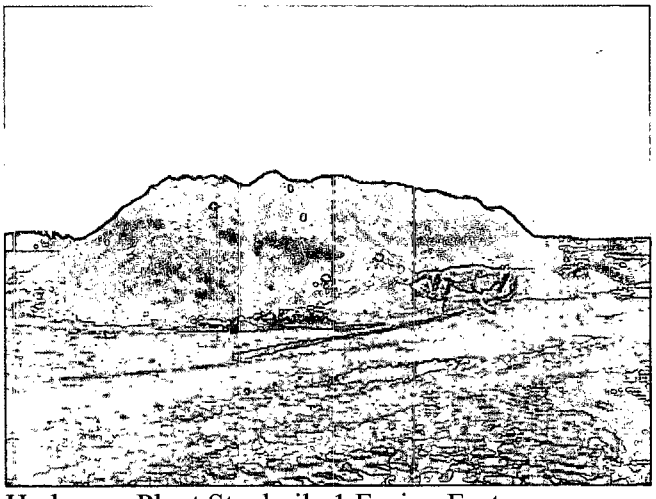
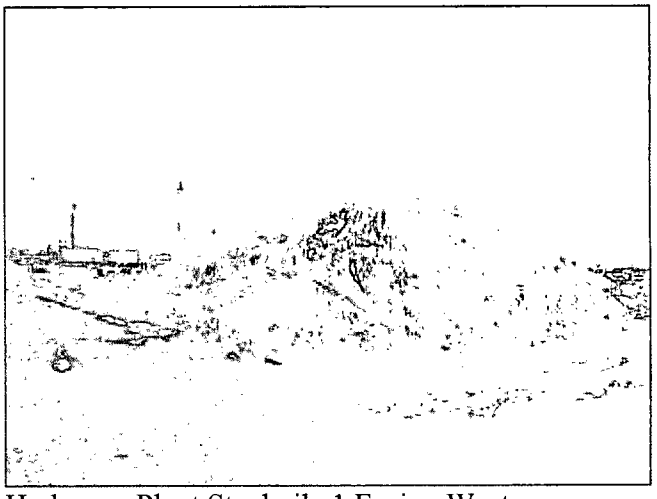
Soil Stockpiles
Navajo Artesia Refinery

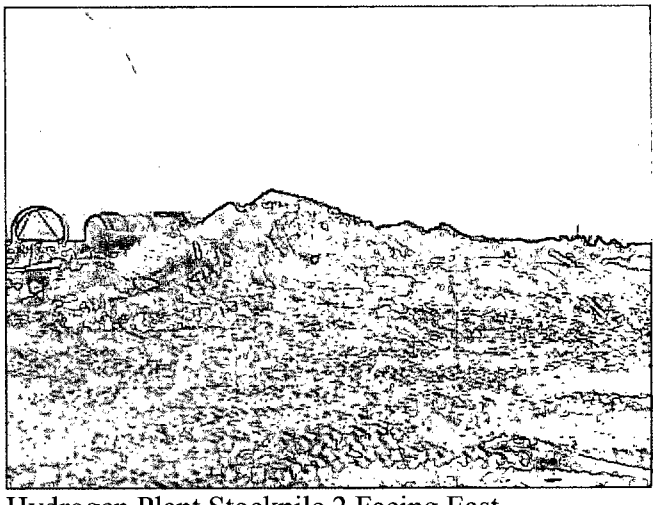


Hydrogen Plant Stockpile 1 Facing East

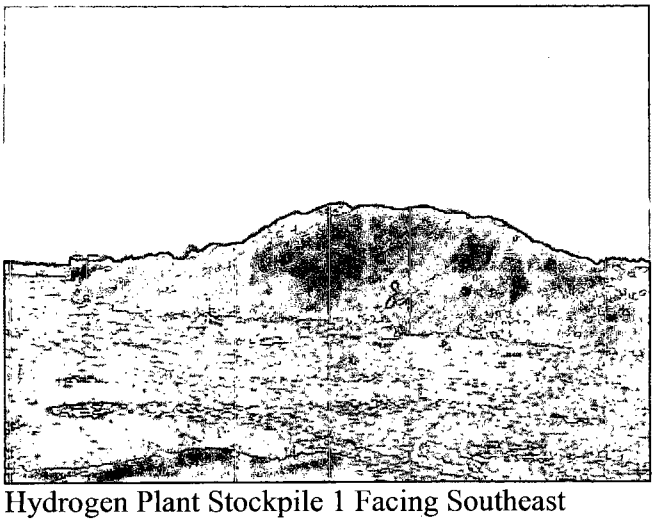


Hydrogen Plant Stockpile 1 Facing West

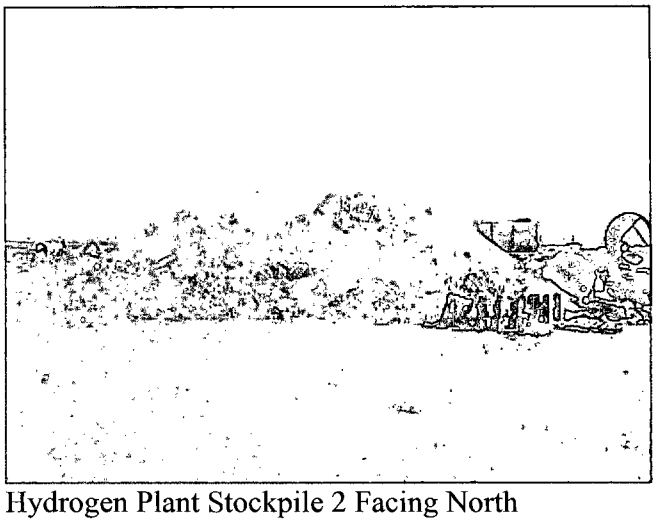
Hydrogen Plant Stockpile 1 Facing South



Hydrogen Plant Stockpile 2 Facing East



Hydrogen Plant Stockpile 1 Facing Southeast



Hydrogen Plant Stockpile 2 Facing North

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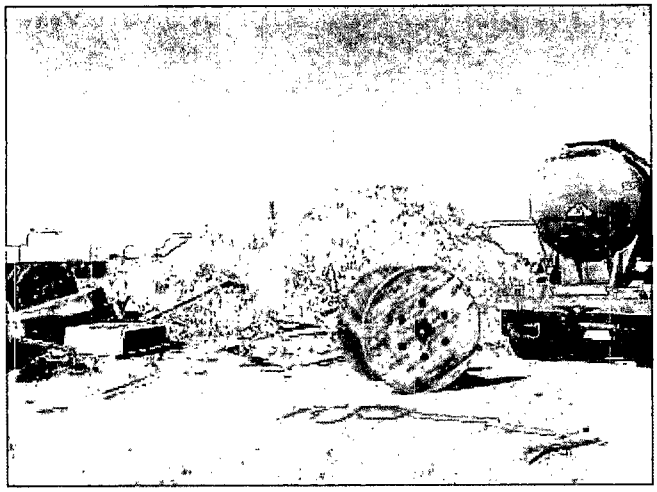
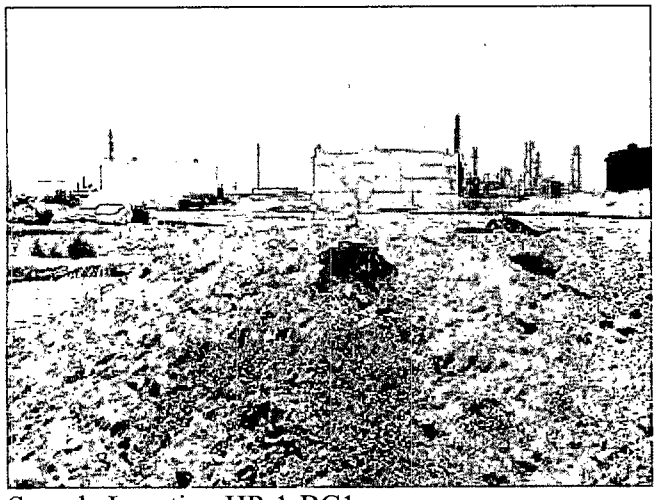
Soil Stockpiles
Navajo Artesia Refinery



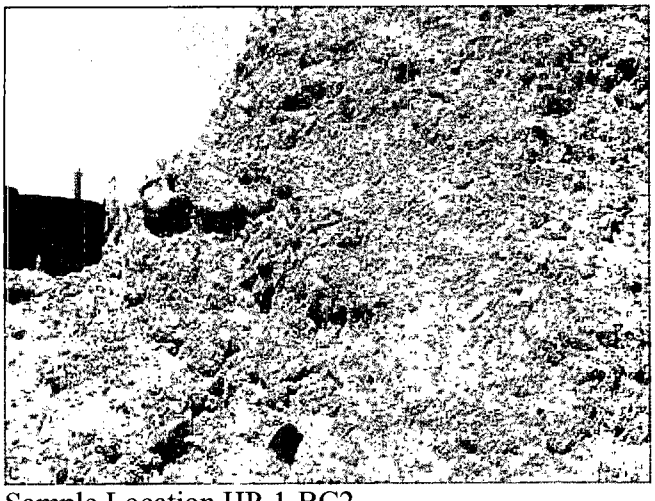
Hydrogen Plant Stockpile 2 Facing Southwest

Sample Location HP-1-BC3

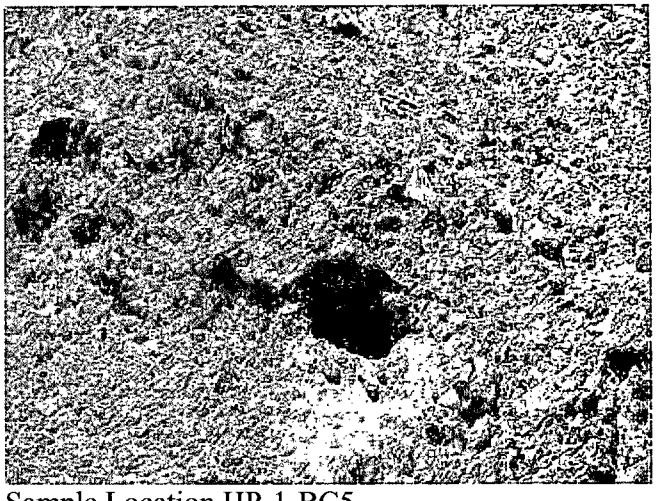


Sample Location HP-1-BC1

Sample Location HP-1-BC4

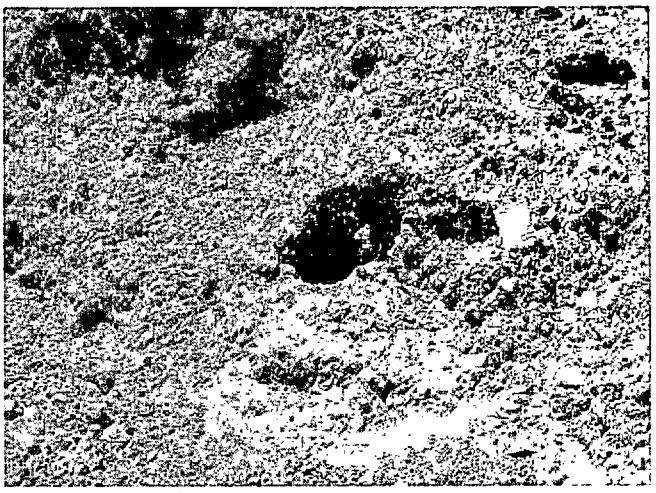


Sample Location HP-1-BC2



Sample Location HP-1-BC5

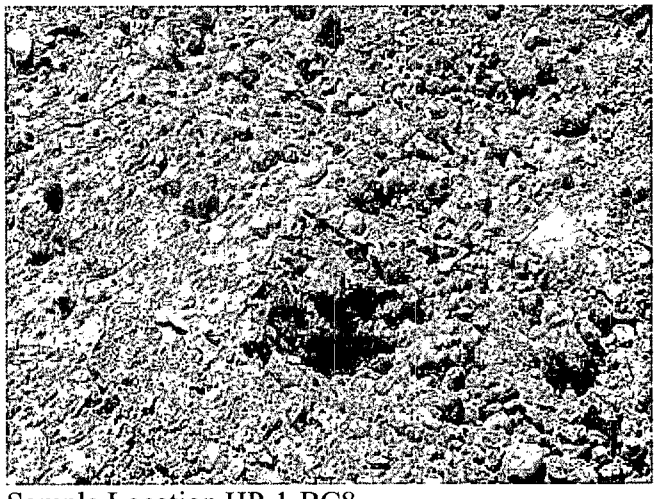
Sample Location HP-1-BC6



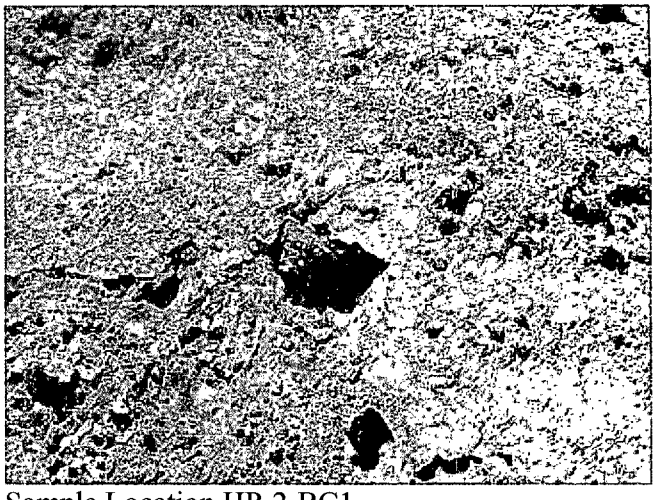
Sample Location HP-1-BC9

Sample Location HP-1-BC7.

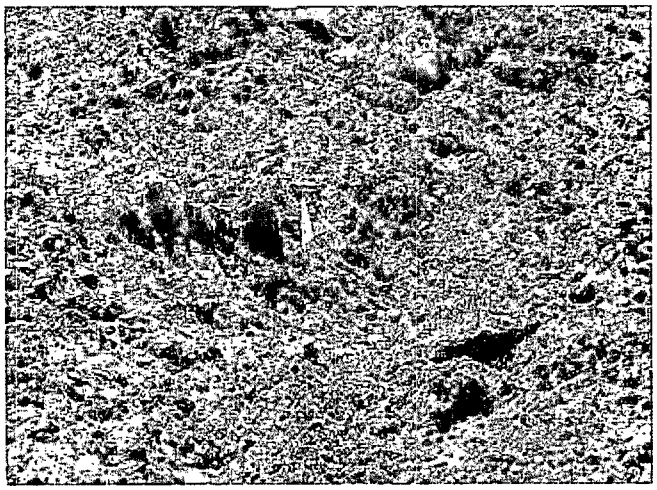
Sample Location HP-1-BC10



Sample Location HP-1-BC8

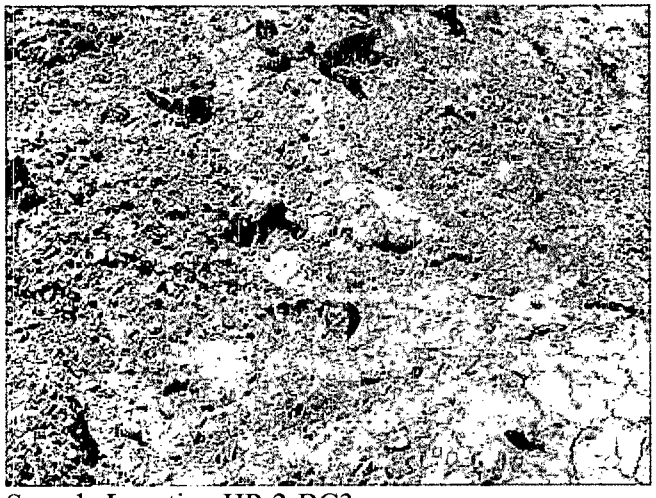


Sample Location HP-2-BC1



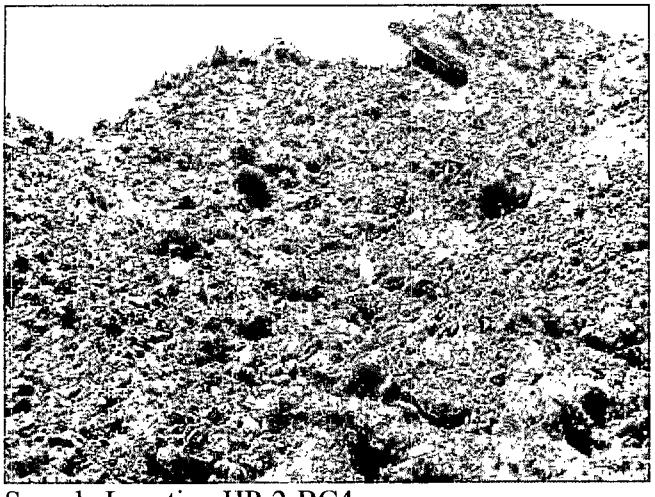
Sample Location HP-2-BC2

Sample Location HP-2-BC5



Sample Location HP-2-BC3

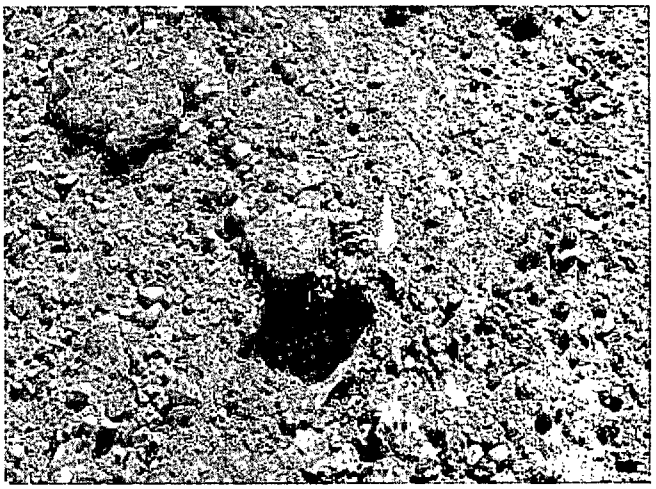
Sample Location HP-2-BC6



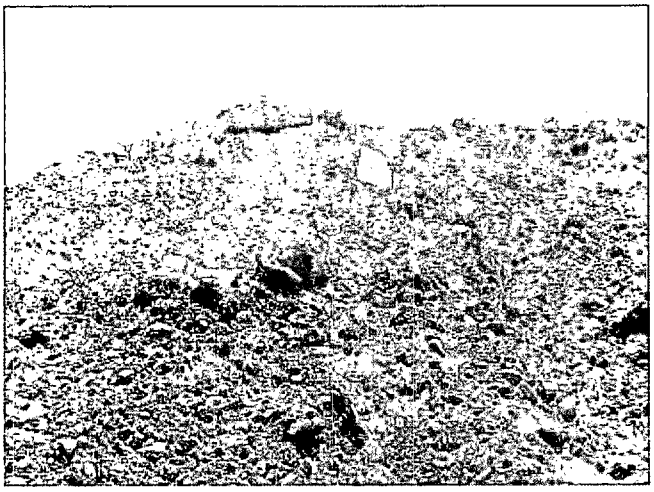
Sample Location HP-2-BC4

Sample Location HP-2-BC7

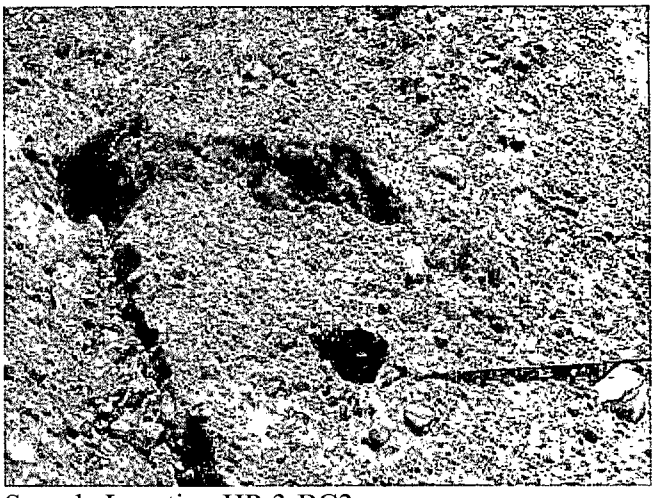
Sample Location HP-2-BC8



Sample Location HP-3-BC1



Sample Location HP-2-BC9



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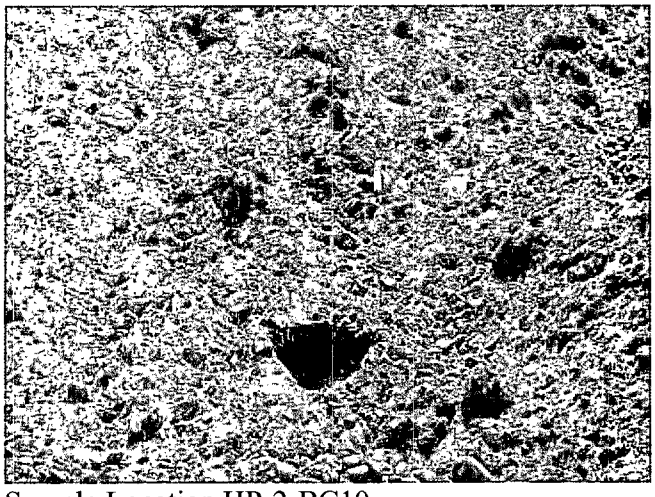

Sample Location HP-2-BC10

Sample Location HP-3-BC3

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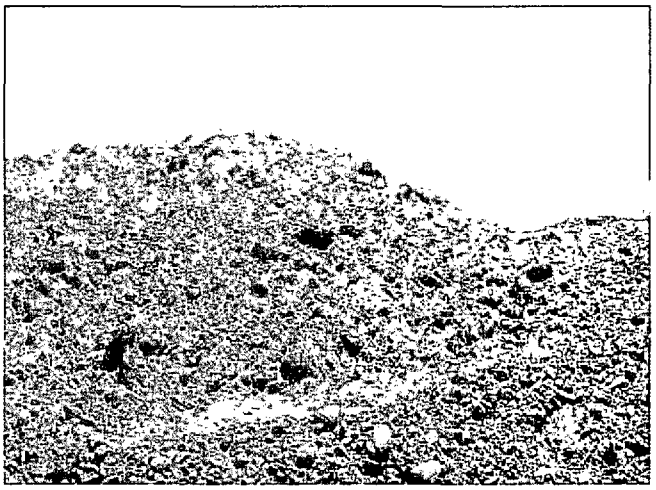
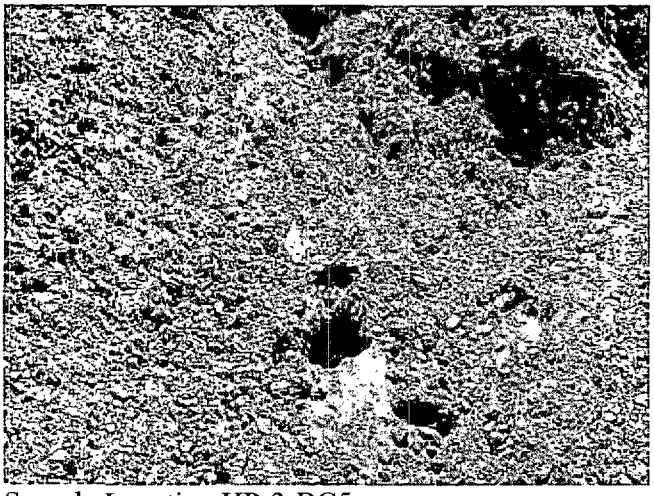
Soil Stockpiles
Navajo Artesia Refinery

Sample Location HP-3-BC4

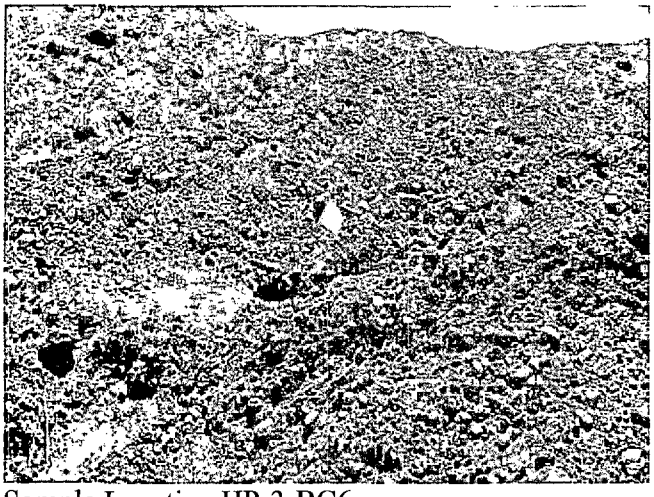


Sample Location HP-3-BC7



Sample Location HP-3-BC5

Sample Location HP-3-BC8



Sample Location HP-3-BC6

Sample Location HP-3-BC9

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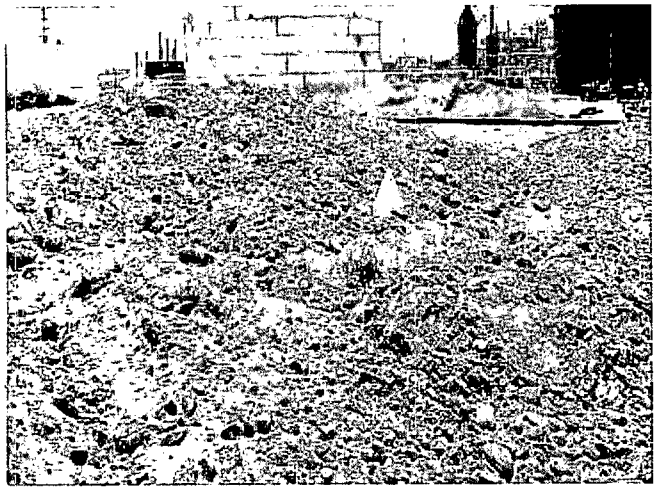
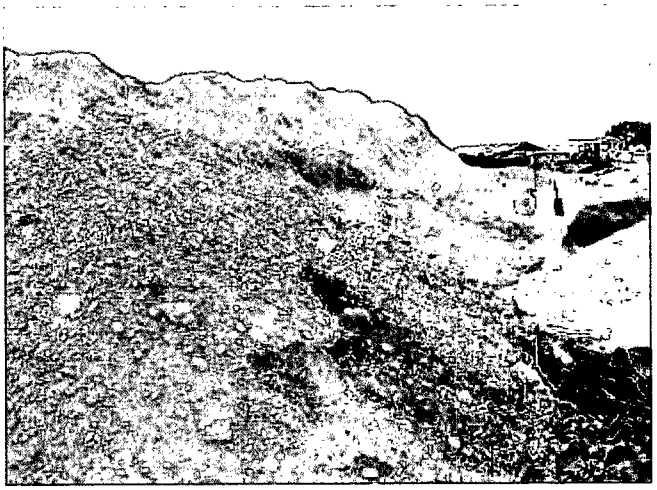
Soil Stockpiles
Navajo Artesia Refinery



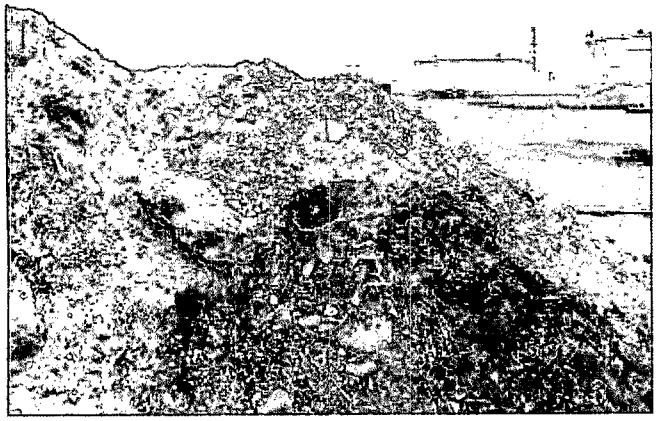
Sample Location HP-3-BC10



Sample Location HP-4-BC3

Sample Location HP-4-BC1

Sample Location HP-4-BC4



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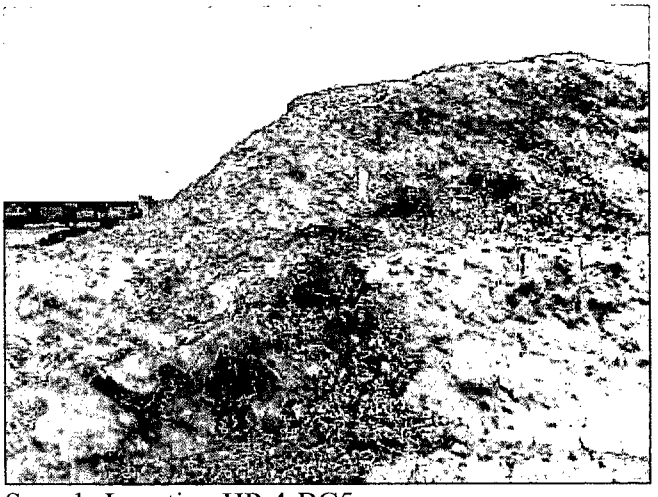

Sample Location HP-4-BC5

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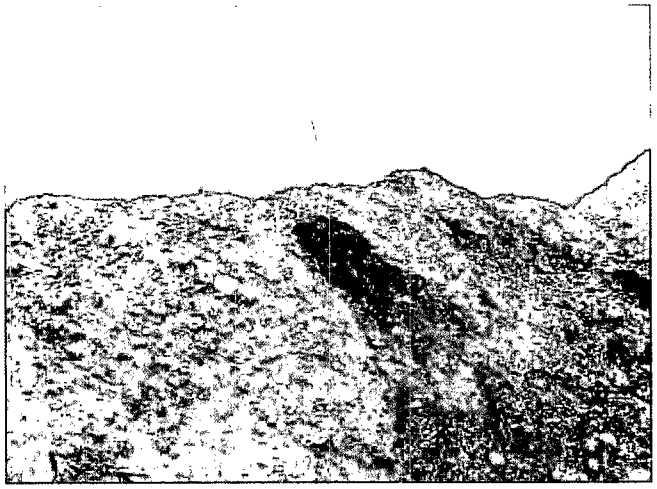
Soil Stockpiles
Navajo Artesia Refinery



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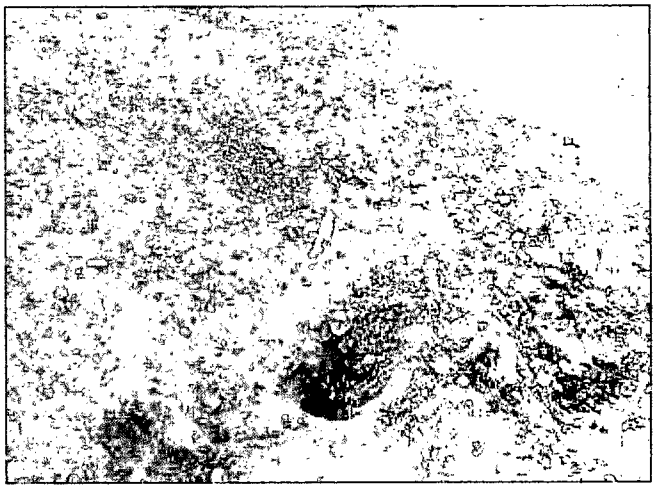
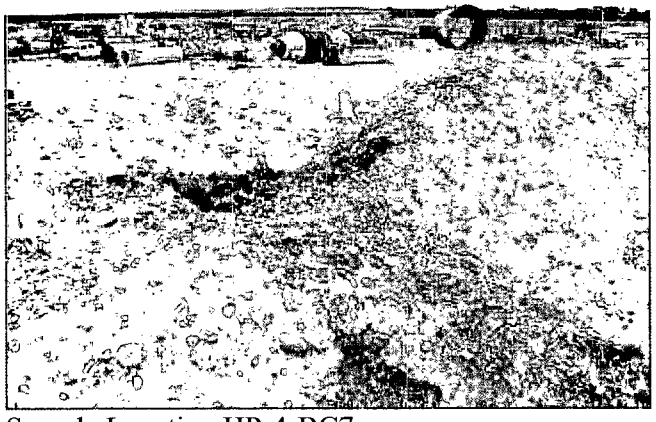
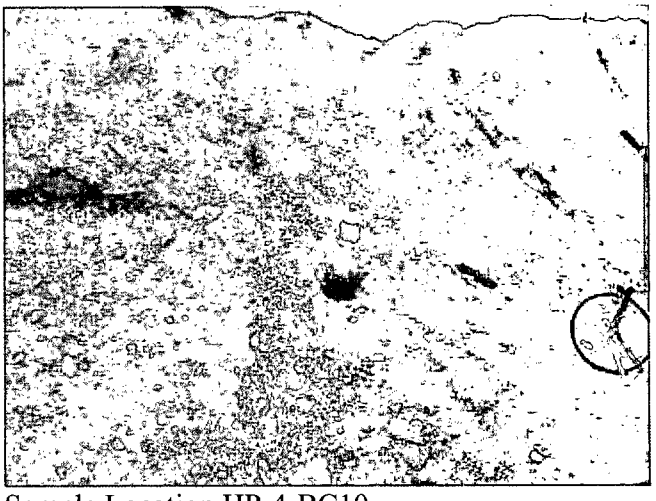


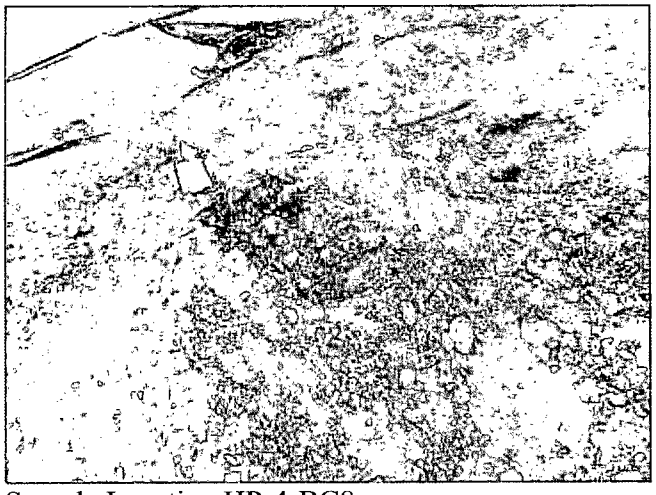
Sample Location HP-4-BC9



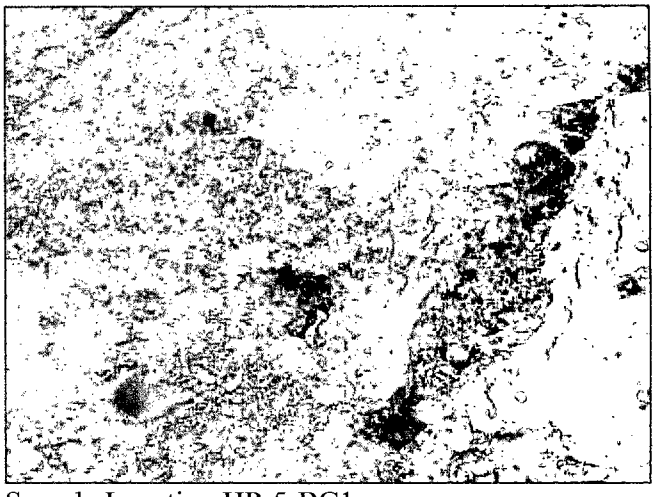
Sample Location HP-4-BC7



Sample Location HP-4-BC10



Sample Location HP-4-BC8



Sample Location HP-5-BC1

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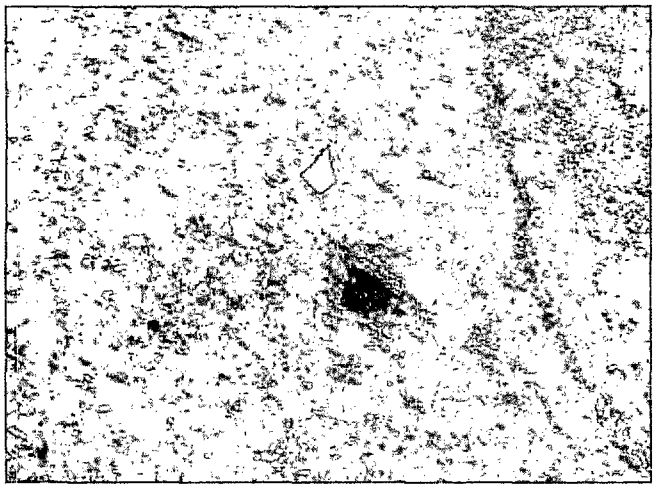
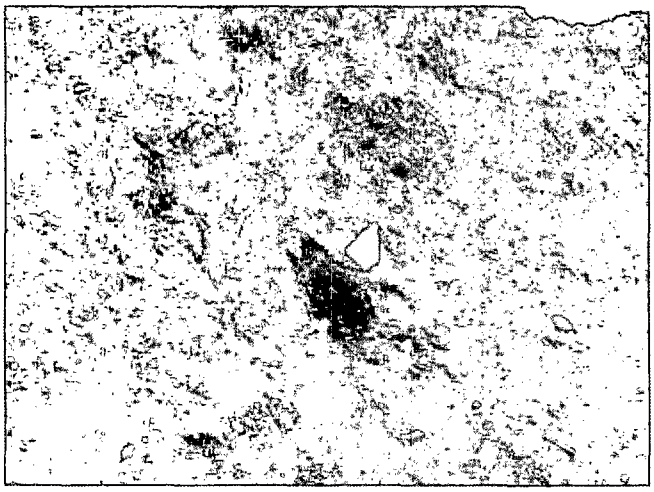
Soil Stockpiles
Navajo Artesia Refinery



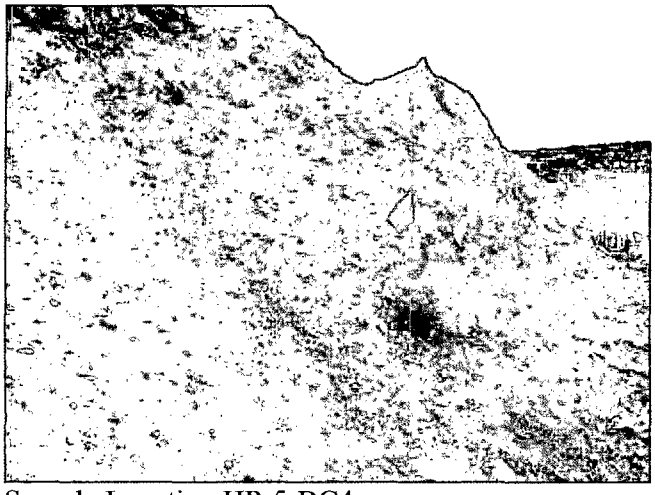
Sample Location HP-5-BC2

Sample Location HP-5-BC5

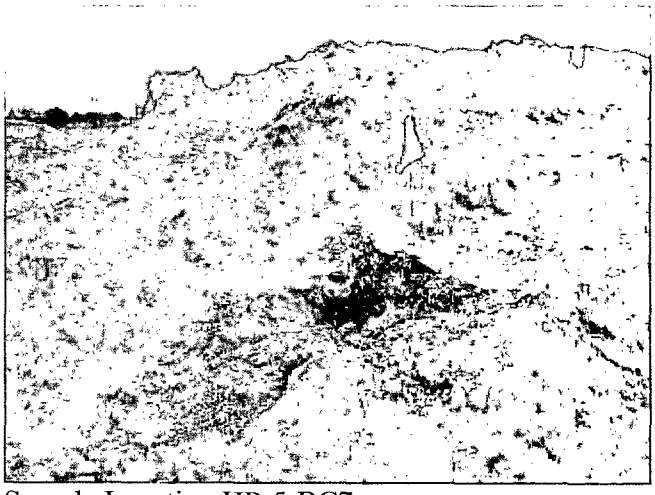


Sample Location HP-5-BC3

Sample Location HP-5-BC6



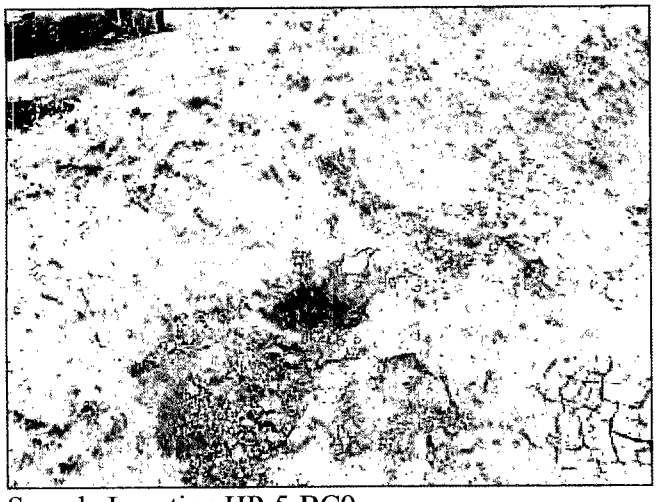
Sample Location HP-5-BC4



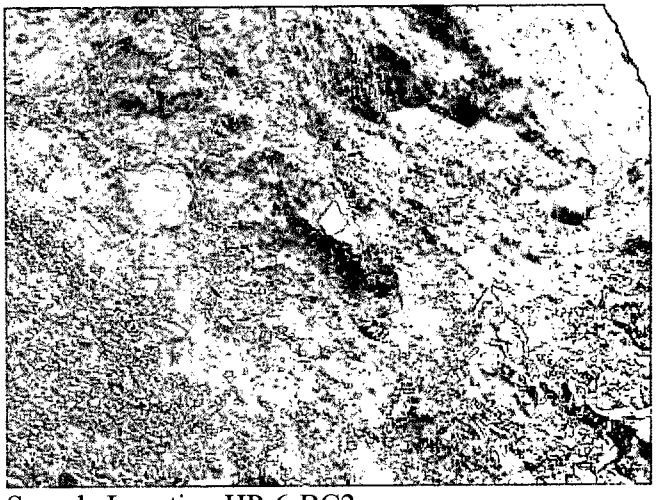
Sample Location HP-5-BC7

Sample Location HP-5-BC8

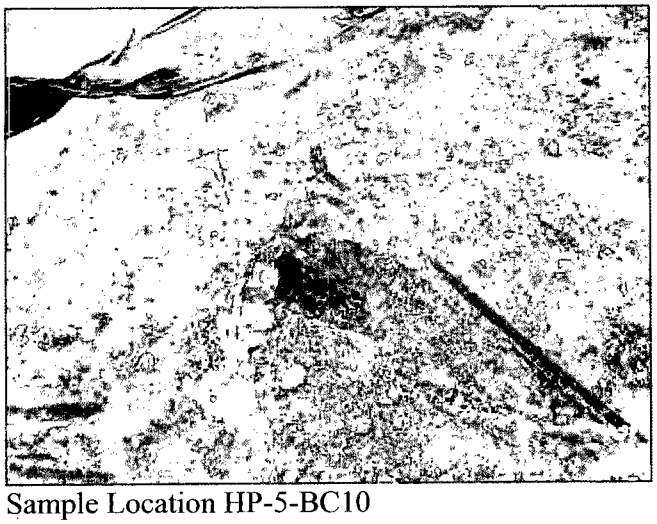
Sample Location HP-6-BC1



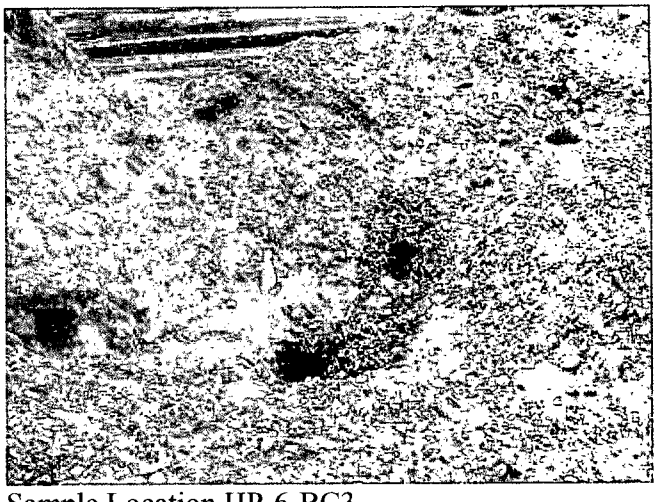
Sample Location HP-5-BC9



Sample Location HP-6-BC2



Sample Location HP-5-BC10

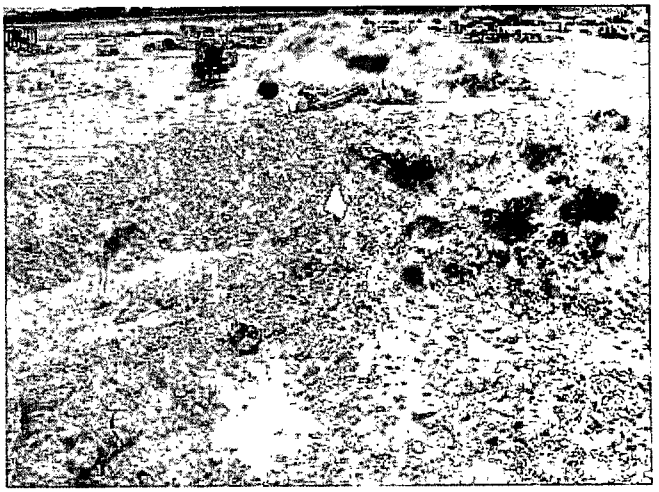


Sample Location HP-6-BC3

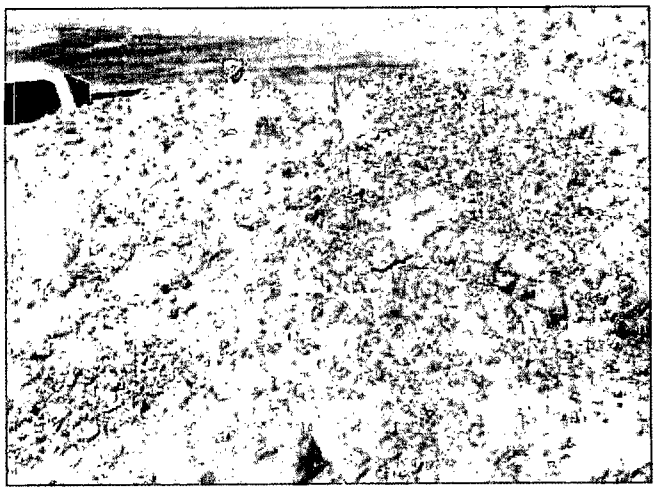
Sample Location HP-6-BC4

Sample Location HP-6-BC7

Sample Location HP-6-BC5



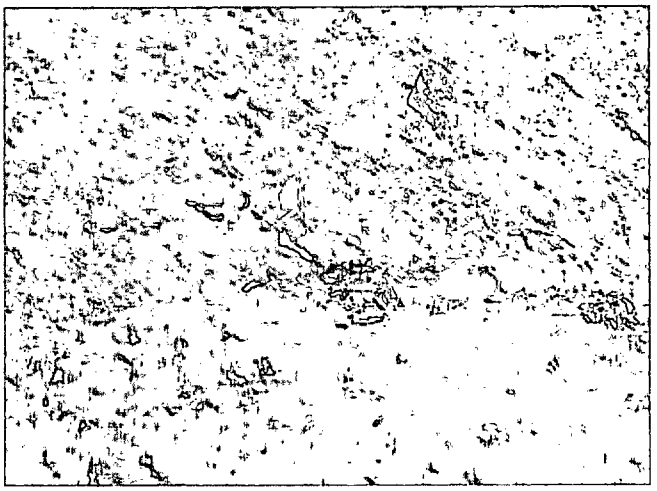
Sample Location HP-6-BC8



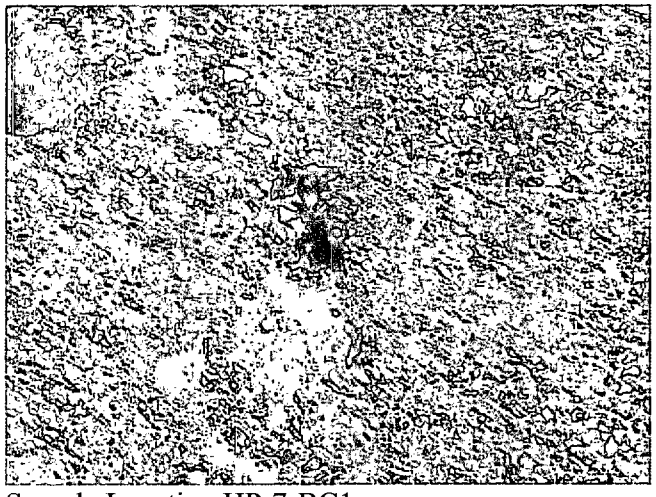
Sample Location HP-6-BC6

Sample Location HP-6-BC9

Sample Location HP-6-BC10



Sample Location HP-7-BC3

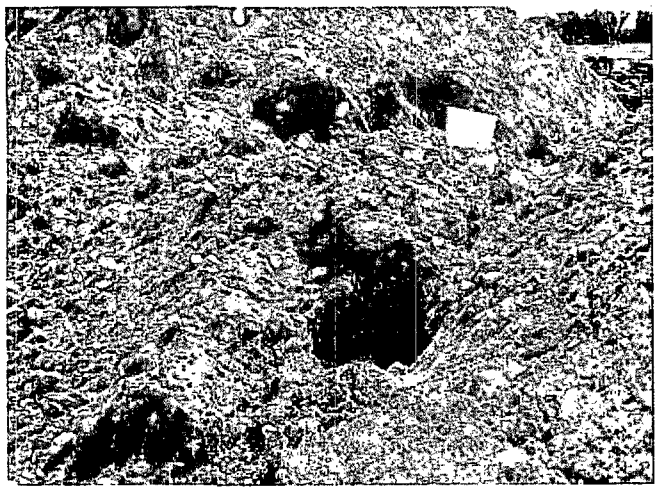


Sample Location HP-7-BC1

Sample Location HP-7-BC4

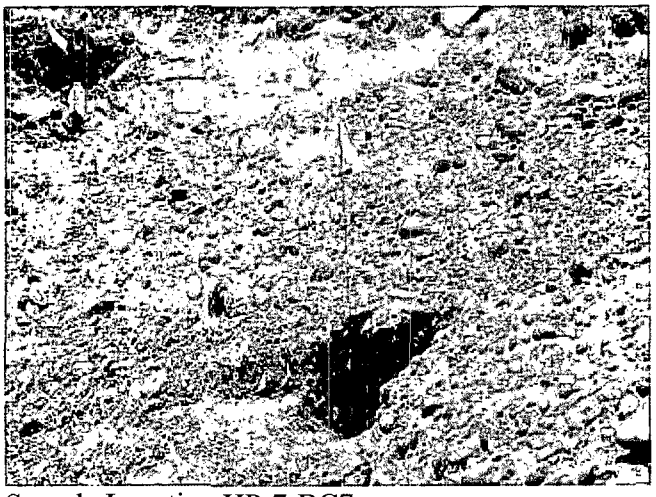
Sample Location HP-7-BC2

Sample Location HP-7-BC5

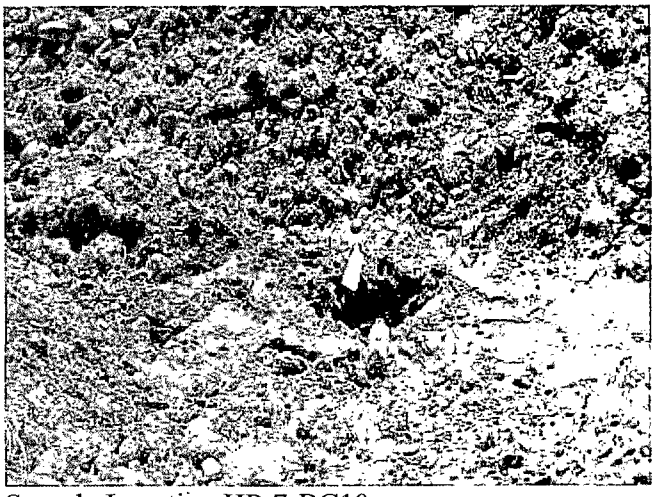


Sample Location HP-7-BC6

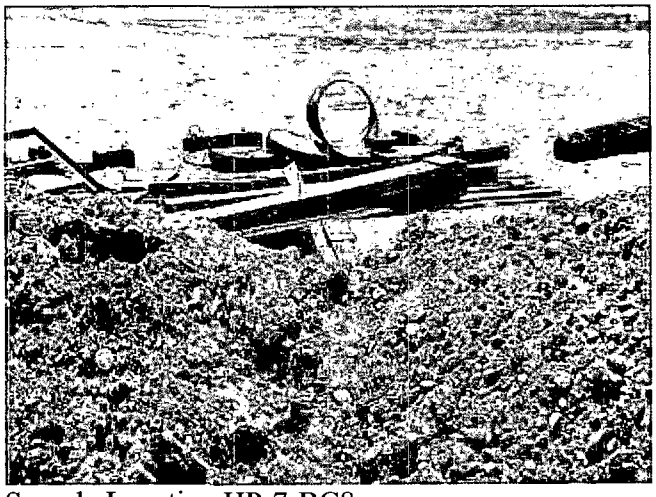
Sample Location HP-7-BC9



Sample Location HP-7-BC7



Sample Location HP-7-BC10



Sample Location HP-7-BC8

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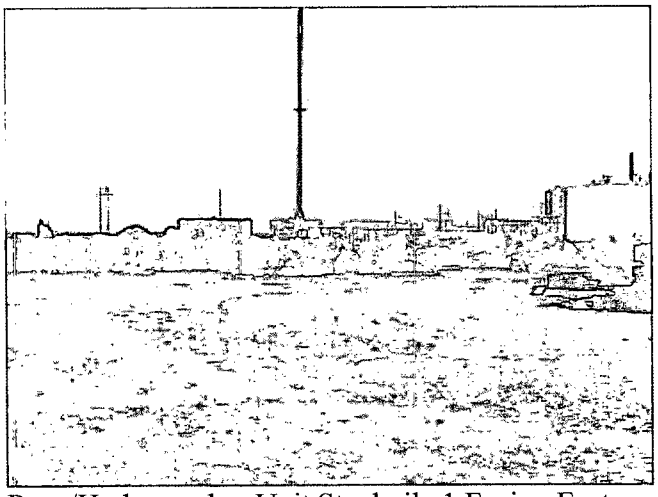
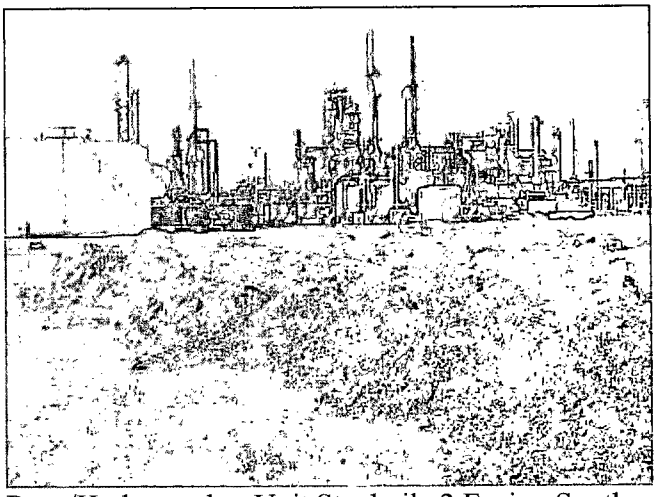
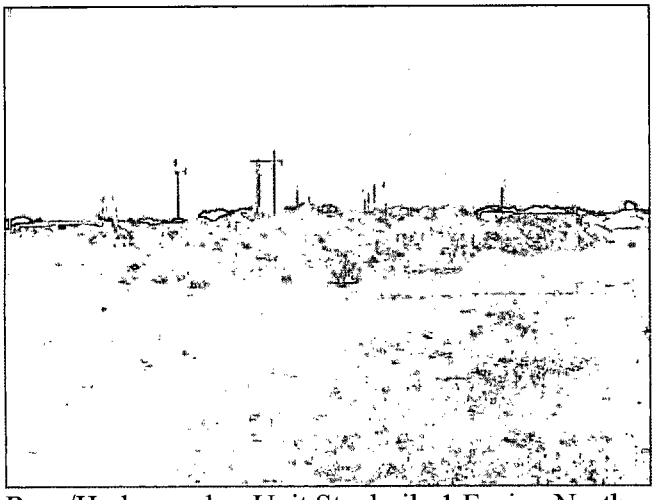


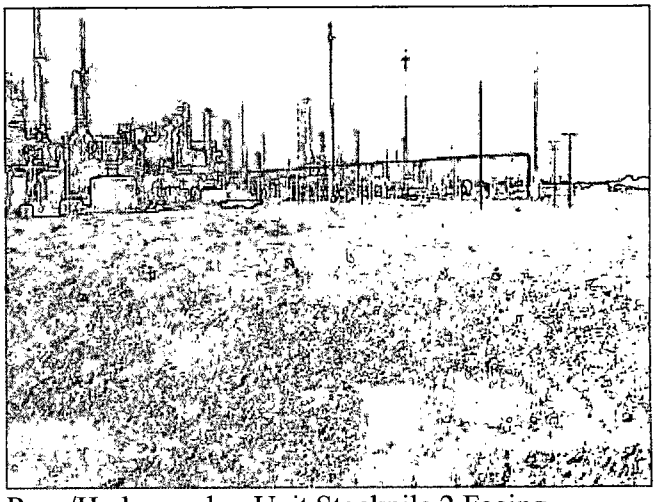
Rose/Hydrocracker Unit Stockpile 1 Facing East



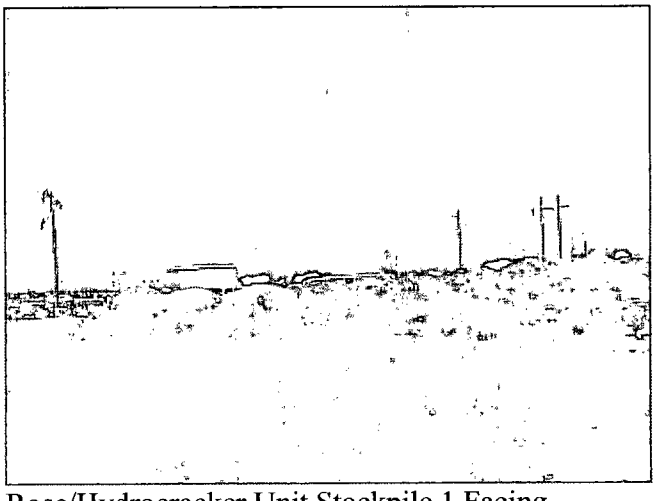
Rose/Hydrocracker Unit Stockpile 2 Facing South



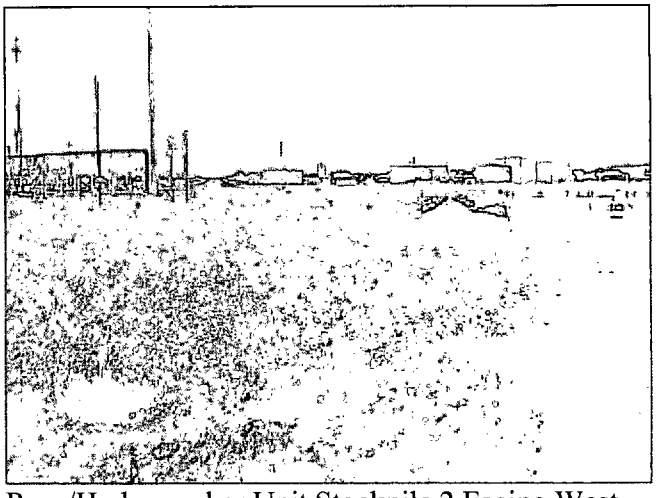
Rose/Hydrocracker Unit Stockpile 1 Facing North



Rose/Hydrocracker Unit Stockpile 2 Facing Southwest



Rose/Hydrocracker Unit Stockpile 1 Facing Northwest



Rose/Hydrocracker Unit Stockpile 2 Facing West

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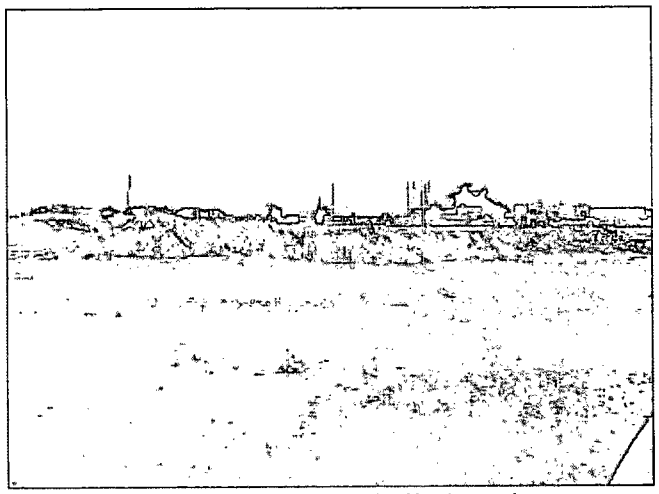
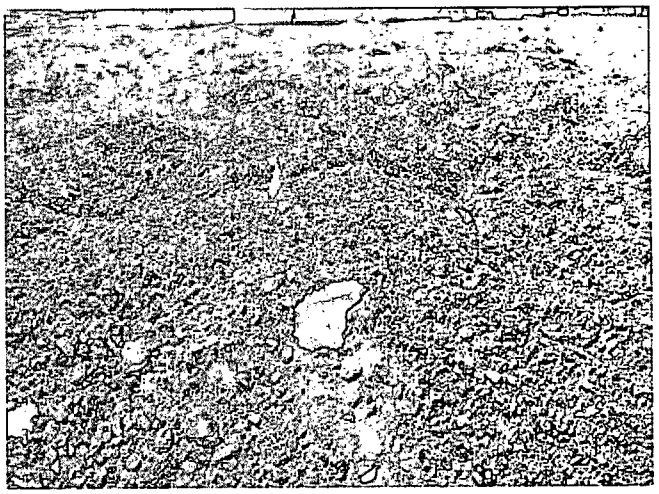
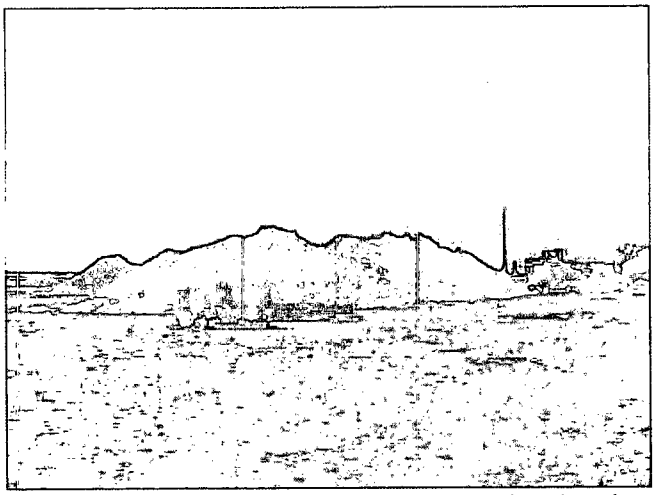


Rose/Hydrocracker Unit Stockpile 3 Facing Northeast

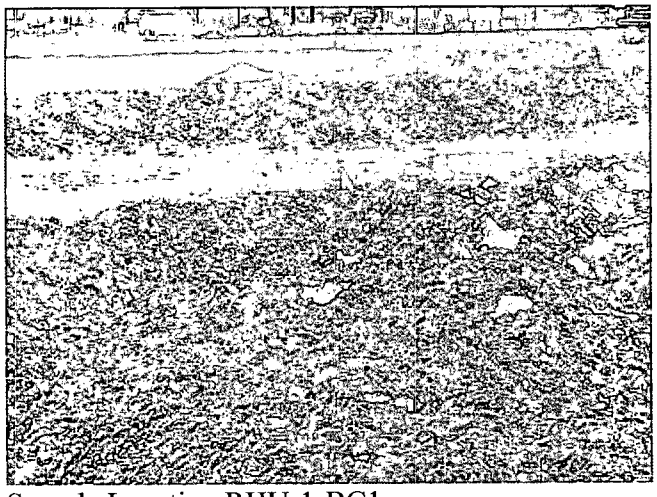


Sample Location RHU-1-BC2

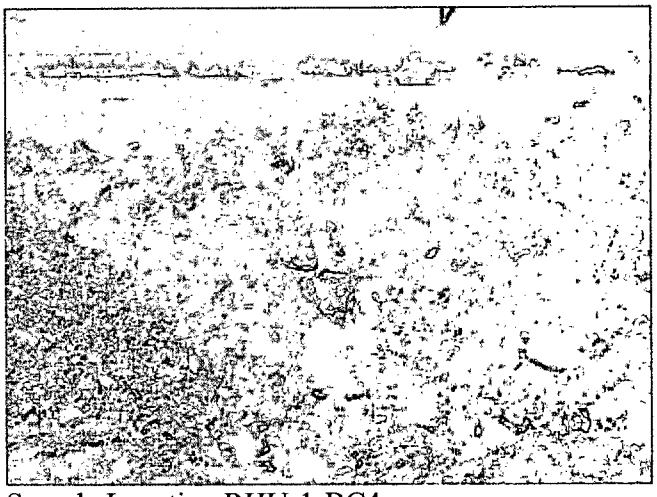


Rose/Hydrocracker Unit Stockpile 4 Facing South

Sample Location RHU-1-BC3.



Sample Location RHU-1-BC1



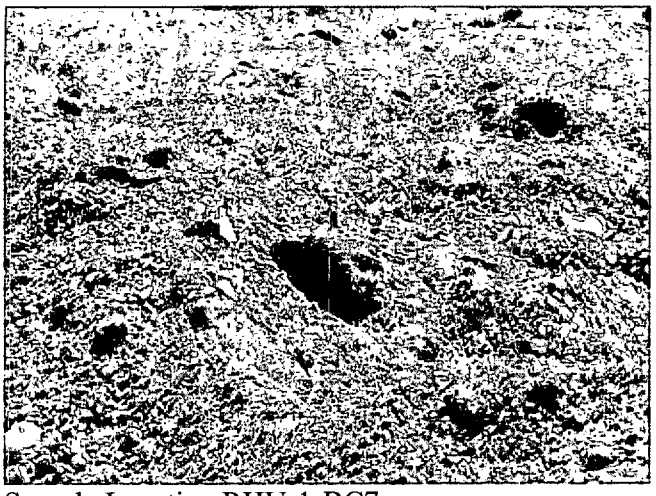
Sample Location RHU-1-BC4

Sample Location RHU-1-BC5

Sample Location RHU-1-BC8

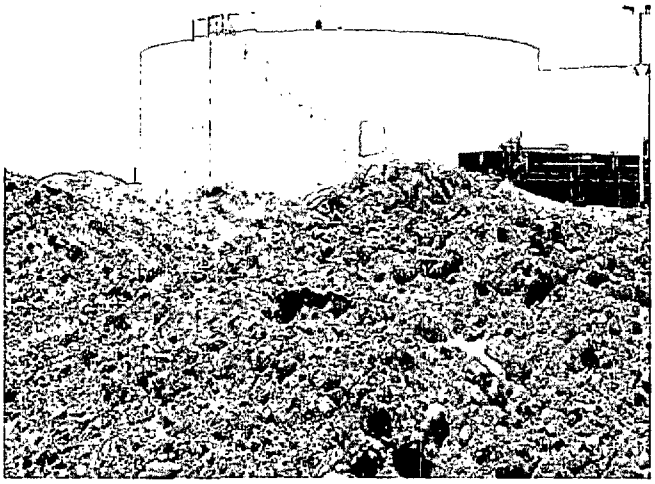
Sample Location RHU-1-BC6

Sample Location RHU-1-BC9

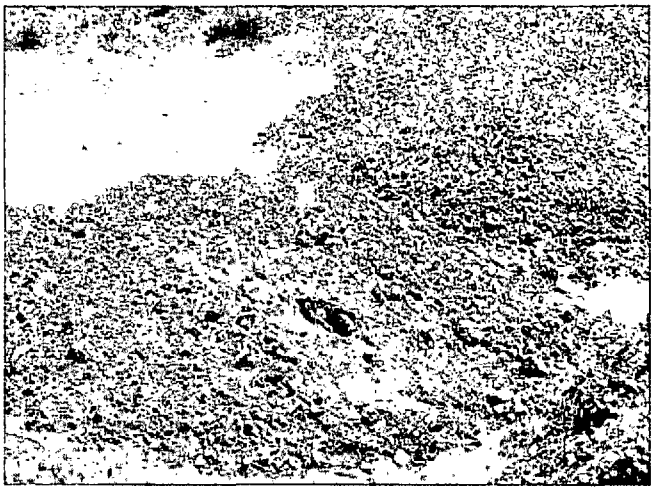


Sample Location RHU-1-BC7

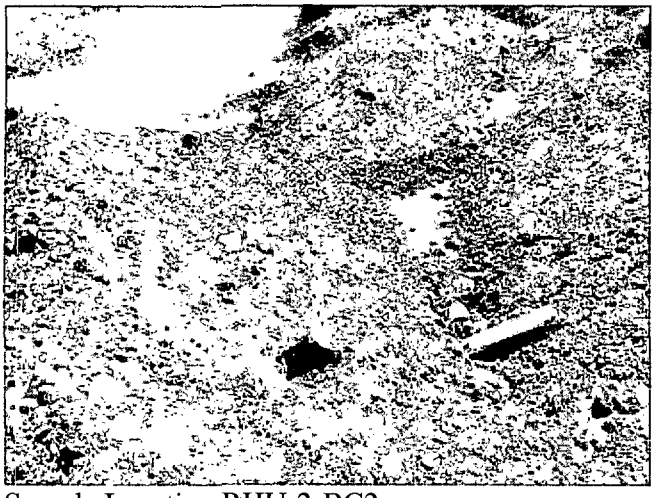
Sample Location RHU-1-BC10



Sample Location RHU-2-BC1

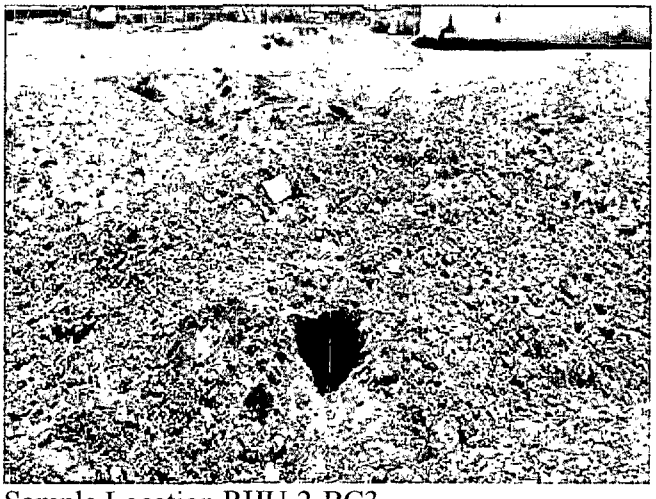


Sample Location RHU-2-BC4

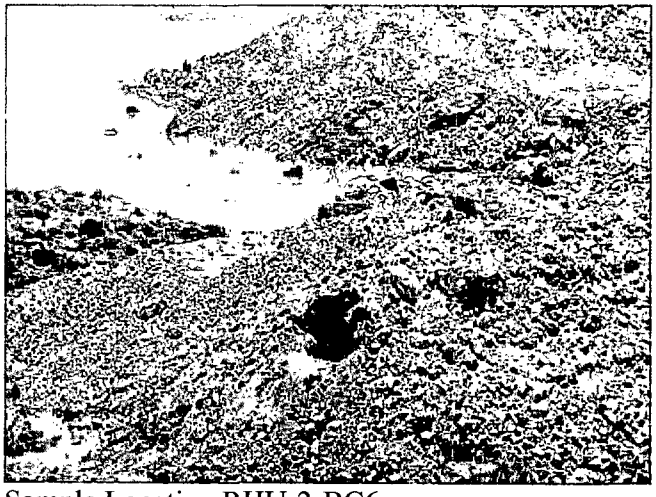


Sample Location RHU-2-BC2

Sample Location RHU-2-BC5



Sample Location RHU-2-BC3



Sample Location RHU-2-BC6

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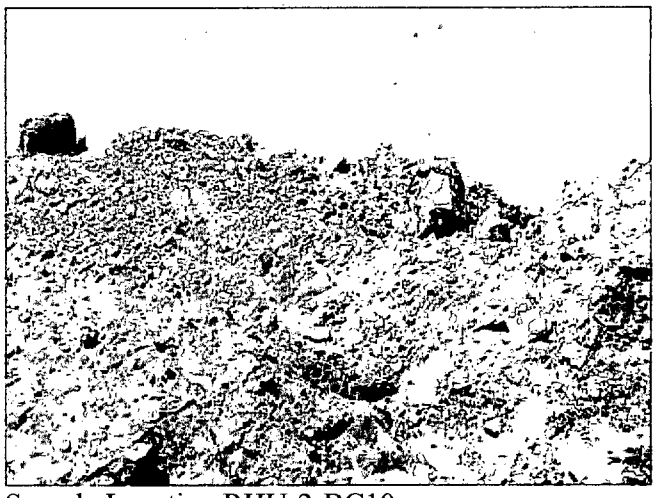
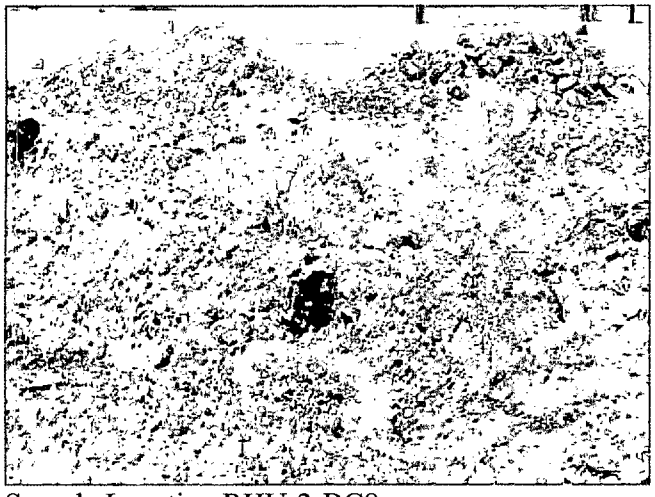
Sample Location RHU-2-BC7



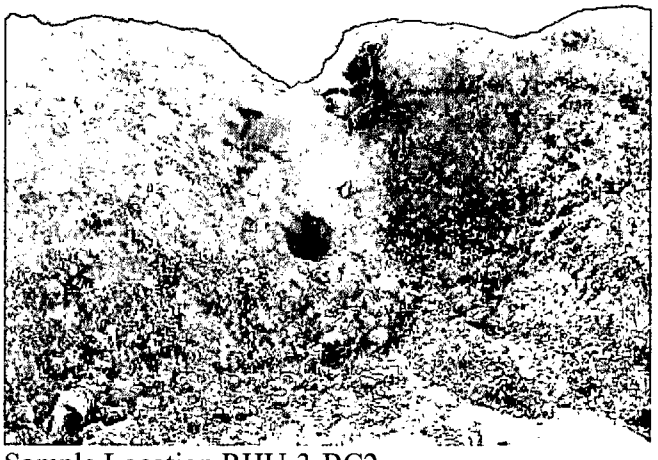
Sample Location RHU-2-BC10



Sample Location RHU-2-BC8

Sample Location RHU-3-BC1

Sample Location RHU-2-BC9



Sample Location RHU-3-BC2

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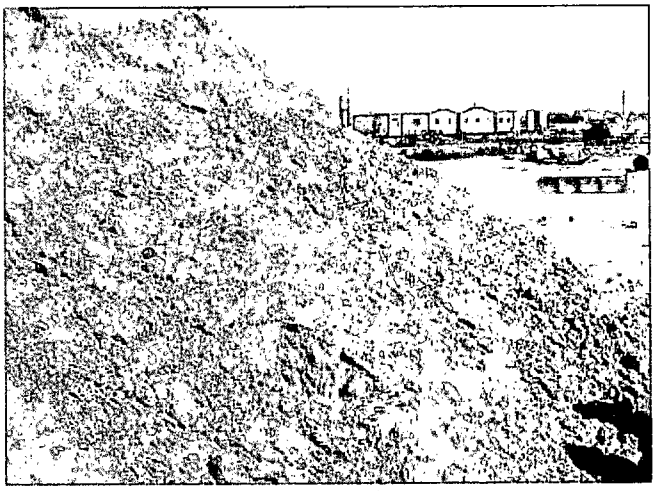
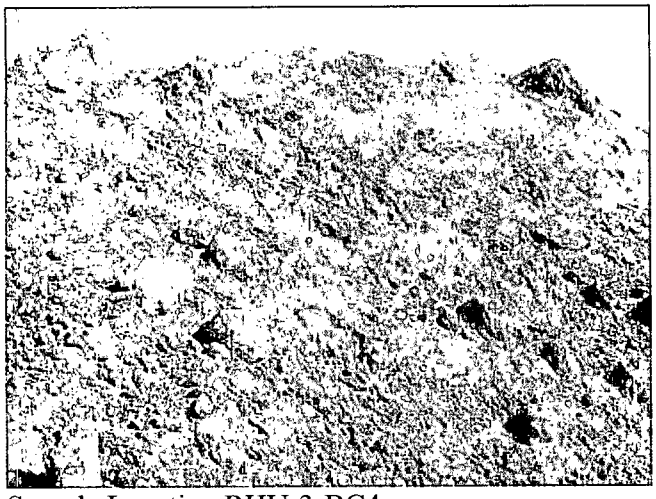
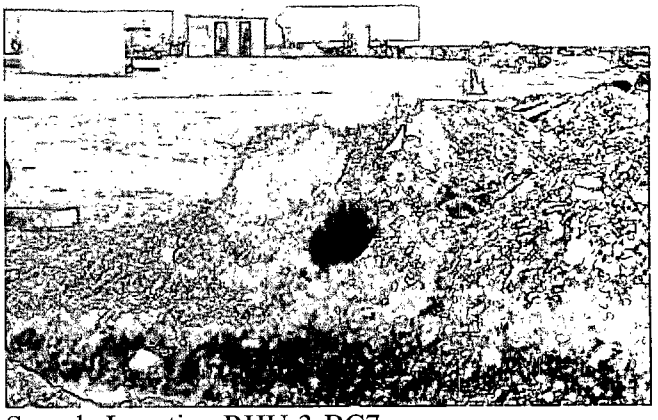
Sample Location RHU-3-BC3



Sample Location RHU-3-BC6

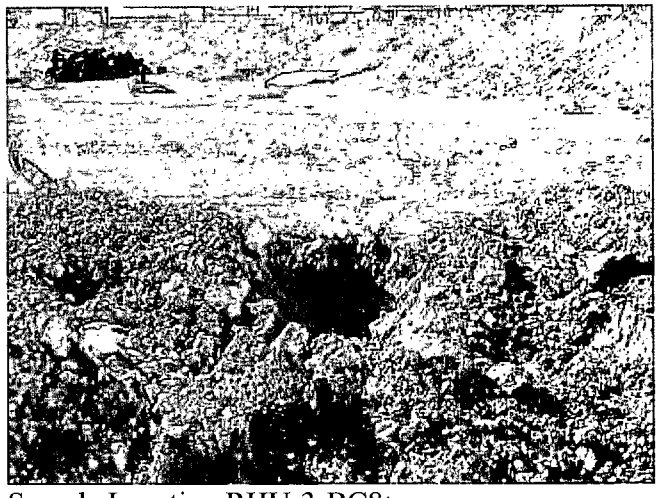


Sample Location RHU-3-BC4

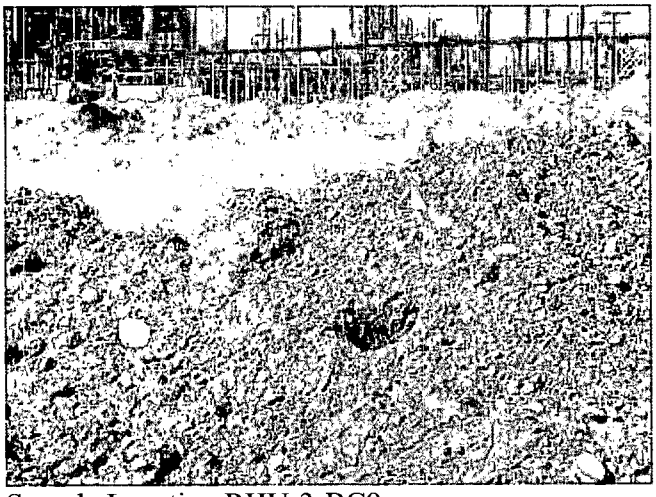


Sample Location RHU-3-BC7

Sample Location RHU-3-BC5

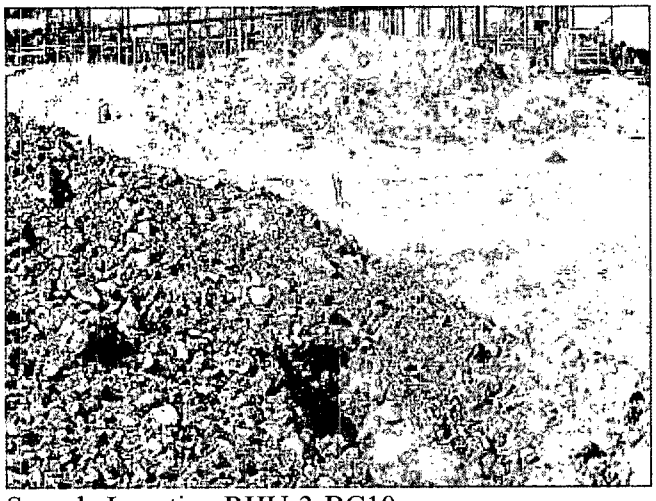


Sample Location RHU-3-BC8

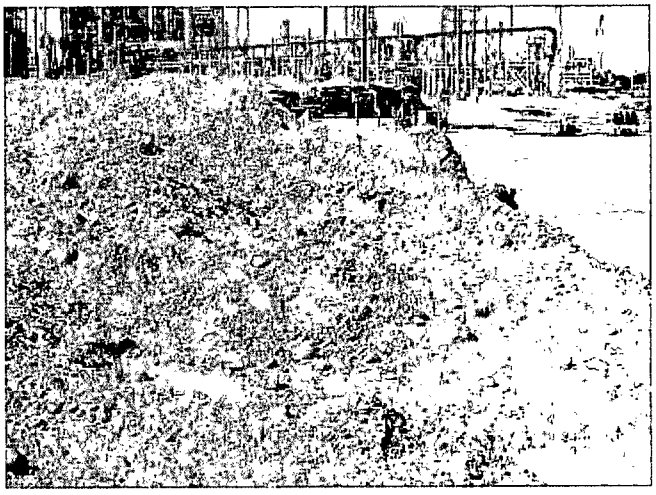


Sample Location RHU-3-BC9

Sample Location RHU-4-BC2

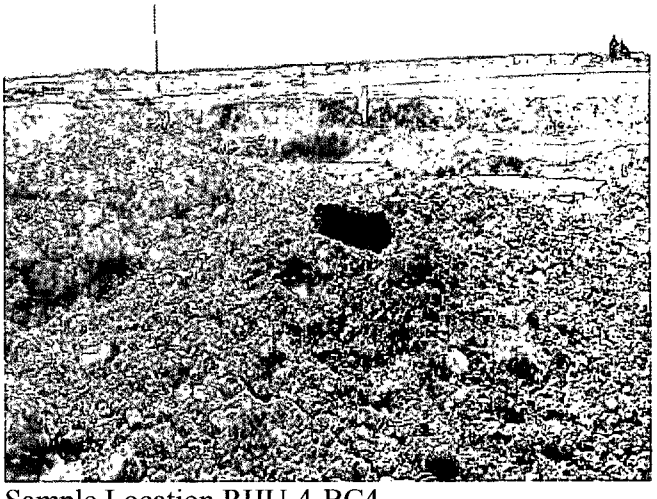


Sample Location RHU-3-BC10



Sample Location RHU-4-BC3

Sample Location RHU-4-BC1



Sample Location RHU-4-BC4

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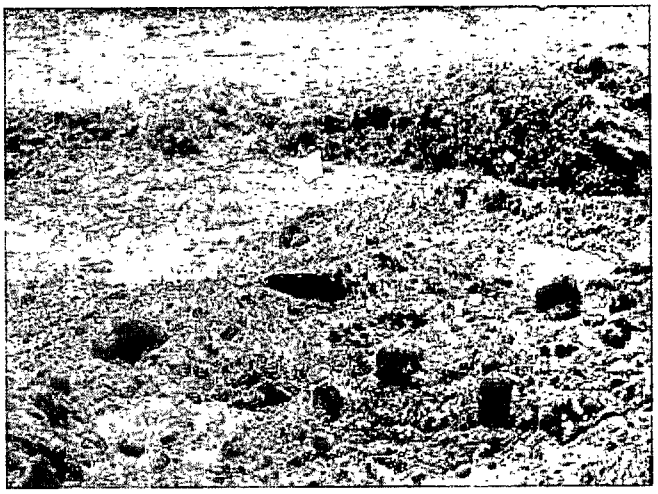
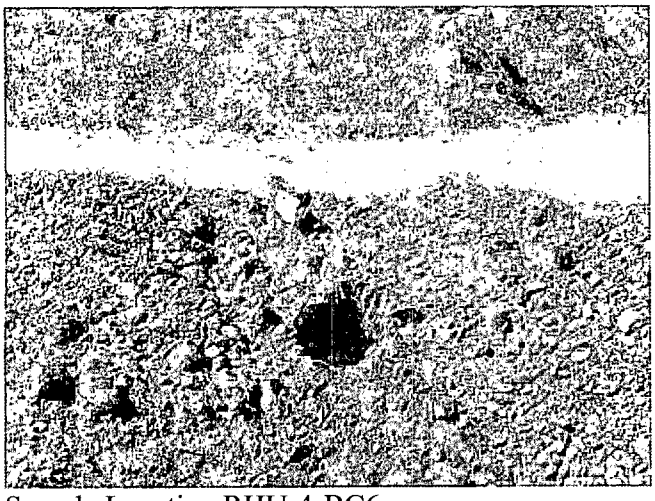
Sample Location RHU-4-BC5

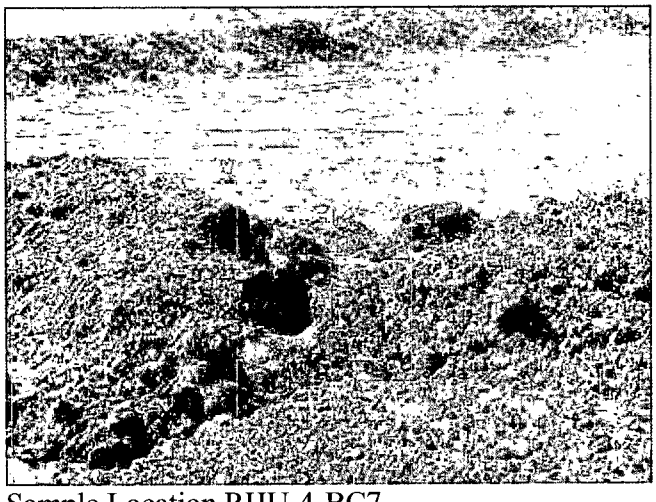


Sample Location RHU-4-BC8



Sample Location RHU-4-BC6

Sample Location RHU-4-BC9



Sample Location RHU-4-BC7

Sample Location RHU-4-BC10

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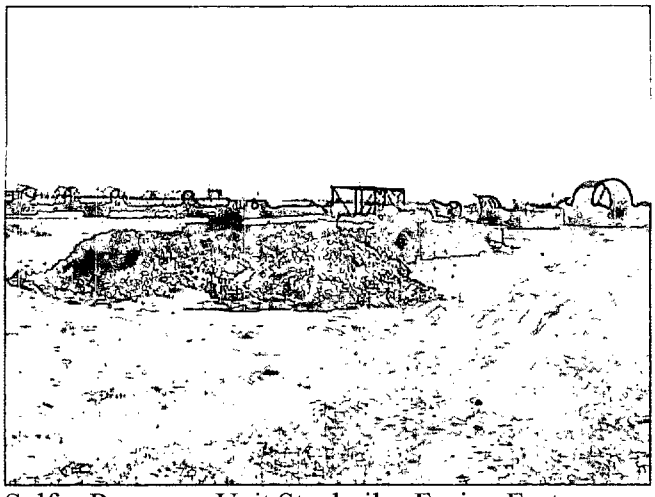
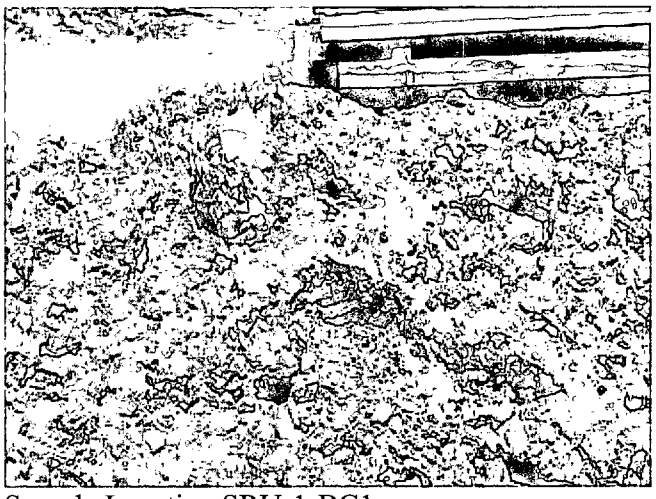
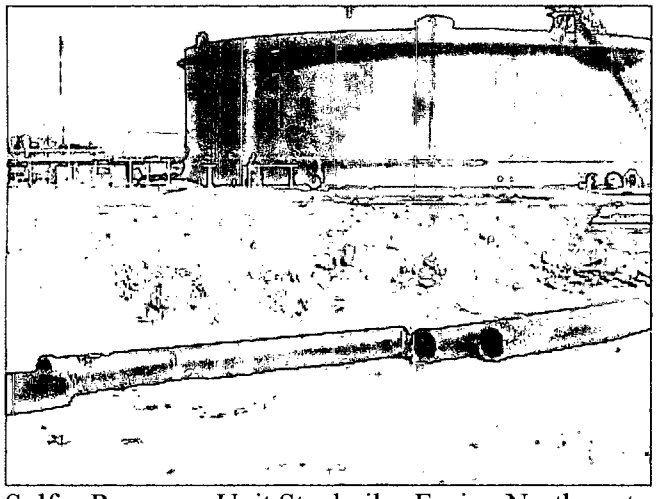


Sulfur Recovery Unit Stockpiles Facing East

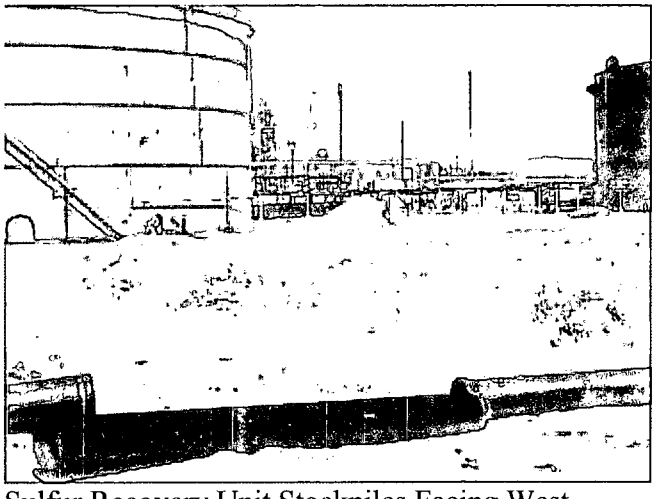


Sample Location SRU-1-BC1

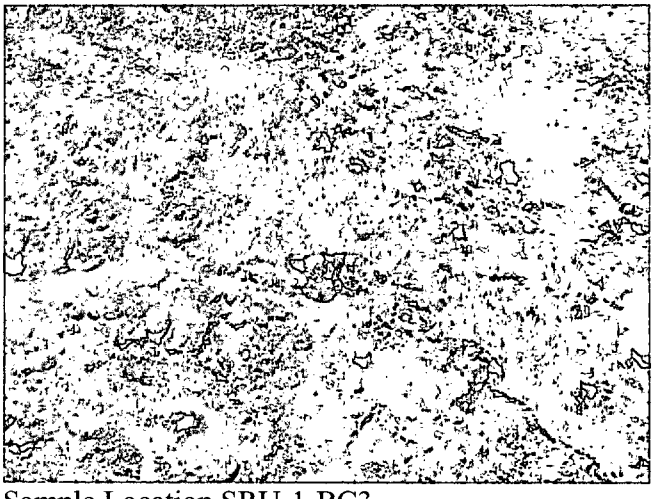


Sulfur Recovery Unit Stockpiles Facing Northwest

Sample Location SRU-1-BC2



Sulfur Recovery Unit Stockpiles Facing West



Sample Location SRU-1-BC3

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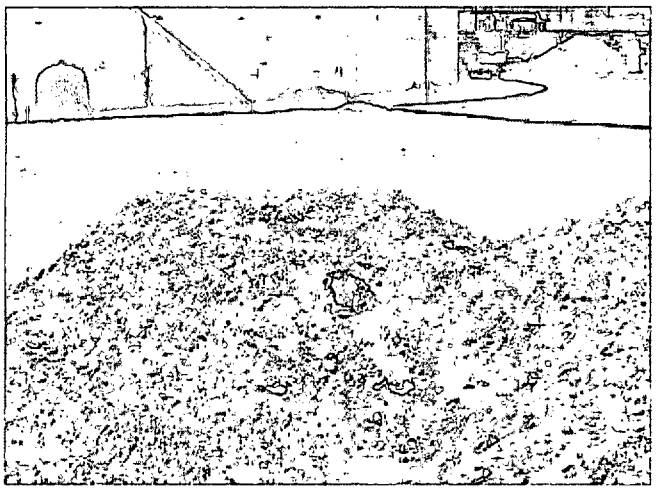
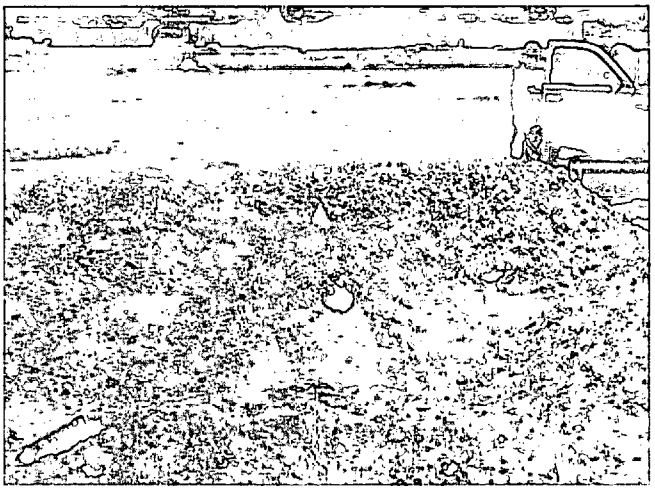
Navajo Artesia Refinery



Sample Location SRU-1-BC4



Sample Location SRU-1-BC7

Sample Location SRU-1-BC5

Sample Location SRU-1-BC8

Sample Location SRU-1-BC6

Sample Location SRU-1-BC9

Sample Location SRU-1-BC10

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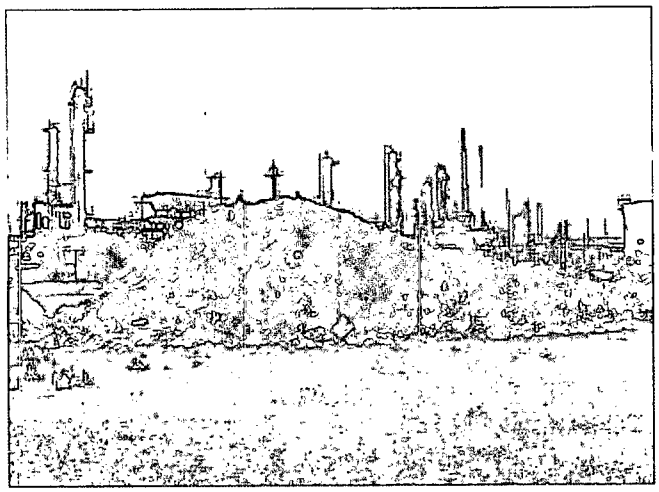
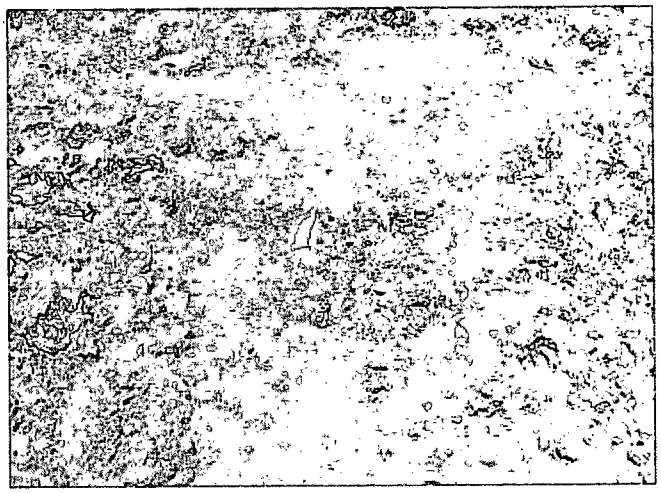
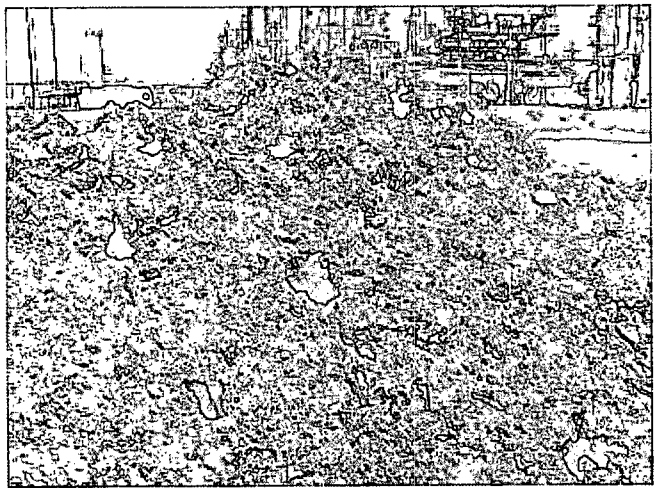


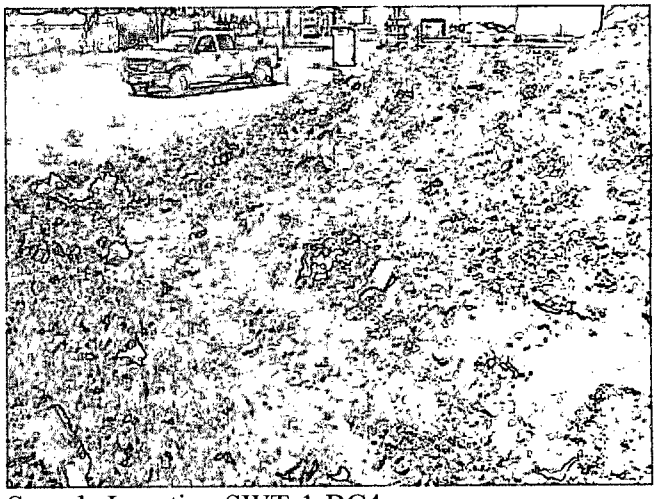
Sour Water Tank Stockpile Facing Southeast



Sample Location SWT-1-BC3

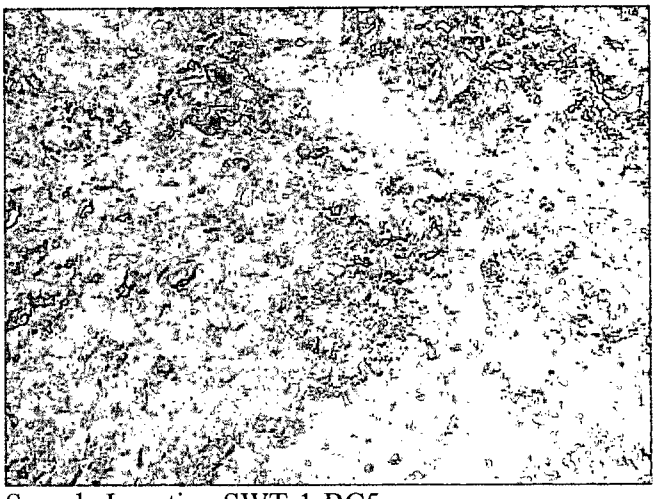


Sample Location SWT-1-BC1



Sample Location SWT-1-BC4

Sample Location SWT-1-BC2



Sample Location SWT-1-BC5

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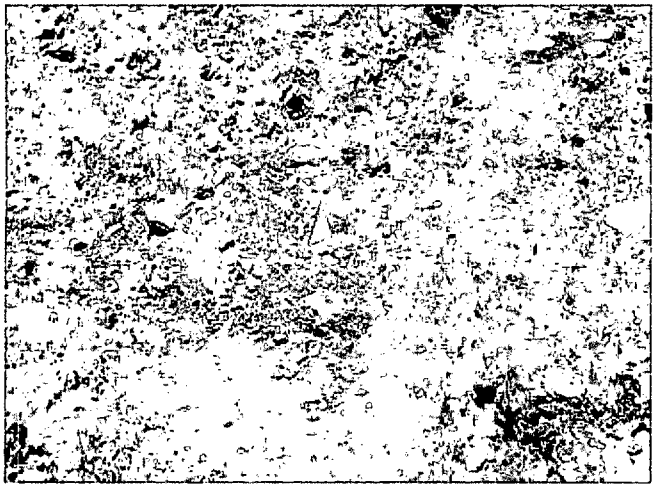
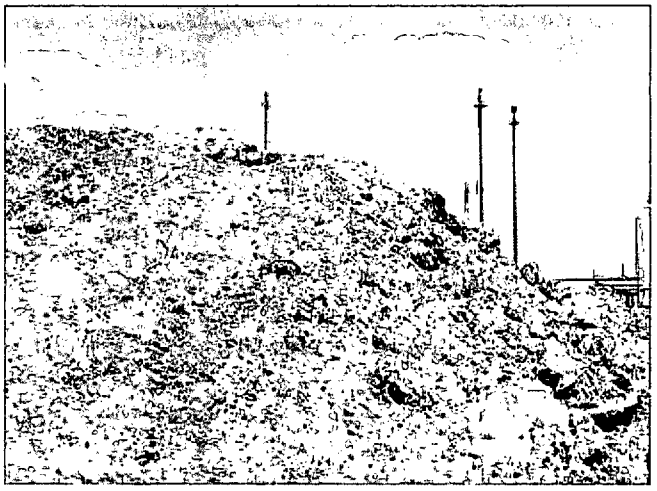
Navajo Artesia Refinery

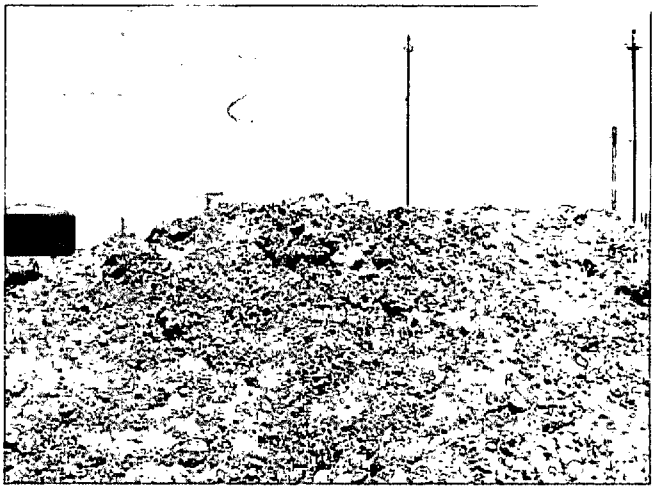


Sample Location SWT-1-BC6

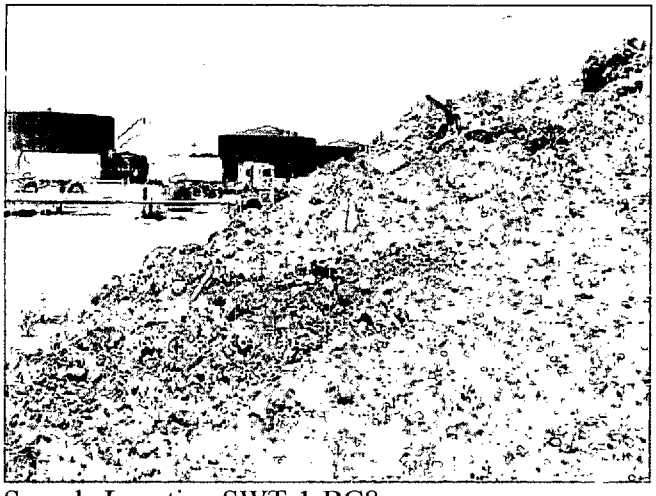


Sample Location SWT-1-BC9

Sample Location SWT-1-BC7



Sample Location SWT-1-BC10



Sample Location SWT-1-BC8

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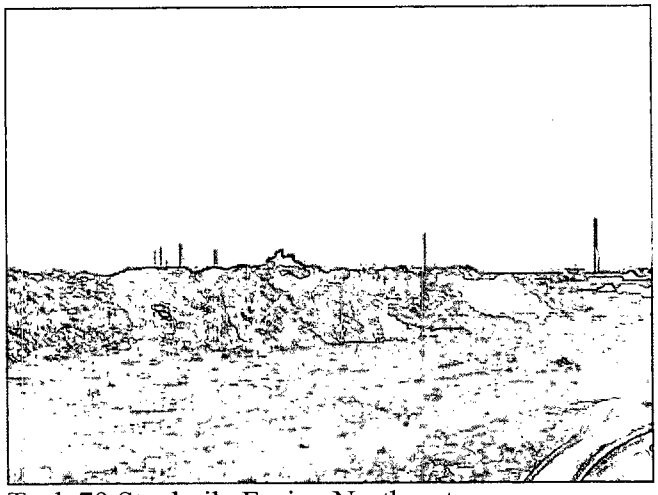
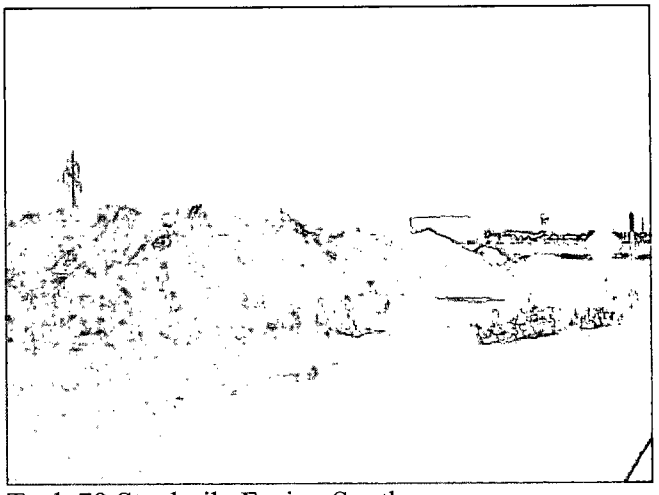
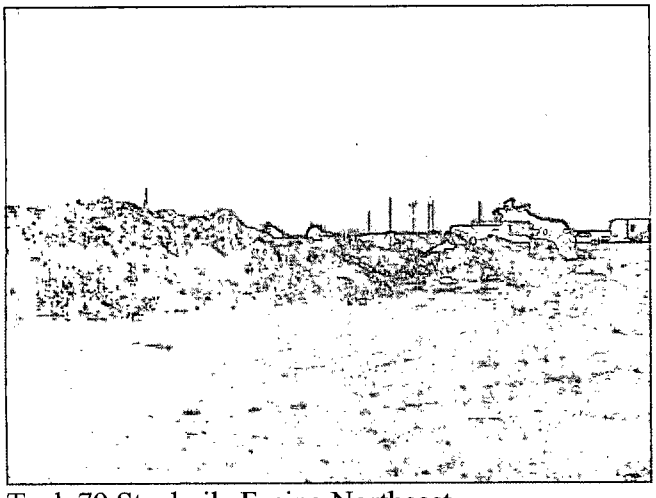
Soil Stockpiles
Navajo Artesia Refinery



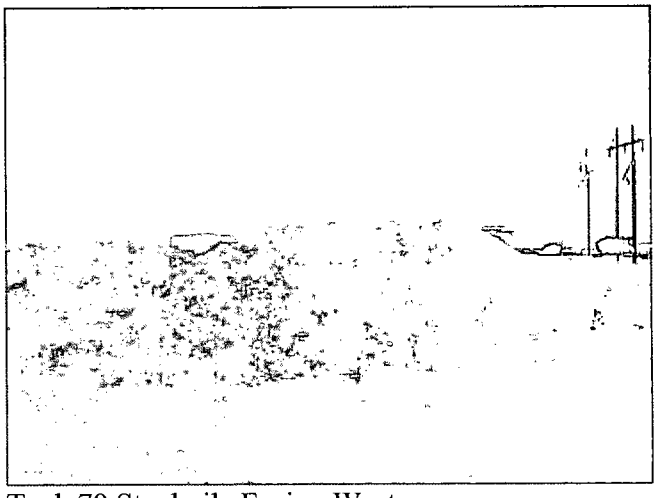
Tank 79 Stockpile Facing Northeast



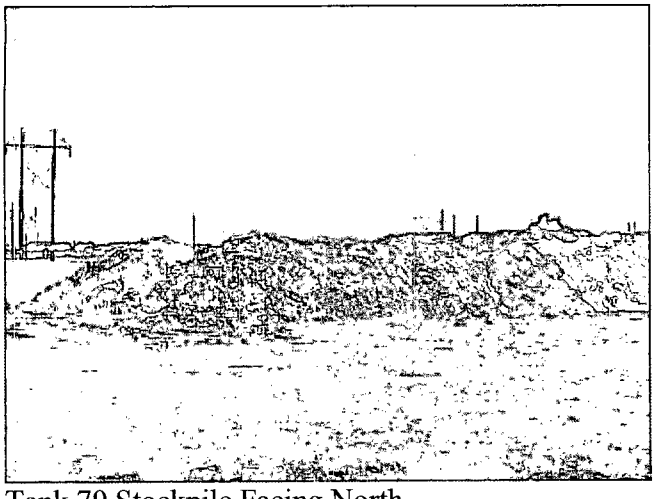
Tank 79 Stockpile Facing South



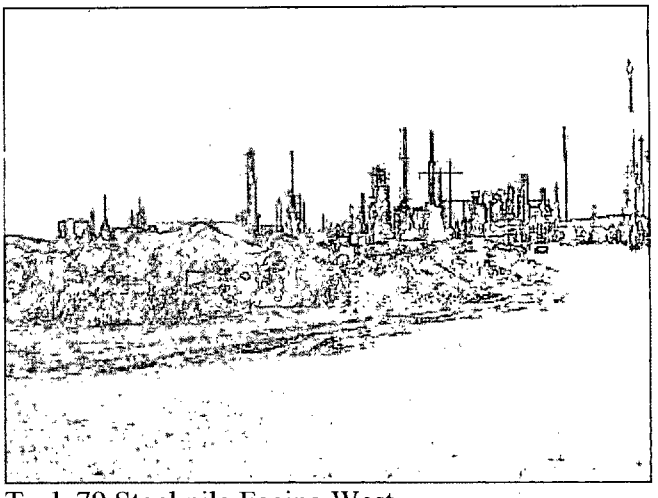
Tank 79 Stockpile Facing Northeast



Tank 79 Stockpile Facing West



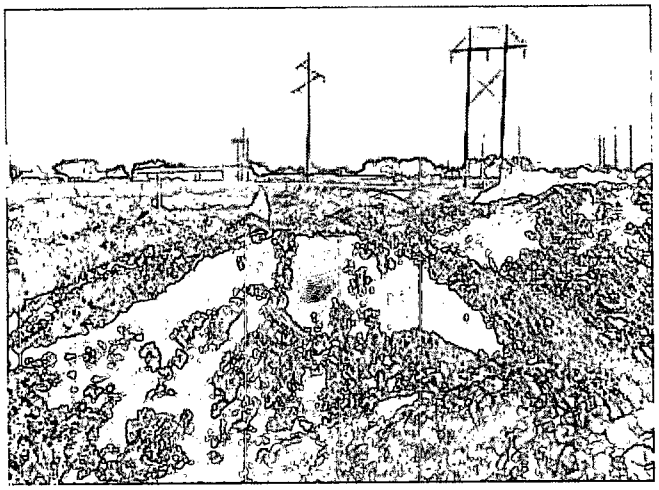
Tank 79 Stockpile Facing North



Tank 79 Stockpile Facing West

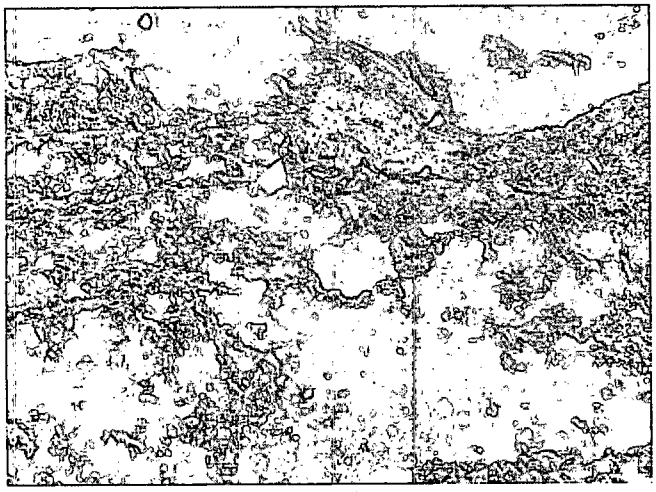
ARCADIS

Soil Stockpiles
Navajo Artesia Refinery



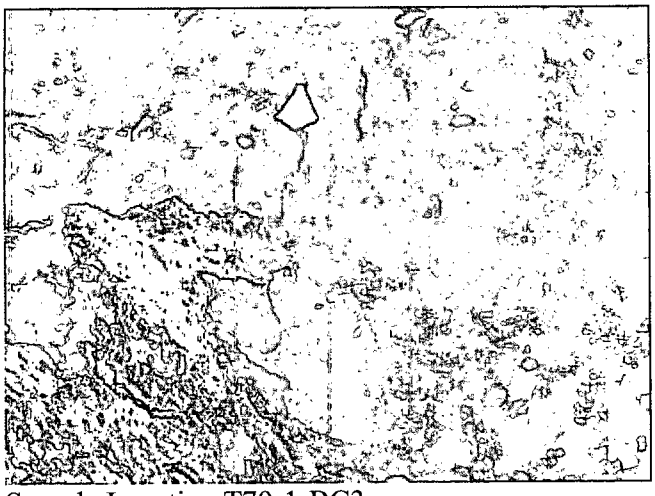
Sample Location T79-1-BC1

Sample Location T79-1-BC4



Sample Location T79-1-BC2

Sample Location T79-1-BC5



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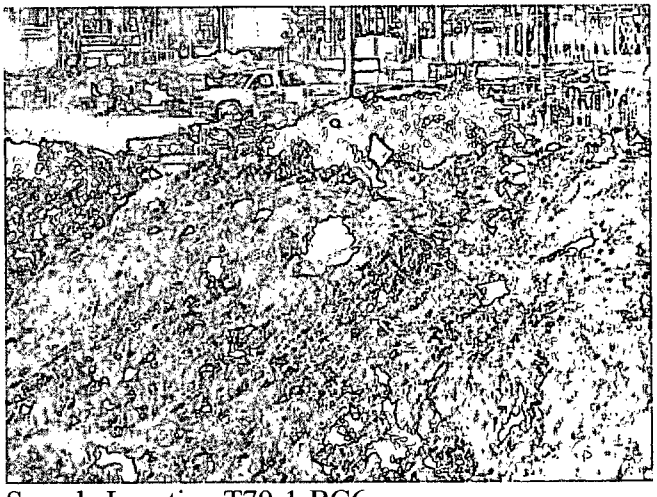
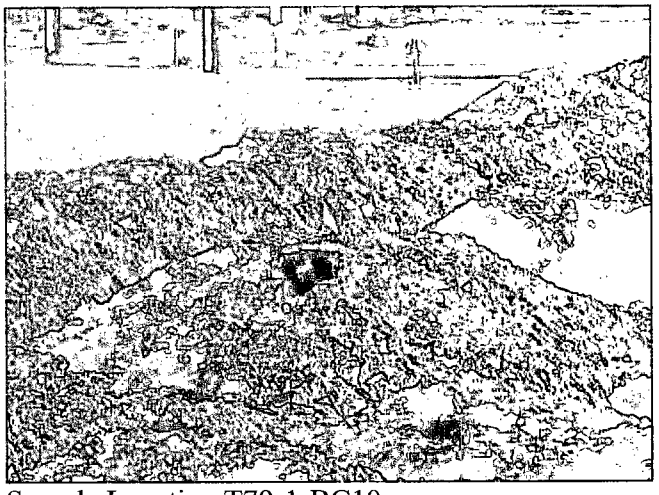


Sample Location T79-1-BC6

ARCADIS

Soil Stockpiles
Navajo Artesia Refinery

Sample Location T79-1-BC7



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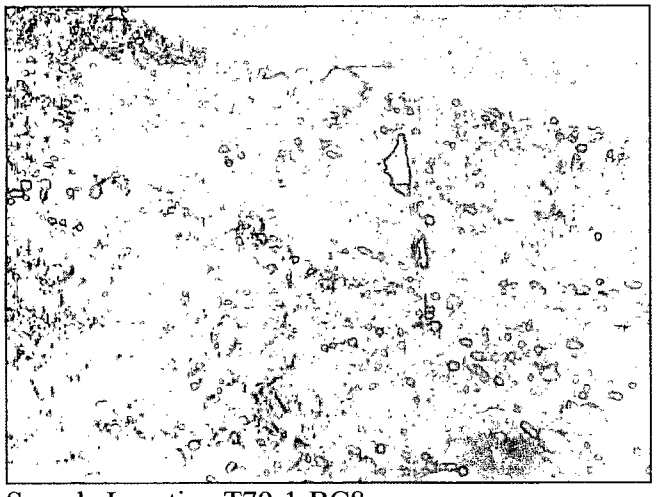
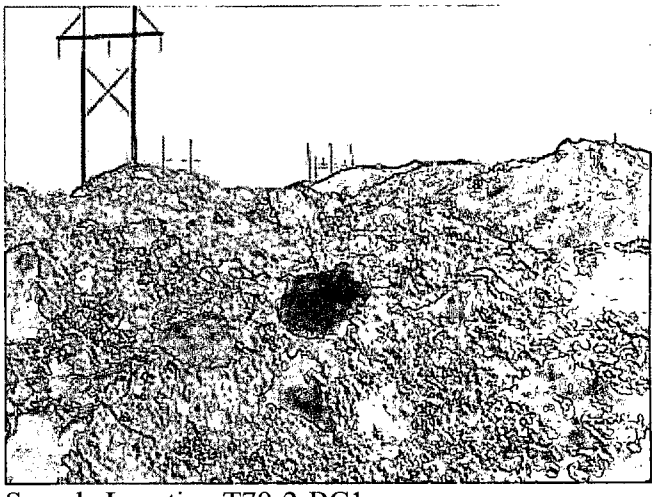


Sample Location T79-1-BC8

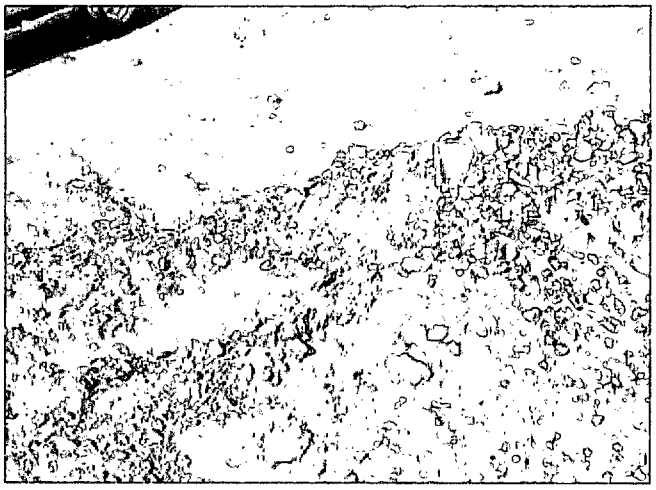


Sample Location T79-2-BC1

Sample Location T79-1-BC9

Sample Location T79-2-BC2

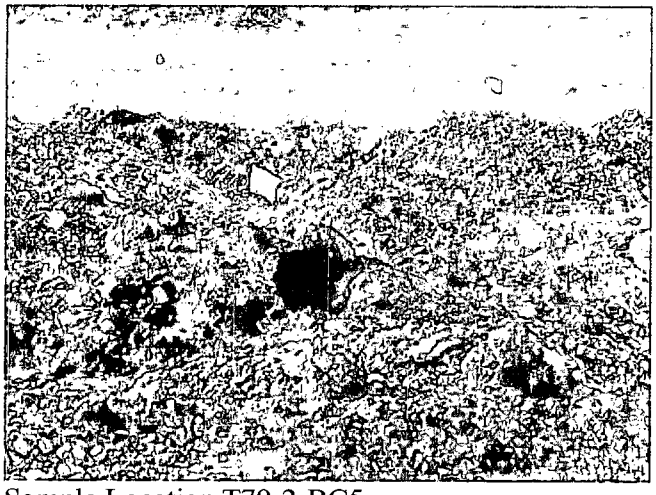
Sample Location T79-2-BC3



Sample Location T79-2-BC6

Sample Location T79-2-BC4

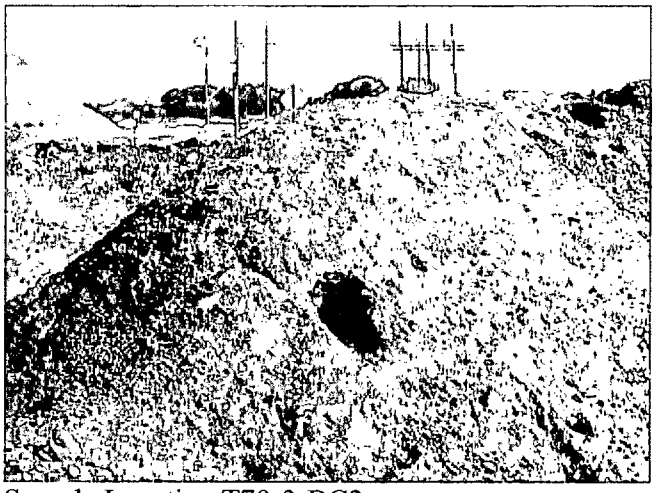
Sample Location T79-2-BC7



Sample Location T79-2-BC5

Sample Location T79-2-BC8

Sample Location T79-2-BC9



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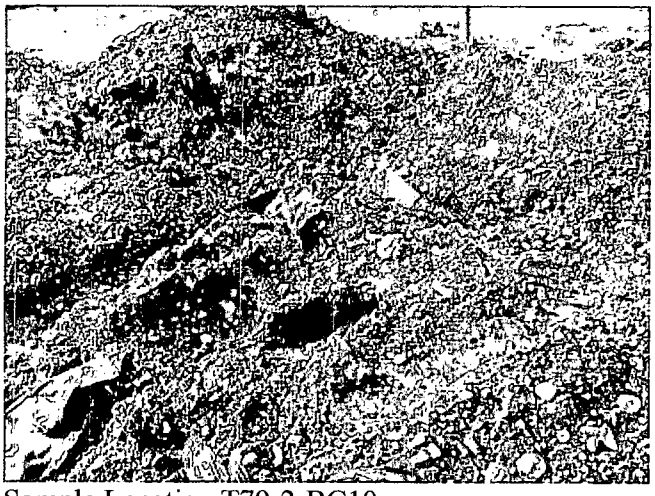
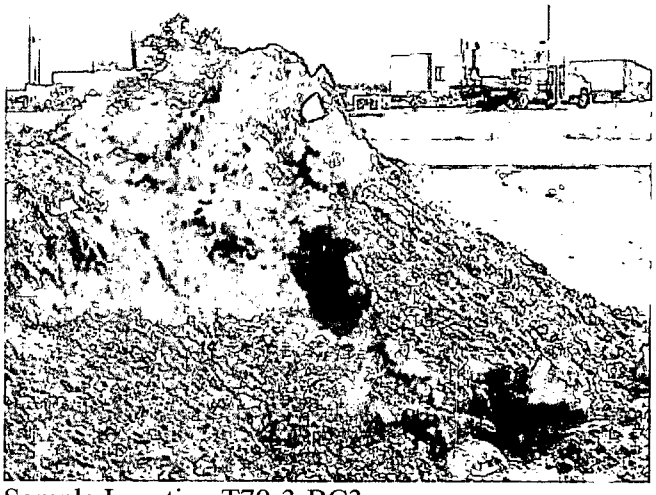


Sample Location T79-2-BC10



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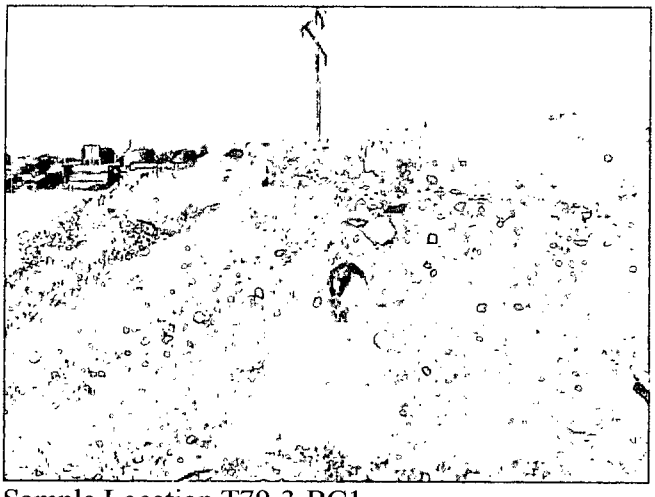

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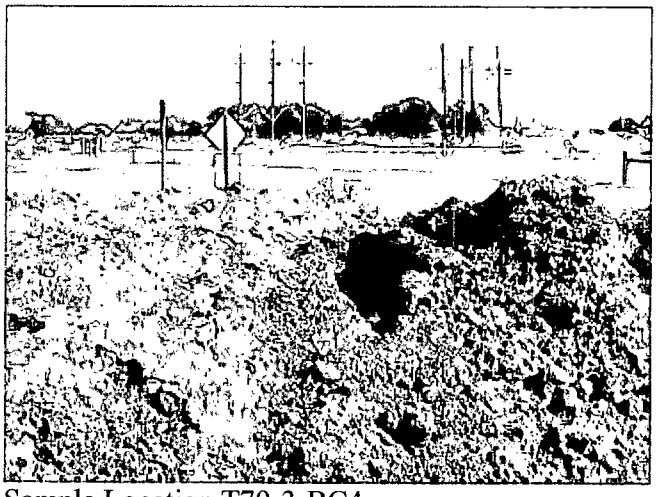

Sample Location T79-3-BC4

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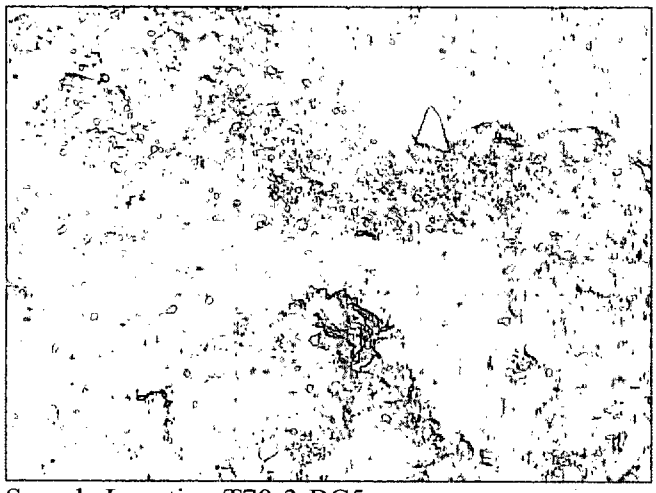
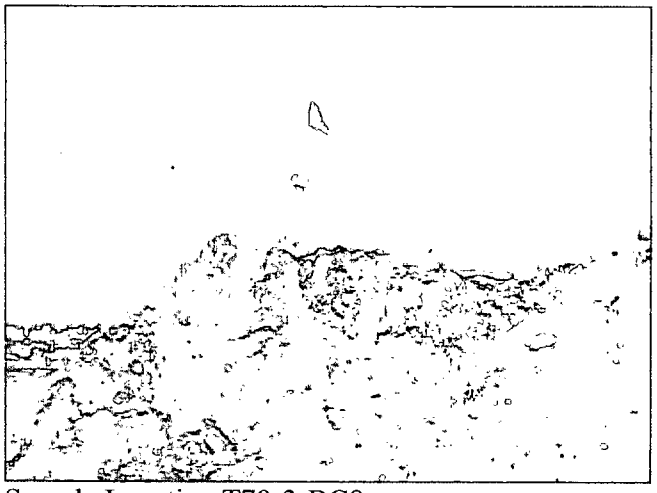
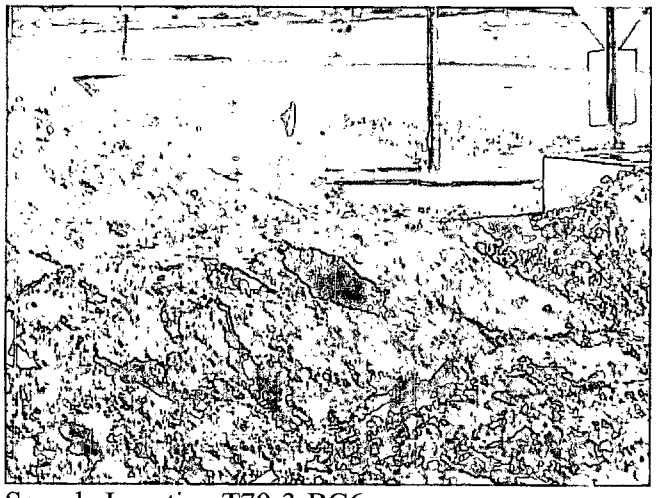
Soil Stockpiles
Navajo Artesia Refinery



Sample Location T79-3-BC5



Sample Location T79-3-BC8



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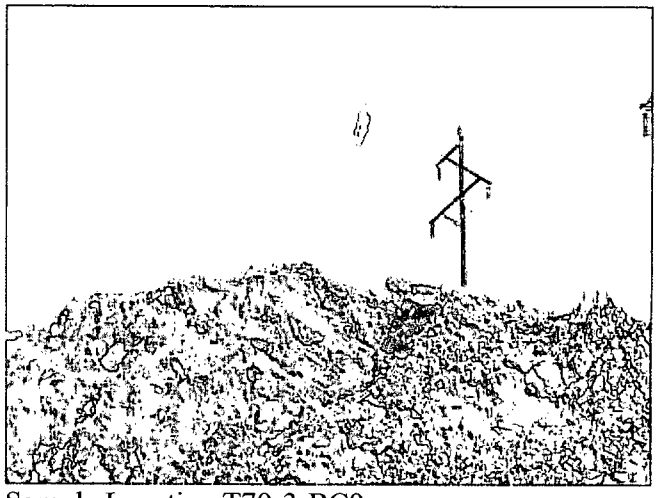

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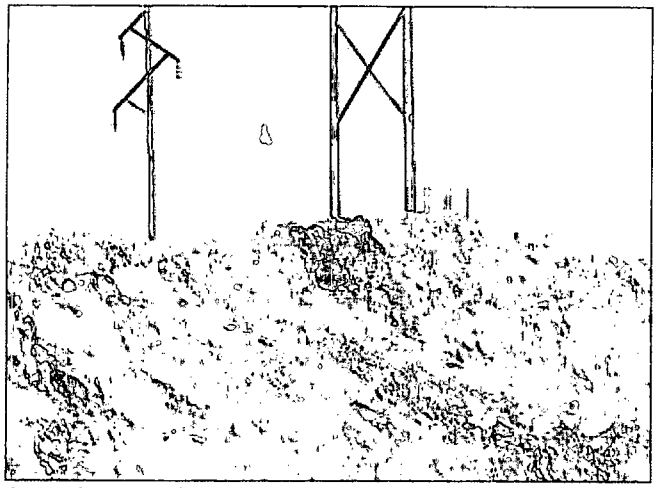

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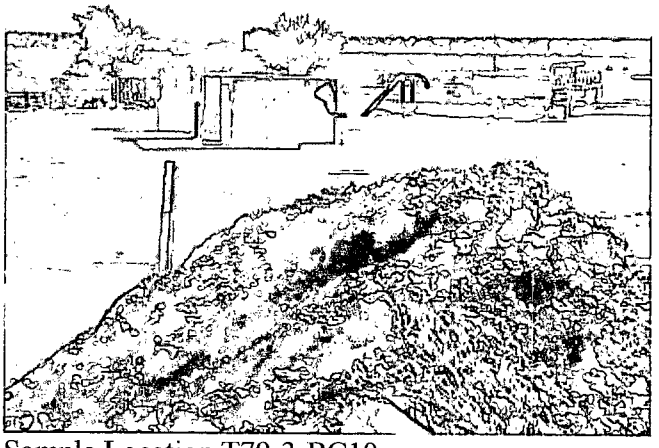
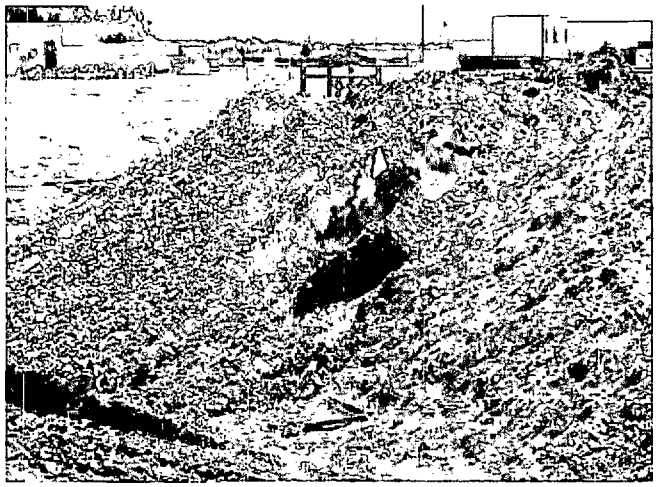


Sample Location T79-3-BC10



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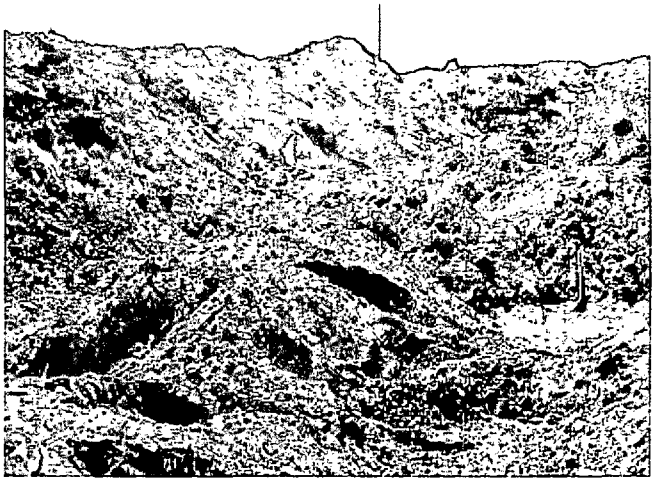
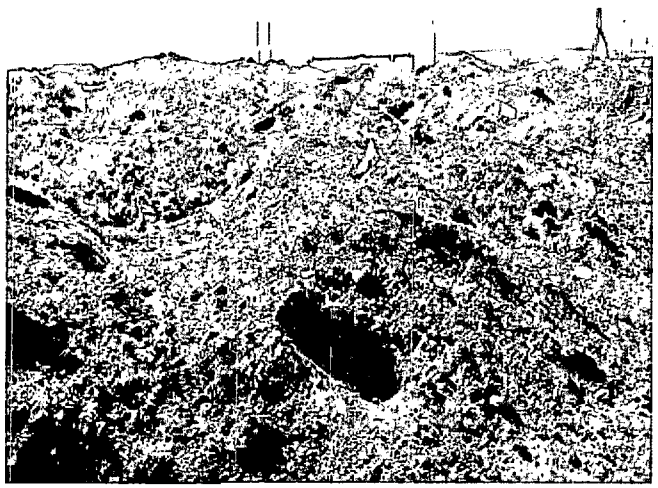


Sample Location T79-4-BC4

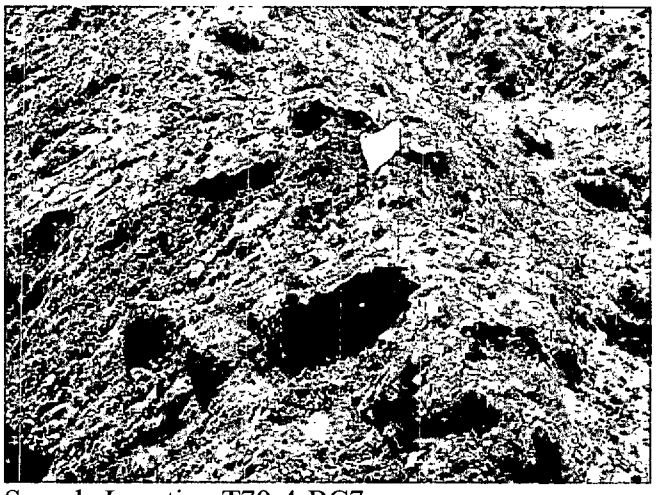
Sample Location T79-4-BC2

Sample Location T79-4-BC5



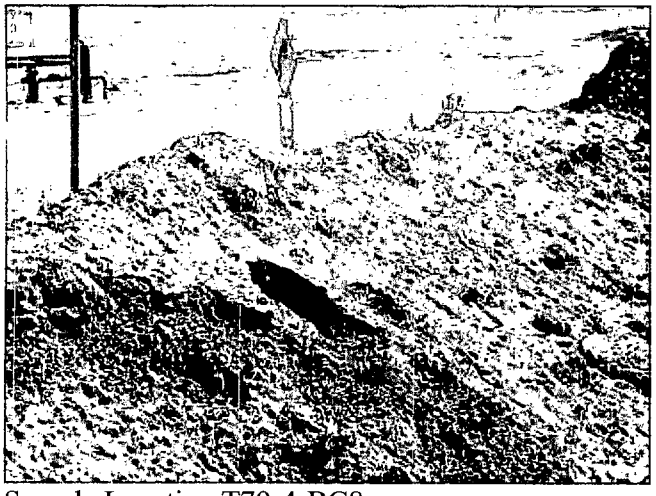
Sample Location T79-4-BC3

Sample Location T79-4-BC6

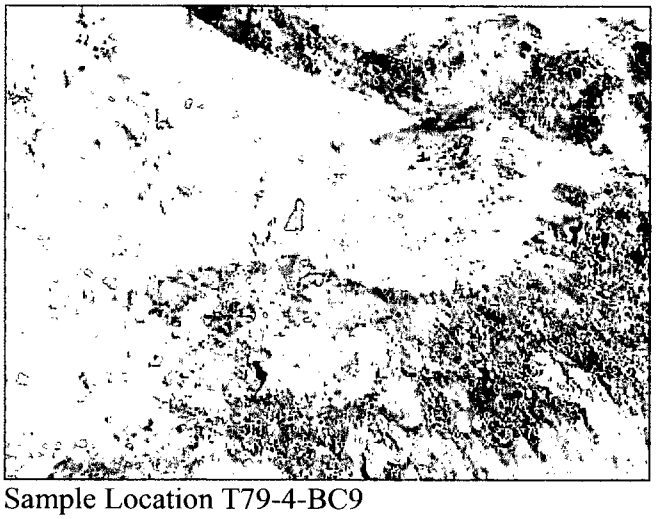


Sample Location T79-4-BC7

Sample Location T79-4-BC10



Sample Location T79-4-BC8



Sample Location T79-4-BC9

ARCADIS

Appendix B

Analytical Reports (on CD)

Chavez, Carl J, EMNRD

From: Monzeglio, Hope, NMENV
Sent: Tuesday, July 21, 2009 10:40 AM
To: Krueger, Pamela; Moore, Darrell
Cc: Cobrain, Dave, NMENV; Lackey, Johnny; Chavez, Carl J, EMNRD
Subject: FW: Soil reuse for berms
Attachments: NRC Soil resuse response 7_9_09.pdf

Pam

From our conversation this morning pertaining to the analysis of GRO verses 8260, complete the following: analyze the samples for GRO as identified in the attached letter. If GRO is greater than 80 mg/kg, the sample must be analyzed for EPA Method 8260 for VOCs.

Let me know if you have any questions.

Hope

From: Monzeglio, Hope, NMENV
Sent: Thursday, July 09, 2009 9:23 AM
To: Moore, Darrell; 'Krueger, Pamela'
Cc: Cobrain, Dave, NMENV; Kieling, John, NMENV; Lackey, Johnny; Chavez, Carl J, EMNRD
Subject: Soil reuse for berms

Darrell and Pam

This will go out in the mail today.

Hope

Hope Monzeglio
Environmental Specialist
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, BLDG 1
Santa Fe NM 87505
Phone: (505) 476-6045; Main No.: (505)-476-6000
Fax: (505)-476-6060
hope.monzeglio@state.nm.us

Websites:
New Mexico Environment Department
Hazardous Waste Bureau

BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 9, 2009

Darrell Moore
Navajo Refining Company
501 East Main Street, P. O. Drawer 159
Artesia, New Mexico 88210

Pamela Krueger
Arcadis
11490 Westheimer, Suite 600
Houston, TX 77077

RE: PLAN FOR EVALUATION OF SOIL FOR REUSE IN CONTAINMENT BERMS
NAVAJO REFINING COMPANY, ARTESIA REFINERY
EPA ID # NMD048918817
HWB-NRC-MISC

Dear Mr. Moore and Ms Krueger:

NMED has reviewed Navajo Refining Company's (the Permittee) letter submitted by Arcadis, dated July 6, 2009 addressing the *Plan for Evaluation of Soil for Reuse in Containment Berms at the Navajo Refining Company Artesia New Mexico.* In addition to the proposed sampling, the Permittee must complete the following:

On page two of the letter, under (Characterization of Soil for Reuse), item 2 and 2a, the Permittee states that "[c]omposite soil samples will be collected at a rate of one sample for each 1,000 cubic yards, as follows: a. Each composite sample will be composed of soil from 10 discrete points within the 1,000 cubic yards of soil, from random depths and locations in order to ensure the composite sample is appropriately representative. The discrete sample will be composited by thoroughly mixing the soil in a stainless steel bowl and quickly placing the mixed soil into appropriate sample containers."

The Permittee must also collect additional soil from each of the 10 discrete samples locations and, separate from the homogenized samples, combine each discrete sample into an approved laboratory container (i.e., a portion of the soils collected from the 10 discrete sample locations must be placed into sample jars without being homogenized). Each non-homogenized sample must be analyzed for gasoline range organics (GRO). Pending the results and if GRO is present, NMED may require additional discrete sampling of the stockpiled soils.

Please contact Hope Monzeglio of my staff at 505-476-6045 if you have questions regarding this letter.

Sincerely,

John E. Kieling
Program Manager
Permits Management Program
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
H. Monzeglio NMED HWB
J. Lackey, Navajo
C. Chavez, OCD
Reading and NRC 2009 file
HWB-NRC-MISC

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, July 17, 2009 2:47 PM
To: 'Krueger, Pamela'; Monzeglio, Hope, NMENV
Cc: Jones, Brad A., EMNRD; Moore, Darrell; Lackey, Johnny; Cobrain, Dave, NMENV
Subject: RE: Navajo Artesia Refinery (GW-028) Re-use of Construction Soils in Containment Berms or Beneficial Reuse/Recycling Request

Darrell, et al.:

I will be out of the office until next Tuesday, July 21, 2009, and want to respond to the Arcadis letter with attached table dated July 6, 2009 in response to HWB and OCD communiqués for reuse of excavated soils associated with construction activities (not related to any environmental investigations, corrective actions, etc.) at the facility over the past couple of years. We all realize that there may have been construction soils stockpiled in the process of construction activities that may be contaminated and OCD's review deals with reviewing the data to make the final determination of whether the soils can be reused within the interior of the facility in berms, etc.

One basic comment is you need to meet OCD regulatory limits on your detection limits for TPH and BTEX, otherwise you will exceed OCD data quality objectives and the data will be no good for our purposes.

The OCD's comments and concerns are:

1) OCD requires that the detection limits for TPH (DL: 100 ppm), Benzene (DL: 10 ppm), and BTEX (DL: 50 mg/kg) should be adhered to in the analytical testing. If detection limits are below these, fine with us.
2) Disposition of oil and gas waste as regulated under the Oil and Gas Act falls under the jurisdiction of the OCD and any disposition, including disposal or reuse requires OCD approval. Any disposition requiring disposal of OCD wastes must be accompanied by a C-138 to confirm the volume(s) and proper disposition under the OCD permit.
3) OCD will make the final decision in consultation with the NMED once we receive the data.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Krueger, Pamela [mailto:pam.krueger@arcadis-us.com]
Sent: Tuesday, June 23, 2009 4:17 PM
To: Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD
Cc: Jones, Brad A., EMNRD; Moore, Darrell; Lackey, Johnny; Cobrain, Dave, NMENV
Subject: RE: Navajo Artesia Refinery (GW-028) Re-use of Construction Soils in Containment Berms or Beneficial Reuse/Recycling Request

Hope – I believe some of the answers will need to come from Darrell, so we'll have to get back with you on this next week.

Pamela R. Krueger | Senior Project Manager | pam.krueger@arcadis-us.com

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T. 281.509.6416 | M. 713.249.8548 | F. 281.497.7258
www.arcadis-us.com

ARCADIS, Imagine the result
Please consider the environment before printing this email.

From: Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]
Sent: Tuesday, June 23, 2009 5:13 PM
To: Krueger, Pamela; Chavez, Carl J, EMNRD
Cc: Jones, Brad A., EMNRD; Moore, Darrell; Lackey, Johnny; Cobrain, Dave, NMENV
Subject: RE: Navajo Artesia Refinery (GW-028) Re-use of Construction Soils in Containment Berms or Beneficial Reuse/Recycling Request

Pam

I have a few additional comments. I have looked over your letter and the analytical data that Brad Jones emailed me. It is not clear if the soils have contaminants below or above risk-based screening levels as analyzed; the SVOC and VOC TCLP analyses cannot be compared to the NM Soil Screening Levels. All the data confirms is that the soil stock piles are not hazardous (which you established in your letter).

Some additional questions I have are: how many stock piles exist (19?), approximately how much soil is in each stock pile, and how were the samples from the stock piles collected (discrete, composite, increments and then combined into one sample).

Thanks
Hope

From: Krueger, Pamela [mailto:pam.krueger@arcadis-us.com]
Sent: Tuesday, June 23, 2009 11:21 AM
To: Chavez, Carl J, EMNRD
Cc: Monzeglio, Hope, NMENV; Jones, Brad A., EMNRD; Moore, Darrell; Lackey, Johnny
Subject: RE: Navajo Artesia Refinery (GW-028) Re-use of Construction Soils in Containment Berms or Beneficial Reuse/Recycling Request

Carl – Darrell is out of the office this week. We will discuss this when he returns and let you know what the plans are to move forward with this. Thank you for the very quick response.

Pamela R. Krueger | Senior Project Manager | pam.krueger@arcadis-us.com

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T. 281.509.6416 | M. 713.249.8548 | F. 281.497.7258
www.arcadis-us.com

ARCADIS, Imagine the result
Please consider the environment before printing this email.

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Friday, June 19, 2009 4:33 PM
To: Krueger, Pamela
Cc: Monzeglio, Hope, NMENV; Jones, Brad A., EMNRD; Moore, Darrell; Lackey, Johnny
Subject: Navajo Artesia Refinery (GW-028) Re-use of Construction Soils in Containment Berms or Beneficial Reuse/Recycling Request

Ms. Krueger:

The New Mexico Oil Conservation Division (OCD) is in receipt of your letter dated June 16, 2009 for the subject request listed above.

As stated in your letter, the soils were stockpiled as a result of construction activity(ies) at the refinery and your request is to reuse the soil in containment berms at the Artesia Refinery based on the submitted analytical data. This is a key factor in why the OCD is considering your request as the OCD would never allow or condone contaminated soils to be stockpiled at the refinery for proposed future reuse due to concerns that the facility would then become a surface waste management facility.

The OCD requires the following for consideration of this request.

1) OCD needs TPH (418.1) and BTEX + MTBE (8260B) analytical data from composite samples (one composite-10 pt. composite sample per 1000 cubic yards) to compliment submitted data.
2) Identify the volume of each waste pile.
3) OCD and NMED will review all analytical data once received to make a final determination. Note that if approved, the soils will only be allowed for internal berming only and not for perimeter berming.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

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Mr. Brad Jones
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
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Santa Fe, New Mexico 87505

Date:
July 6, 2009

Contact:
Pam Krueger

Phone:
281-509-6416

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pam.krueger@arcadis-us.com

Our ref:
Navajo

Subject:
Plan for Evaluation of Soil for Reuse in Containment Berms at the
Navajo Refining Company Artesia Refinery
Artesia, New Mexico

Dear Ms. Monzeglio and Mr. Jones:

On behalf of the Navajo Refining Company (Navajo) Artesia Refinery, ARCADIS submitted a request dated June 16, 2009 for reuse of soil generated during recent construction activities within the refinery. The request summarized the characterization of the soil performed to date and requested permission to use non-hazardous soil that does not contain constituents of concern (COCs) above risk-based levels in containment berms in the interior of the refinery.

Navajo and ARCADIS received the comments and additional requests from both the Oil Conservation Division (OCD) and New Mexico Environment Department Hazardous Waste Bureau (NMED HWB) regarding the request. Based on your input, this letter summarizes the additional characterization that will be performed and the procedures that will be followed prior to reuse of the soil for construction of containment berms.

Initial Characterization of Soil Piles

Table 1 contains a summary of analytical data obtained from the soils generated from the various areas in which construction activities have occurred. The analytical data was collected to evaluate whether any of the soil could be characterized as hazardous. As can be seen from the data in Table 1, all of the soil can be characterized as non-hazardous.

One soil pile, generated from construction of the new sour water tank, contained total petroleum hydrocarbons (TPH) Diesel Range Organics (DRO) and Oil Range Organics (ORO) at concentrations above the NMED TPH Screening Guidance screening levels for unknown oils. As a result, the soil from this area will be disposed of off-site and will not be used for construction of berms.

One of the two soil samples from the soil generated during construction of the Rose unit contained DRO and ORO at concentrations above the NMED TPH Screening Guidance screening level for unknown oils. These soils were moved to a new location after the characterization sampling had occurred in order to allow for additional construction activities. The portion of the soil pile that contained the elevated DRO and ORO cannot be distinguished from the portion of the soil pile that contained no detectable DRO and ORO. Therefore, additional characterization of the soil from this area will be performed as described below.

Characterization of Soil for Reuse

The June 16, 2009 letter outlined a proposed approach for further characterization of the soils generated during construction activities to be reused for berm construction. Subsequent correspondence from both OCD and NMED contained additional requirements for the characterization sampling. The revised procedures that will be followed are described below:

1. The volume of soil from each source area will be measured.

2. Composite soil samples will be collected at a rate of one sample for each 1,000 cubic yards, as follows:

    a. Each composite sample will be composed of soil from 10 discrete points within the 1,000 cubic yards of soil, from random depths and locations in order to ensure the composite sample is appropriately representative. The discrete samples will be composited by thoroughly mixing the soil in a stainless steel bowl and quickly placing the mixed soil into appropriate sample containers.

    b. Each composite soil sample will be named with a unique identifier that will include the source of the soil and a number. Thus, if the soil pile from the sulfur recovery unit contains approximately 4,000 cubic yards, then four composite soil samples will be collected from that pile and the samples will be named SRU-1, SRU-2, SRU-3 and SRU-4.

3. The composite samples will be analyzed for COCs using the following methods:

    a. Total TPH by Method 418.1;

    b. Benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butyl ether (MTBE) and naphthalene by Method 8260B; and

    c. Arsenic, lead, mercury and selenium by Methods 6010/6020 and 7471.

4. Analytical results for each composite sample will be compared to the lower of the Commercial/Industrial Worker, Construction Worker, or DAF-20 pathway risk-based soil screening levels found in the June 2006 *Technical Background Document for Development of Soil Screening Levels (Revision 4.0),* or the USEPA Preliminary Remediation Goals if an value has not been established in the NMED document. TPH data will be compared to the screening value for unknown oils published in the October 2006 *TPH Screening Guidelines.* The screening levels will be as follows:

    a. Method 418.1:

        i. TPH 200 mg/kg

    b. Method 8260B:

        i. Benzene 0.0201 mg/kg
        ii. Ethylbenzene 20.2 mg/kg
        iii. MTBE 190 mg/kg
        iv. Naphthalene 0.394 mg/kg
        v. Toluene 21.7 mg/kg
        vi. m&p Xylenes 2.06 mg/kg
        vii. o-Xylenes 81.4 mg/kg

    c. Methods 6010/7471:

        i. Arsenic 0.29 mg/kg
        ii. Lead 800 mg/kg
        iii. Mercury 0.00209 mg/kg
        iv. Selenium 19 mg/kg

5. Based on the comparisons, the soil will be handled as follows:

    a. All COCs less than the screening levels – the 1,000 cubic yards represented by that sample will be utilized for construction of berms within the refinery, excluding any berms that are on the property boundary or adjacent to Eagle Draw.

    b. One or more COCs above the screening levels – the 1,000 cubic yards represented by that sample will be shipped off-site for disposal as non-hazardous material.

The list of COCs selected for analyses is based on input from OCD and NMED and includes those compounds that have been present above the screening levels in more than one of the 220 soil samples collected throughout the refinery as part of on-going facility investigations.

Documentation

Each 1,000 cubic yards of soil will be demarcated with stakes and flagging and the 10 discrete sample locations used to create the composite sample will be marked with pin flags. Photographs of the soil piles will be used to document the sampling locations. Photographs will be identified in such a manner as to be directly correlated to the composite soil samples.

Once the analytical data has been received from the laboratory, the data will be tabulated and compared to the appropriate screening levels described above. A brief letter report will be submitted to both OCD and NMED documenting the sampling procedures, data evaluation and final determination of the disposition of the soil (i.e. off-site disposal or reuse for containment berms).

Schedule

Navajo will begin berm construction and amendment activities in August 2009. The additional characterization samples will be collected during the week of July 13, 2009 in order to receive the laboratory reports and perform the comparisons to screening levels by the beginning of August 2009. The letter report documenting the soil sampling activities and results of the data screening will be submitted to OCD and NMED in early August 2009.

Because the sampling protocol, analytical methods and screening values have been discussed in advance, Navajo does not believe that final approval for reuse of the soil is required. Therefore, if no comments have been received from OCD or NMED within 10 business days of the submittal of the letter report, Navajo will proceed with berm construction, using only soil that does not exceed the screening levels, and placing the soil only in berms located in the interior of the refinery.

Off-site disposal of the soil generated from the new sour water tank construction and any soil that does not pass the screening described above will be scheduled to occur as soon as possible.

If you have any questions or comments, please feel free to contact me at 281-509-6416.

Sincerely,

ARCADIS

Pamela R. Krueger
Senior Project Manager

Copies:
Mr. Johnny Lackey, Navajo Refining Company
Mr. Darrell Moore, Navajo Refining Company
Mr. Dave Polter, ARCADIS
Mr. Tim Wippold, ARCADIS

Table 1
Summary of Soil Sample Analytical Results
Soil Piles Generated During Various Construction Activities
Navajo Refinery, Artesia, New Mexico

		Source:	SRU Soils								Mild Hydrocracker				Hydrogen Plant									
		Sample ID:	SRU		SRU Hyd.		SRU3 #1		SRU3 #2		MHU		MHV		Gary Davis HP		East Pile #1		East Pile #2		West Pile #1		West Pile #2	
Analyte	Screening Level	Screening Level Source	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
TPH (mg/kg)																								
Gasoline Range Organics (C-6-C1(	--	--	NA		NA			49		49	NA		NA		NA			49		49		49		49
Diesel Range Organics (C10-C28)	2.00E+02	NMED-TPH	NA		NA			49		49	NA		NA		NA			49	**150**	49		49		49
Oil Range Organics (>C28-C40)	2.00E+02	NMED-TPH	NA		NA			49		49	NA		NA		NA			49	**49**	49		49		49
TCLP VOCs (mg/L)																								
1,1 -Dichloroethene	7.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
1,2-Dichloroethane	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
1,4-Dichlorobenzene	7.50E+00	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
2-Butanone (MEK)	2.00E+02	40 CFR 261.24(b)		0.2		0.2	NA		NA			0.2		0.2		0.2	NA		NA		NA		NA	
Benzene	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Carbon tetrachloride	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Chlorobenzene	1.00E+02	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Chloroform	6.00E+00	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Tetrachloroethene	7.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Trichloroethene	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
Vinyl chloride	2.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA	
TCLP SVOCs (mg/L)																								
2,4,5-Trichlorophenol	4.00E+02	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
2,4,6-Trichlorophenol	2.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
2,4-Dinitrotoluene	1.30E-01	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Cresols, Total	2.00E+02	40 CFR 261.24(b)		0.03		0.015	NA		NA			0.03		0.015		0.03	NA		NA		NA		NA	
Hexachlorobenzene	1.30E-01	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Hexachlorocyclopentadiene	5.00E-01	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Hexachloroethane	3.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Nitrobenzene	2.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Pentachlorophenol	1.00E+02	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
Pyridine	5.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA	
TCLP Metals (mg/L)																								
Arsenic	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA	
Barium	1.00E+02	40 CFR 261.24(b)	**2.08**	0.05	**1.48**	0.05	NA		NA		**2.3**	0.05	**0.268**	0.05	**0.483**	0.05	NA		NA		NA		NA	
Cadmium	1.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA	
Chromium	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA	
Lead	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05	**0.141**	0.05	NA		NA		NA		NA	
Mercury	2.00E-01	40 CFR 261.24(b)		0.0002		0.0002	NA		NA			0.0002		0.0002		0.0002	NA		NA		NA		NA	
Selenium	1.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA		**0.0504**	0.05		0.05		0.05	NA		NA		NA		NA	
Silver	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA	
Other Compounds																								
Reactive Cyanide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40		40	NA		NA			40		40		40	NA		NA		NA		NA	
Reactive Sulfide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40		40	NA		NA			40		40		40	NA		NA		NA		NA	
Chloride (mg/kg)	--	--	**244**	4.99	NA		NA		NA		**52.5**	4.99	NA		**200**	4.99	NA		NA		NA		NA	
Ignitability	Not ignitable	40 CFR 261.21	No		No		NA		NA		No		No		No		NA		NA		NA		NA	
Paint Filter Test (positive or negati	Positive	--	Negative		NA		NA		NA		Negative		NA		Negative		NA		NA		NA		NA	
pH (standard units)	<2 or >12	40 CFR 261.22	**8.39**	0.1	**9.23**	0.1	NA		NA		**7.18**	0.1	**7.73**	0.1	**8.19**	0.1	NA		NA		NA		NA	

CFR = Code of Federal Regulations
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
NA = Sample not analyzed for this compound
NMED TPH = New Mexico Environment Department TPH Screening Guidance, October 2006.
RL = Reporting Limit

Table 1
Summary of Soil Sample Analytical Results
Soil Piles Generated During Various Construction Activities
Navajo Refinery, Artesia, New Mexico

		Source:	LP Tank						Tank 1227						ROSE Hydrocracker						Sour Water Tank	
		Sample ID:	LP Tank Soils		LP Tank Foundation #1		LP Tank Foundation #2		T-1227 Excavation		T-1227 Ring #1		T-1227 Ring #2		Rose Foundation Soil		New ROSE #1		New ROSE #2		Sour Water Tank Ring	
Analyte	**Screening Level**	**Screening Level Source**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**
TPH (mg/kg)																						
Gasoline Range Organics (C-6-C1	--	--	NA			49		49	NA			49		49	NA		**78**	49		49		500
Diesel Range Organics (C10-C28)	2.00E+02	NMED-TPH	NA			49		49	NA			49		49	NA		**910**	49		49	**7800**	*500*
Oil Range Organics (>C28-C40)	2.00E+02	NMED-TPH	NA			49		49	NA			49		49	NA		**300**	49		49	**1200**	*500*
TCLP VOCs (mg/L)																						
1,1 -Dichloroethene	7.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
1,2-Dichloroethane	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
1,4-Dichlorobenzene	7.50E+00	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
2-Butanone (MEK)	2.00E+02	40 CFR 261.24(b)		0.2	NA		NA			0.2	NA		NA			0.2	NA		NA			0.2
Benzene	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Carbon tetrachloride	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Chlorobenzene	1.00E+02	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Chloroform	6.00E+00	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Tetrachloroethene	7.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Trichloroethene	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
Vinyl chloride	2.00E-01	40 CFR 261.24(b)		0.1	NA		NA			0.1	NA		NA			0.1	NA		NA			0.1
TCLP SVOCs (mg/L)																						
2,4,5-Trichlorophenol	4.00E+02	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
2,4,6-Trichlorophenol	2.00E+00	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
2,4-Dinitrotoluene	1.30E-01	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Cresols, Total	2.00E+02	40 CFR 261.24(b)		0.030	NA		NA			0.015	NA		NA			0.015	NA		NA		**18**	0.015
Hexachlorobenzene	1.30E-01	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Hexachlorocyclopentadiene	5.00E-01	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Hexachloroethane	3.00E+00	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Nitrobenzene	2.00E+00	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Pentachlorophenol	1.00E+02	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
Pyridine	5.00E+00	40 CFR 261.24(b)		0.005	NA		NA			0.005	NA		NA			0.005	NA		NA			0.005
TCLP Metals (mg/L)																						
Arsenic	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Barium	1.00E+02	40 CFR 261.24(b)	**2.25**	0.05	NA		NA		**2.47**	0.05	NA		NA		**0.881**	0.05	NA		NA		**0.402**	0.05
Cadmium	1.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Chromium	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Lead	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Mercury	2.00E-01	40 CFR 261.24(b)		0.0002	NA		NA			0.0002	NA		NA			0.0002	NA		NA			0.0002
Selenium	1.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Silver	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA			0.05	NA		NA			0.05	NA		NA			0.05
Other Compounds																						
Reactive Cyanide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40	NA		NA			40	NA		NA			40	NA		NA			40
Reactive Sulfide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40	NA		NA			40	NA		NA			40	NA		NA			40
Chloride (mg/kg)	--	--	**56.7**		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ignitability	Not ignitable	40 CFR 261.21	No		NA		NA		No		NA		NA		No		NA		NA		No	
Paint Filter Test (positive or negati	Positive	--	Negative		NA		NA		NA		NA		NA		NA		NA		NA		NA	
pH (standard units)	<2 or >12	40 CFR 261.22	**8.66**	0.1	NA		NA		**8.48**	0.1	NA		NA		**7.72**	0.1	NA		NA		**8.76**	0.1

CFR = Code of Federal Regulations
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
NA = Sample not analyzed for this compound
NMED TPH = New Mexico Environment Department TPH Screening Guidan
RL = Reporting Limit

Chavez, Carl J, EMNRD

From: Krueger, Pamela [pam.krueger@arcadis-us.com]
Sent: Tuesday, June 23, 2009 4:17 PM
To: Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD
Cc: Jones, Brad A., EMNRD; Moore, Darrell; Lackey, Johnny; Cobrain, Dave, NMENV
Subject: RE: Navajo Artesia Refinery (GW-028) Re-use of Construction Soils in Containment Berms or Beneficial Reuse/Recycling Request

Hope – I believe some of the answers will need to come from Darrell, so we'll have to get back with you on this next week.

Pamela R. Krueger | Senior Project Manager | pam.krueger@arcadis-us.com

ARCADIS U.S., Inc. | 11490 Westheimer Suite 600 | Houston, TX 77077
T. 281.509.6416 | M. 713.249.8548 | F. 281.497.7258
www.arcadis-us.com

ARCADIS, Imagine the result
Please consider the environment before printing this email.

From: Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]
Sent: Tuesday, June 23, 2009 5:13 PM
To: Krueger, Pamela; Chavez, Carl J, EMNRD
Cc: Jones, Brad A., EMNRD; Moore, Darrell; Lackey, Johnny; Cobrain, Dave, NMENV
Subject: RE: Navajo Artesia Refinery (GW-028) Re-use of Construction Soils in Containment Berms or Beneficial Reuse/Recycling Request

Pam

I have a few additional comments. I have looked over your letter and the analytical data that Brad Jones emailed me. It is not clear if the soils have contaminants below or above risk-based screening levels as analyzed; the SVOC and VOC TCLP analyses cannot be compared to the NM Soil Screening Levels. All the data confirms is that the soil stock piles are not hazardous (which you established in your letter).

Some additional questions I have are: how many stock piles exist (19?), approximately how much soil is in each stock pile, and how were the samples from the stock piles collected (discrete, composite, increments and then combined into one sample).

Thanks
Hope

From: Krueger, Pamela [mailto:pam.krueger@arcadis-us.com]
Sent: Tuesday, June 23, 2009 11:21 AM
To: Chavez, Carl J, EMNRD
Cc: Monzeglio, Hope, NMENV; Jones, Brad A., EMNRD; Moore, Darrell; Lackey, Johnny
Subject: RE: Navajo Artesia Refinery (GW-028) Re-use of Construction Soils in Containment Berms or Beneficial Reuse/Recycling Request

Carl – Darrell is out of the office this week. We will discuss this when he returns and let you know what the plans are to move forward with this. Thank you for the very quick response.

Pamela R. Krueger | Senior Project Manager | pam.krueger@arcadis-us.com

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ARCADIS, Imagine the result
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From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Friday, June 19, 2009 4:33 PM
To: Krueger, Pamela
Cc: Monzeglio, Hope, NMENV; Jones, Brad A., EMNRD; Moore, Darrell; Lackey, Johnny
Subject: Navajo Artesia Refinery (GW-028) Re-use of Construction Soils in Containment Berms or Beneficial Reuse/Recycling Request

Ms. Krueger:

The New Mexico Oil Conservation Division (OCD) is in receipt of your letter dated June 16, 2009 for the subject request listed above.

As stated in your letter, the soils were stockpiled as a result of construction activity(ies) at the refinery and your request is to reuse the soil in containment berms at the Artesia Refinery based on the submitted analytical data. This is a key factor in why the OCD is considering your request as the OCD would never allow or condone contaminated soils to be stockpiled at the refinery for proposed future reuse due to concerns that the facility would then become a surface waste management facility.

The OCD requires the following for consideration of this request.

1) OCD needs TPH (418.1) and BTEX + MTBE (8260B) analytical data from composite samples (one composite-10 pt. composite sample per 1000 cubic yards) to compliment submitted data.
2) Identify the volume of each waste pile.
3) OCD and NMED will review all analytical data once received to make a final determination. Note that if approved, the soils will only be allowed for internal berming only and not for perimeter berming.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

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Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, June 19, 2009 3:33 PM
To: 'pam.krueger@arcadis-us.com'
Cc: Monzeglio, Hope, NMENV; Jones, Brad A., EMNRD; 'Moore, Darrell'; Lackey, Johnny
Subject: Navajo Artesia Refinery (GW-028) Re-use of Construction Soils in Containment Berms or Beneficial Reuse/Recycling Request

Ms. Krueger:

The New Mexico Oil Conservation Division (OCD) is in receipt of your letter dated June 16, 2009 for the subject request listed above.

As stated in your letter, the soils were stockpiled as a result of construction activity(ies) at the refinery and your request is to reuse the soil in containment berms at the Artesia Refinery based on the submitted analytical data. This is a key factor in why the OCD is considering your request as the OCD would never allow or condone contaminated soils to be stockpiled at the refinery for proposed future reuse due to concerns that the facility would then become a surface waste management facility.

The OCD requires the following for consideration of this request.

1) OCD needs TPH (418.1) and BTEX + MTBE (8260B) analytical data from composite samples (one composite-10 pt. composite sample per 1000 cubic yards) to compliment submitted data.
2) Identify the volume of each waste pile.
3) OCD and NMED will review all analytical data once received to make a final determination. Note that if approved, the soils will only be allowed for internal berming only and not for perimeter berming.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
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Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

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ENVIRONMENT

Ms. Hope Monzeglio
New Mexico Environment Department, Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Mr. Brad Jones
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Date:
16 June 2009

Contact:
Pam Krueger

Phone:
281-509-6416

Email:
pam.krueger@arcadis-us.com

Our ref:
Navajo

Subject:
Reuse of Soil in Containment Berms at the
Navajo Refining Company Artesia Refinery
Artesia, New Mexico

Dear Ms. Monzeglio and Mr. Jones:

As you are aware, the Navajo Refining Company (Navajo) has been performing construction at the Artesia Refinery over the last year. Construction activities have included excavation of soil to install foundations for various types of equipment. The soil has been stockpiled within the refinery and has been characterized to determine whether any of the soil contains hazardous levels of constituents typically associated with refinery operations. Navajo proposes to use non-hazardous hydrocarbon-impacted soil that does not contain contaminants above risk-based soil screening levels as structural amendment material within the refinery to reinforce or raise containment berms.

Table 1 provides a summary of the characterization data obtained to-date. Much of the soil, while visually stained, does not contain total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs) or metals at concentrations that exceed the hazardous waste characteristics found in 40 CFR 261 or the risk-based soil screening levels found in or the October 2006 *TPH Screening Guidelines.* The characterization data indicates that the soil is not hazardous, although two of the samples contained TPH above the most conservative screening level for unknown oils.

Recycling and material reuse in lieu of transferring the soil off-site for disposal as non-hazardous material, represents a beneficial reuse and waste minimization effort with the added benefit of conserving landfill capacity in the area.

ARCADIS has reviewed the New Mexico Environment Department (NMED) and Oil Conservation Division (OCD) guidelines and has been unable to find specific guidance prohibiting use of non-hazardous hydrocarbon-impacted soil in construction of containment berms. New Mexico guidance and regulations do, however, anticipate that in certain circumstances, hydrocarbon impacted soils may be reused or recycled. Specifically, regarding contaminated soil reuse, the New Mexico Underground Storage Tank Bureau *Guidelines for Corrective Action*, states:

> *Soils will be considered acceptable for reuse when each contaminant of concern is below the lowest of the Tier 1 soil target levels, as presented in Table 1-1.*[1]

Similarly, the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division, has adopted guidance and regulations that provide for recycling and beneficial reuse of hydrocarbon impacted soils. These concepts are contained in the OCD's *Guidelines for Remediation of Leaks, Spills and Releases*[2] and in regulations at New Mexico Administrative Code 19.15.36.15 G.(1) that states:

> If the operator achieves the closure performance standards specified in Subsection F of 19.15.36.15 NMAC, then the operator may either leave the treated soils in place, or, with prior division approval, dispose or reuse of the treated soils in an alternative manner.[3]

Accordingly, on behalf of Navajo, ARCADIS requests that NMED and OCD review and approve the following detailed plan for evaluation of soils for use in construction of containment berms:

- Soil excavated for construction purposes is stockpiled.

---

[1] New Mexico Environment Department Underground Storage Tank Bureau, 2000, *Guidelines for Corrective Action*, Section 1.6.5, page 1-16.

[2] New Mexico Oil Conservation Division, 1993, *Guidelines for Remediation of Leaks, Spills and Releases*, Section VI.A.

[3] New Mexico Register, Volume XVIII, Number 3, 2007. NMAC Title 19 Chapter 15 Part 36, http://www.nmcpr.state.nm.us/nmregister/xviii/xviii03/19.15.36new.htm.

- Soil samples are collected from each stockpile at a rate of 1 sample for every 1,000 cubic yards.
- Soil samples analyzed for total TPH, VOCs, SVOCs, and RCRA 8 metals.
- Analytical results compared to the lower of the Commercial/Industrial Worker, Construction Worker, or DAF-20 pathway risk-based soil screening levels found in the June 2006 *Technical Background Document for Development of Soil Screening Levels (Revision 4.0)* and the October 2006 *TPH Screening Guidelines.*
- Any soil pile that contains concentrations exceeding the soil screening levels will be shipped off-site for disposal, including the soil within the stockpiles from which the two samples were collected that contain TPH above the screening level (Table 1).
- Soil that does not contain concentrations above the soil screening levels will be used for construction of containment berms within the refinery boundaries.

Navajo would like to begin use of the soil excavated for construction purposes that is below the risk-based screening levels for construction during August 2009. Therefore, we respectfully request a response to the planned evaluation and use of soil within 30 days of this letter.

If you have any questions or comments, please feel free to contact me at 281-509-6416.

Sincerely,

ARCADIS

Pamela R. Krueger
Senior Project Manager

Copies:
Mr. Johnny Lackey, Navajo Refining Company
Mr. Darrell Moore, Navajo Refining Company
Mr. Dave Polter, ARCADIS
Mr. Tim Wippold, ARCADIS

Table 1
Summary of Soil Sample Analytical Results
Soil Piles Generated During Various Construction Activities
Navajo Refinery, Artesia, New Mexico

		Source:	SRU Soils								Mild Hydrocracker				Hydrogen Plant										LP Tank			
		Sample ID:	SRU		SRU Hyd.		SRU3 #1		SRU3 #2		MHU		MHV		Gary Davis HP		East Pile #1		East Pile #2		West Pile #1		West Pile #2		LP Tank Foundation #1		LP Tank Foundation #2	
Analyte	Screening Level	Screening Level Source	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
TPH (mg/kg)																												
Gasoline Range Organics (C-6-C10	--	--	NA		NA			49		49	NA		NA		NA			49		49		49		49		49		49
Diesel Range Organics (C10-C28)	2.00E+02	NMED-TPH	NA		NA			49		49	NA		NA		NA			49	**150**	49		49		49		49		49
Oil Range Organics (>C28-C40)	2.00E+02	NMED-TPH	NA		NA			49		49	NA		NA		NA			49	**49**	49		49		49		49		49
TCLP VOCs (mg/L)																												
1,1 -Dichloroethene	7.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA		NA		NA	
1,2-Dichloroethane	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	7.50E+00	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA		NA		NA	
2-Butanone (MEK)	2.00E+02	40 CFR 261.24(b)		0.2		0.2	NA		NA			0.2		0.2		0.2	NA		NA		NA		NA		NA		NA	
Benzene	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA		NA		NA	
Carbon tetrachloride	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA		NA		NA	
Chlorobenzene	1.00E+02	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA		NA		NA	
Chloroform	6.00E+00	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA		NA		NA	
Tetrachloroethene	7.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA		NA		NA	
Trichloroethene	5.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA		NA		NA	
Vinyl chloride	2.00E-01	40 CFR 261.24(b)		0.1		0.1	NA		NA			0.1		0.1		0.1	NA		NA		NA		NA		NA		NA	
TCLP SVOCs (mg/L)																												
2,4,5-Trichlorophenol	4.00E+02	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA		NA		NA	
2,4,6-Trichlorophenol	2.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA		NA		NA	
2,4-Dinitrotoluene	1.30E-01	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA		NA		NA	
Cresols, Total	2.00E+02	40 CFR 261.24(b)		0.03		0.015	NA		NA			0.03		0.015		0.03	NA		NA		NA		NA		NA		NA	
Hexachlorobenzene	1.30E-01	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA		NA		NA	
Hexachlorocyclopentadiene	5.00E-01	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA		NA		NA	
Hexachloroethane	3.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA		NA		NA	
Nitrobenzene	2.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA		NA		NA	
Pentachlorophenol	1.00E+02	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA		NA		NA	
Pyridine	5.00E+00	40 CFR 261.24(b)		0.005		0.005	NA		NA			0.005		0.005		0.005	NA		NA		NA		NA		NA		NA	
TCLP Metals (mg/L)																												
Arsenic	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA		NA		NA	
Barium	1.00E+02	40 CFR 261.24(b)	**2.08**	0.05	**1.48**	0.05	NA		NA		**2.3**	0.05	**0.268**	0.05	**0.483**	0.05	NA		NA		NA		NA		NA		NA	
Cadmium	1.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA		NA		NA	
Chromium	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA		NA		NA	
Lead	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05	**0.141**	0.05	NA		NA		NA		NA		NA		NA	
Mercury	2.00E-01	40 CFR 261.24(b)		0.0002		0.0002	NA		NA			0.0002		0.0002		0.0002	NA		NA		NA		NA		NA		NA	
Selenium	1.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA		**0.0504**	0.05		0.05		0.05	NA		NA		NA		NA		NA		NA	
Silver	5.00E+00	40 CFR 261.24(b)		0.05		0.05	NA		NA			0.05		0.05		0.05	NA		NA		NA		NA		NA		NA	
Other Compounds																												
Reactive Cyanide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40		40	NA		NA			40		40		40	NA		NA		NA		NA		NA		NA	
Reactive Sulfide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40		40	NA		NA			40		40		40	NA		NA		NA		NA		NA		NA	
Chloride (mg/kg)	--	--	**244**	4.99	NA		NA		NA		**52.5**	4.99	NA		**200**	4.99	NA		NA		NA		NA		NA		NA	
Ignitability	Not ignitable	40 CFR 261.21	No		No		NA		NA		No		No		No		NA		NA		NA		NA		NA		NA	
Paint Filter Test (positive or negativ	Positive	--	Negative		NA		NA		NA		Negative		NA		Negative		NA		NA		NA		NA		NA		NA	
pH (standard units)	<2 or >12	40 CFR 261.22	**8.39**	0.1	**9.23**	0.1	NA		NA		**7.18**	0.1	**7.73**	0.1	**8.19**	0.1	NA		NA		NA		NA		NA		NA	

CFR = Code of Federal Regulations
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
NA = Sample not analyzed for this compound
NMED TPH = New Mexico Environment Department TPH Screening Guidance, October 2006.
RL = Reporting Limit

Table 1
Summary of Soil Sample Analytical Results
Soil Piles Generated During Various Construction Activities
Navajo Refinery, Artesia, New Mexico

		Source:	Tamk 1227						ROSE Hydrocracker				Sour Water Tank	
		Sample ID:	T-1227 Excavation		T-1227 Ring #1		T-1227 Ring #2		New ROSE #1		New ROSE #2		Sour Water Tank Ring	
Analyte	**Screening Level**	**Screening Level Source**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**
TPH (mg/kg)														
Gasoline Range Organics (C-6-C10	--	--	NA			49		49	**78**	49		49		500
Diesel Range Organics (C10-C28)	2.00E+02	NMED-TPH	NA			49		49	**910**	49		49	**7800**	*500*
Oil Range Organics (>C28-C40)	2.00E+02	NMED-TPH	NA			49		49	**300**	49		49	**1200**	*500*
TCLP VOCs (mg/L)														
1,1 -Dichloroethene	7.00E-01	40 CFR 261.24(b)		0.1	NA		NA		NA		NA			0.1
1,2-Dichloroethane	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA		NA		NA			0.1
1,4-Dichlorobenzene	7.50E+00	40 CFR 261.24(b)		0.1	NA		NA		NA		NA			0.1
2-Butanone (MEK)	2.00E+02	40 CFR 261.24(b)		0.2	NA		NA		NA		NA			0.2
Benzene	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA		NA		NA			0.1
Carbon tetrachloride	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA		NA		NA			0.1
Chlorobenzene	1.00E+02	40 CFR 261.24(b)		0.1	NA		NA		NA		NA			0.1
Chloroform	6.00E+00	40 CFR 261.24(b)		0.1	NA		NA		NA		NA			0.1
Tetrachloroethene	7.00E-01	40 CFR 261.24(b)		0.1	NA		NA		NA		NA			0.1
Trichloroethene	5.00E-01	40 CFR 261.24(b)		0.1	NA		NA		NA		NA			0.1
Vinyl chloride	2.00E-01	40 CFR 261.24(b)		0.1	NA		NA		NA		NA			0.1
TCLP SVOCs (mg/L)														
2,4,5-Trichlorophenol	4.00E+02	40 CFR 261.24(b)		0.005	NA		NA		NA		NA			0.005
2,4,6-Trichlorophenol	2.00E+00	40 CFR 261.24(b)		0.005	NA		NA		NA		NA			0.005
2,4-Dinitrotoluene	1.30E-01	40 CFR 261.24(b)		0.005	NA		NA		NA		NA			0.005
Cresols, Total	2.00E+02	40 CFR 261.24(b)		0.015	NA		NA		NA		NA		**18**	0.015
Hexachlorobenzene	1.30E-01	40 CFR 261.24(b)		0.005	NA		NA		NA		NA			0.005
Hexachlorocyclopentadiene	5.00E-01	40 CFR 261.24(b)		0.005	NA		NA		NA		NA			0.005
Hexachloroethane	3.00E+00	40 CFR 261.24(b)		0.005	NA		NA		NA		NA			0.005
Nitrobenzene	2.00E+00	40 CFR 261.24(b)		0.005	NA		NA		NA		NA			0.005
Pentachlorophenol	1.00E+02	40 CFR 261.24(b)		0.005	NA		NA		NA		NA			0.005
Pyridine	5.00E+00	40 CFR 261.24(b)		0.005	NA		NA		NA		NA			0.005
TCLP Metals (mg/L)														
Arsenic	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA		NA		NA			0.05
Barium	1.00E+02	40 CFR 261.24(b)	**2.47**	0.05	NA		NA		NA		NA		**0.402**	0.05
Cadmium	1.00E+00	40 CFR 261.24(b)		0.05	NA		NA		NA		NA			0.05
Chromium	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA		NA		NA			0.05
Lead	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA		NA		NA			0.05
Mercury	2.00E-01	40 CFR 261.24(b)		0.0002	NA		NA		NA		NA			0.0002
Selenium	1.00E+00	40 CFR 261.24(b)		0.05	NA		NA		NA		NA			0.05
Silver	5.00E+00	40 CFR 261.24(b)		0.05	NA		NA		NA		NA			0.05
Other Compounds														
Reactive Cyanide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40	NA		NA		NA		NA			40
Reactive Sulfide (mg/kg)	Not reactive at pH between 2 and 12	40 CFR 261.23		40	NA		NA		NA		NA			40
Chloride (mg/kg)	--	--	NA		NA		NA		NA		NA		NA	
Ignitability	Not ignitable	40 CFR 261.21	No		NA		NA		NA		NA		No	
Paint Filter Test (positive or negativ	Positive	--	NA		NA		NA		NA		NA		NA	
pH (standard units)	<2 or >12	40 CFR 261.22	**8.48**	0.1	NA		NA		NA		NA		**8.76**	0.1

CFR = Code of Federal Regulations
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
NA = Sample not analyzed for this compound
NMED TPH = New Mexico Environment Department TPH Screening Guidance
RL = Reporting Limit

Chavez, Carl J, EMNRD

From: Jones, Brad A., EMNRD
Sent: Wednesday, June 17, 2009 7:56 AM
To: Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV
Subject: FW: Lab reports for 6/16/09 Navajo letter
Attachments: 801483 HMU Final.pdf; 801382 M Kleihege Final.pdf

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From: Krueger, Pamela [mailto:pam.krueger@arcadis-us.com]
Sent: Tuesday, June 16, 2009 4:50 PM
To: Jones, Brad A., EMNRD
Subject: Lab reports for 6/16/09 Navajo letter

Brad – I'm not sure what your limit is on email attachments so I'm only going to send a couple of the lab reports at a time.

ARCADIS
Pamela R. Krueger
Senior Project Manager

11490 Westheimer, Suite 600
Houston, TX 77077
Tel 281.509.6416
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Mobile 713.249.8548
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ARCADIS, Imagine the result

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This inbound email has been scanned by the MessageLabs Email Security System.

February 05, 2008

Aaron Strange
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (505) 748-3311
Fax: (505) 746-5421

Re: MHU

Work Order : **0801483**

Dear Aaron Strange,

e-Lab Analytical, Inc. received 1 sample on 1/23/2008 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by e-Lab Analytical, Inc. and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by e-Lab Analytical, Inc. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 28.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Jeffrey L Croston

Electronically approved by: Glenda H. Ramos

Jeffrey L Croston
Project Manager

Certificate No: T104704231-06-TX

e-Lab Analytical, Inc.

Date: February 05, 2008

Client: Navajo Refining Company
Project: MHU
Work Order: **0801483**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0801483-01	MHU	Soil		1/22/2008 15:45	1/23/2008 09:00	☐

e-Lab Analytical, Inc.

Date: February 05, 2008

Client: Navajo Refining Company
Project: MHU
Work Order: 0801483

Case Narrative

Batch 27981 Metals MS/MSD was an unrelated sample.

e-Lab Analytical, Inc.

Date: *February 05, 2008*

Client: Navajo Refining Company
Project: MHU
Sample ID: MHU
Collection Date: 1/22/2008 3:45:00 PM

Work Order: 0801483
Lab ID: 0801483-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY			**SW7470**		Prep Date: **1/30/2008**	Analyst: **JCJ**
Mercury	ND		0.000200	mg/L	1	1/30/2008 3:24:36 PM
TCLP METALS, ICP			**SW1311/6020**		Prep Date: **1/30/2008**	Analyst: **SA**
Arsenic	ND		0.0500	mg/L	10	1/30/2008 7:04:00 PM
Barium	**2.30**		**0.0500**	**mg/L**	10	1/30/2008 7:04:00 PM
Cadmium	ND		0.0500	mg/L	10	1/30/2008 7:04:00 PM
Chromium	ND		0.0500	mg/L	10	1/30/2008 7:04:00 PM
Lead	ND		0.0500	mg/L	10	1/30/2008 7:04:00 PM
Selenium	**0.0504**		**0.0500**	**mg/L**	10	1/30/2008 7:04:00 PM
Silver	ND		0.0500	mg/L	10	1/30/2008 7:04:00 PM
TCLP SEMIVOLATILES			**SW1311/8270**		Prep Date: **1/30/2008**	Analyst: **ACN**
2,4,5-Trichlorophenol	ND		5.0	µg/L	1	1/31/2008 6:14:00 PM
2,4,6-Trichlorophenol	ND		5.0	µg/L	1	1/31/2008 6:14:00 PM
2,4-Dinitrotoluene	ND		5.0	µg/L	1	1/31/2008 6:14:00 PM
Cresols, Total	ND		30	µg/L	1	1/31/2008 6:14:00 PM
Hexachlorobenzene	ND		5.0	µg/L	1	1/31/2008 6:14:00 PM
Hexachlorobutadiene	ND		5.0	µg/L	1	1/31/2008 6:14:00 PM
Hexachloroethane	ND		5.0	µg/L	1	1/31/2008 6:14:00 PM
Nitrobenzene	ND		5.0	µg/L	1	1/31/2008 6:14:00 PM
Pentachlorophenol	ND		5.0	µg/L	1	1/31/2008 6:14:00 PM
Pyridine	ND		5.0	µg/L	1	1/31/2008 6:14:00 PM
Surr: 2,4,6-Tribromophenol	*70.6*		*42-124*	*%REC*	1	1/31/2008 6:14:00 PM
Surr: 2-Fluorobiphenyl	*73.6*		*48-120*	*%REC*	1	1/31/2008 6:14:00 PM
Surr: 2-Fluorophenol	*65.2*		*20-120*	*%REC*	1	1/31/2008 6:14:00 PM
Surr: 4-Terphenyl-d14	*80.3*		*51-135*	*%REC*	1	1/31/2008 6:14:00 PM
Surr: Nitrobenzene-d5	*69.0*		*41-120*	*%REC*	1	1/31/2008 6:14:00 PM
Surr: Phenol-d6	*72.7*		*20-120*	*%REC*	1	1/31/2008 6:14:00 PM
TCLP VOLATILES			**SW1311/8260B**		Prep Date: **1/30/2008**	Analyst: **PC**
1,1-Dichloroethene	ND		100	µg/L	20	1/31/2008 12:35:00 PM
1,2-Dichloroethane	ND		100	µg/L	20	1/31/2008 12:35:00 PM
1,4-Dichlorobenzene	ND		100	µg/L	20	1/31/2008 12:35:00 PM
2-Butanone	ND		200	µg/L	20	1/31/2008 12:35:00 PM
Benzene	ND		100	µg/L	20	1/31/2008 12:35:00 PM
Carbon tetrachloride	ND		100	µg/L	20	1/31/2008 12:35:00 PM
Chlorobenzene	ND		100	µg/L	20	1/31/2008 12:35:00 PM
Chloroform	ND		100	µg/L	20	1/31/2008 12:35:00 PM
Tetrachloroethene	ND		100	µg/L	20	1/31/2008 12:35:00 PM
Trichloroethene	ND		100	µg/L	20	1/31/2008 12:35:00 PM
Vinyl chloride	ND		100	µg/L	20	1/31/2008 12:35:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc.

Date: *February 05, 2008*

Client: Navajo Refining Company
Project: MHU
Work Order: 0801483
Sample ID: MHU
Lab ID: 0801483-01
Collection Date: 1/22/2008 3:45:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 1,2-Dichloroethane-d4	*94.1*		*70-125*	*%REC*	20	1/31/2008 12:35:00 PM
Surr: 4-Bromofluorobenzene	*101*		*72-125*	*%REC*	20	1/31/2008 12:35:00 PM
Surr: Dibromofluoromethane	*99.5*		*71-125*	*%REC*	20	1/31/2008 12:35:00 PM
Surr: Toluene-d8	*108*		*75-125*	*%REC*	20	1/31/2008 12:35:00 PM
CYANIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Cyanide	ND		40.0	mg/Kg	1	1/28/2008
SULFIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Sulfide	ND		40.0	mg/Kg	1	1/28/2008
ANIONS BY ION CHROMATOGRAPHY - SOIL			**E300**		Prep Date: **1/23/2008**	Analyst: **RPM**
Chloride	**52.5**		**4.99**	**mg/Kg**	1	1/30/2008 3:36:00 AM
Surr: Selenate (surr)	*102*		*85-115*	*%REC*	1	1/30/2008 3:36:00 AM
IGNITABILITY FOR SOLIDS			**SW846, CHPT. 7.1.2**			Analyst: **MAM**
Burns vigorously and persistently	**No**				1	1/29/2008 11:00:00 AM
Ignites spontaneously	**No**				1	1/29/2008 11:00:00 AM
Ignites through friction	**No**				1	1/29/2008 11:00:00 AM
Ignites under std. temp and pressure	**No**				1	1/29/2008 11:00:00 AM
Ignites with moisture	**No**				1	1/29/2008 11:00:00 AM
PAINT FILTER TEST			**SW9095A**			Analyst: **KKP**
Free Liquid	**Negative**			**Pos/Neg**	1	1/29/2008 8:00:00 AM
PH IN SOLID			**SW9045B**			Analyst: **MAM**
pH	**7.18**		**0.100**	**pH Units**	1	1/24/2008 1:00:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc.

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

Date: *Feb 05 2008*

QC BATCH REPORT

Batch ID: **27976** Instrument ID **Mercury** Method: **SW7470**

MBLK Sample ID: **GBLKW1-013008** Units: **mg/L** Analysis Date: **01/30/08 15:04**
Client ID: Run ID: **MERCURY_080130A** SeqNo: **1316821** Prep Date: **1/30/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

MBLK Sample ID: **GBLKT1-012908** Units: **mg/L** Analysis Date: **01/30/08 15:22**
Client ID: Run ID: **MERCURY_080130A** SeqNo: **1316830** Prep Date: **1/30/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS Sample ID: **GLCSW1-013008** Units: **mg/L** Analysis Date: **01/30/08 15:06**
Client ID: Run ID: **MERCURY_080130A** SeqNo: **1316822** Prep Date: **1/30/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00518	0.00020	0.005	0	104	80-120		0		

LCSD Sample ID: **GLCSDW1-013008** Units: **mg/L** Analysis Date: **01/30/08 15:08**
Client ID: Run ID: **MERCURY_080130A** SeqNo: **1316823** Prep Date: **1/30/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00524	0.00020	0.005	0	105	80-120	0.00518	1.15	25	

MS Sample ID: **0801425-02CMS** Units: **mg/L** Analysis Date: **01/30/08 15:14**
Client ID: Run ID: **MERCURY_080130A** SeqNo: **1316826** Prep Date: **1/30/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00518	0.00020	0.005	0.000019	103	75-125		0		

MSD Sample ID: **0801425-02CMSD** Units: **mg/L** Analysis Date: **01/30/08 15:16**
Client ID: Run ID: **MERCURY_080130A** SeqNo: **1316827** Prep Date: **1/30/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00513	0.00020	0.005	0.000019	102	75-125	0.00518	0.97	20	

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **27976** Instrument ID **Mercury** Method: **SW7470**

DUP Sample ID: ***0801425-02CDUP*** Units: **mg/L** Analysis Date: ***01/30/08 15:12***

Client ID: Run ID: **MERCURY_080130A** SeqNo: **1316825** Prep Date: **1/30/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	0.000019	0	20	

The following samples were analyzed in this batch: 0801483-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **27981** Instrument ID **ICP7500** Method: **SW1311/6020**

MBLK Sample ID: **MBLKW2-013008** Units: **mg/L** Analysis Date: **01/30/08 15:39**
Client ID: Run ID: **ICP7500_080130A** SeqNo: **1316712** Prep Date: **1/30/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	0.002276	0.050								J
Chromium	ND	0.050								
Lead	0.005115	0.050								J
Selenium	0.02649	0.050								J
Silver	ND	0.050								

MBLK Sample ID: **MBLKT1-012908** Units: **mg/L** Analysis Date: **01/30/08 16:27**
Client ID: Run ID: **ICP7500_080130A** SeqNo: **1316780** Prep Date: **1/30/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	0.002416	0.050								J
Chromium	ND	0.050								
Lead	0.004047	0.050								J
Selenium	0.04927	0.050								J
Silver	ND	0.050								

LCS Sample ID: **MLCSW2-013008** Units: **mg/L** Analysis Date: **01/30/08 15:45**
Client ID: Run ID: **ICP7500_080130A** SeqNo: **1316713** Prep Date: **1/30/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1999	0.050	0.2	0	100	80-120	0			
Barium	0.1944	0.050	0.2	0	97.2	80-120	0			
Cadmium	0.2011	0.050	0.2	0	101	80-120	0			
Chromium	0.1974	0.050	0.2	0	98.7	80-120	0			
Lead	0.197	0.050	0.2	0	98.5	80-120	0			
Selenium	0.2158	0.050	0.2	0	108	80-120	0			
Silver	0.1828	0.050	0.2	0	91.4	80-120	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **27981** Instrument ID **ICP7500** Method: **SW1311/6020**

MS Sample ID: **0801425-02CMS** Units: **mg/L** Analysis Date: **01/30/08 16:09**
Client ID: Run ID: **ICP7500_080130A** SeqNo: **1316777** Prep Date: **1/30/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1956	0.050	0.2	0.003519	96	75-125	0			
Barium	0.9596	0.050	0.2	0.8357	62	75-125	0			SO
Cadmium	0.1909	0.050	0.2	0.001376	94.8	75-125	0			
Chromium	0.1878	0.050	0.2	0.003501	92.1	75-125	0			
Lead	0.2048	0.050	0.2	0.0235	90.6	75-125	0			
Selenium	0.2099	0.050	0.2	0.02268	93.6	75-125	0			
Silver	0.1672	0.050	0.2	-0.004043	85.6	75-125	0			

MSD Sample ID: **0801425-02CMSD** Units: **mg/L** Analysis Date: **01/30/08 16:15**
Client ID: Run ID: **ICP7500_080130A** SeqNo: **1316778** Prep Date: **1/30/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.207	0.050	0.2	0.003519	102	75-125	0.1956	5.66	25	
Barium	1.018	0.050	0.2	0.8357	91.2	75-125	0.9596	5.91	25	O
Cadmium	0.2072	0.050	0.2	0.001376	103	75-125	0.1909	8.19	25	
Chromium	0.1957	0.050	0.2	0.003501	96.1	75-125	0.1878	4.12	25	
Lead	0.2244	0.050	0.2	0.0235	100	75-125	0.2048	9.13	25	
Selenium	0.2206	0.050	0.2	0.02268	99	75-125	0.2099	4.97	25	
Silver	0.1793	0.050	0.2	-0.004043	91.7	75-125	0.1672	6.98	25	

DUP Sample ID: **0801425-02CDUP** Units: **mg/L** Analysis Date: **01/30/08 15:57**
Client ID: Run ID: **ICP7500_080130A** SeqNo: **1316775** Prep Date: **1/30/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050	0	0	0	0-0	0.003519	0	25	
Barium	0.7873	0.050	0	0	0	0-0	0.8357	5.96	25	
Cadmium	ND	0.050	0	0	0	0-0	0.001376	0	25	
Chromium	ND	0.050	0	0	0	0-0	0.003501	0	25	
Lead	0.02192	0.050	0	0	0	0-0	0.0235	0	25	J
Selenium	0.0199	0.050	0	0	0	0-0	0.02268	0	25	J
Silver	ND	0.050	0	0	0	0-0	-0.004043	0	25	

The following samples were analyzed in this batch: 0801483-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **27979** Instrument ID **SV-5** Method: **SW8270**

MBLK Sample ID: **SBLKT1-080130** Units: **µg/L** Analysis Date: **01/30/08 19:13**

Client ID: Run ID: **SV-5_080130D** SeqNo: **1319380** Prep Date: **1/30/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Cresols, Total	ND	5.0								
Hexachlorobenzene	ND	5.0								
Hexachlorobutadiene	ND	5.0								
Hexachloroethane	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Pyridine	ND	5.0								
Surr: 2,4,6-Tribromophenol	*77.19*	0	*100*	0	*77.2*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*80.82*	0	*100*	0	*80.8*	*48-120*	0			
Surr: 2-Fluorophenol	*71.44*	0	*100*	0	*71.4*	*20-120*	0			
Surr: 4-Terphenyl-d14	*84.3*	0	*100*	0	*84.3*	*51-135*	0			
Surr: Nitrobenzene-d5	*76.78*	0	*100*	0	*76.8*	*41-120*	0			
Surr: Phenol-d6	*75.08*	0	*100*	0	*75.1*	*20-120*	0			

LCS Sample ID: **SLCST1-080130** Units: **µg/L** Analysis Date: **01/30/08 19:38**

Client ID: Run ID: **SV-5_080130D** SeqNo: **1319382** Prep Date: **1/30/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	97.55	5.0	100	0	97.5	52-115	0			
2,4,6-Trichlorophenol	90.46	5.0	100	0	90.5	56-115	0			
2,4-Dinitrotoluene	48.12	5.0	50	0	96.2	56-115	0			
Cresols, Total	221.3	5.0	200	0	111	48-115	0			
Hexachlorobenzene	45.69	5.0	50	0	91.4	54-115	0			
Hexachlorobutadiene	44.35	5.0	50	0	88.7	51-115	0			
Hexachloroethane	41.4	5.0	50	0	82.8	54-115	0			
Nitrobenzene	44.7	5.0	50	0	89.4	40-124	0			
Pentachlorophenol	96.29	5.0	100	0	96.3	45-125	0			
Pyridine	37.94	5.0	50	0	75.9	34-115	0			
Surr: 2,4,6-Tribromophenol	*81.03*	0	*100*	0	*81*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*84.68*	0	*100*	0	*84.7*	*48-120*	0			
Surr: 2-Fluorophenol	*79.39*	0	*100*	0	*79.4*	*20-120*	0			
Surr: 4-Terphenyl-d14	*88.57*	0	*100*	0	*88.6*	*51-135*	0			
Surr: Nitrobenzene-d5	*82.39*	0	*100*	0	*82.4*	*41-120*	0			
Surr: Phenol-d6	*85.44*	0	*100*	0	*85.4*	*20-120*	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **27979** Instrument ID **SV-5** Method: **SW8270**

LCSD Sample ID: **SLCSDT1-080130** Units: **µg/L** Analysis Date: **01/30/08 20:03**

Client ID: Run ID: **SV-5_080130D** SeqNo: **1319384** Prep Date: **1/30/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	94.8	5.0	100	0	94.8	52-115	97.55	2.86	30	
2,4,6-Trichlorophenol	92.05	5.0	100	0	92	56-115	90.46	1.74	30	
2,4-Dinitrotoluene	48.85	5.0	50	0	97.7	56-115	48.12	1.51	30	
Cresols, Total	228.5	5.0	200	0	114	48-115	221.3	3.24	30	
Hexachlorobenzene	46.65	5.0	50	0	93.3	54-115	45.69	2.09	30	
Hexachlorobutadiene	44.44	5.0	50	0	88.9	51-115	44.35	0.217	30	
Hexachloroethane	44.04	5.0	50	0	88.1	54-115	41.4	6.16	30	
Nitrobenzene	45.85	5.0	50	0	91.7	40-124	44.7	2.54	30	
Pentachlorophenol	100.3	5.0	100	0	100	45-125	96.29	4.06	30	
Pyridine	40.01	5.0	50	0	80	34-115	37.94	5.32	30	
Surr: 2,4,6-Tribromophenol	*81.25*	0	*100*	0	*81.2*	*42-124*	81.03	*0.276*	*30*	
Surr: 2-Fluorobiphenyl	*81.4*	0	*100*	0	*81.4*	*48-120*	84.68	*3.95*	*30*	
Surr: 2-Fluorophenol	*79.38*	0	*100*	0	*79.4*	*20-120*	79.39	*0.00754*	*30*	
Surr: 4-Terphenyl-d14	*84.38*	0	*100*	0	*84.4*	*51-135*	88.57	*4.85*	*30*	
Surr: Nitrobenzene-d5	*78.58*	0	*100*	0	*78.6*	*41-120*	82.39	*4.72*	*30*	
Surr: Phenol-d6	*83.93*	0	*100*	0	*83.9*	*20-120*	85.44	*1.78*	*30*	

The following samples were analyzed in this batch: 0801483-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **R59446** Instrument ID **VOA1** Method: **SW1311/8260**

MBLK Sample ID: **VBLKW-013108** Units: **µg/L** Analysis Date: **01/31/08 11:45**

Client ID: Run ID: **VOA1_080131A** SeqNo: **1318424** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2-Butanone	ND	10								
Benzene	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroform	ND	5.0								
Tetrachloroethene	ND	5.0								
Trichloroethene	ND	5.0								
Vinyl chloride	ND	5.0								
Surr: 1,2-Dichloroethane-d4	*44.24*	5.0	*50*	0	*88.5*	*70-125*		0		
Surr: 4-Bromofluorobenzene	*49.86*	5.0	*50*	0	*99.7*	*72.4-125*		0		
Surr: Dibromofluoromethane	*48.2*	5.0	*50*	0	*96.4*	*71.2-125*		0		
Surr: Toluene-d8	*54.11*	5.0	*50*	0	*108*	*75-125*		0		

MBLK Sample ID: **VBLKTK1-013008** Units: **µg/L** Analysis Date: **01/31/08 12:10**

Client ID: Run ID: **VOA1_080131A** SeqNo: **1318425** Prep Date: **1/30/2008** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	100								
1,2-Dichloroethane	ND	100								
1,4-Dichlorobenzene	ND	100								
2-Butanone	ND	200								
Benzene	ND	100								
Carbon tetrachloride	ND	100								
Chlorobenzene	ND	100								
Chloroform	ND	100								
Tetrachloroethene	ND	100								
Trichloroethene	ND	100								
Vinyl chloride	ND	100								
Surr: 1,2-Dichloroethane-d4	*927.7*	100	*1000*	0	*92.8*	*70-125*		0		
Surr: 4-Bromofluorobenzene	*1015*	100	*1000*	0	*102*	*72.4-125*		0		
Surr: Dibromofluoromethane	*996.6*	100	*1000*	0	*99.7*	*71.2-125*		0		
Surr: Toluene-d8	*1045*	100	*1000*	0	*104*	*75-125*		0		

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **R59446** Instrument ID **VOA1** Method: **SW1311/8260**

LCS Sample ID: **VLCSW-013108** Units: **µg/L** Analysis Date: **01/31/08 10:54**

Client ID: Run ID: **VOA1_080131A** SeqNo: **1318423** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	44.35	5.0	50	0	88.7	73-124	0			
1,2-Dichloroethane	49.71	5.0	50	0	99.4	76-120	0			
1,4-Dichlorobenzene	47.7	5.0	50	0	95.4	70-130	0			
2-Butanone	102	10	100	0	102	70-130	0			
Benzene	48.53	5.0	50	0	97.1	70-128	0			
Carbon tetrachloride	47.22	5.0	50	0	94.4	70-130	0			
Chlorobenzene	49.03	5.0	50	0	98.1	72-127	0			
Chloroform	48.97	5.0	50	0	97.9	70-130	0			
Tetrachloroethene	45.97	5.0	50	0	91.9	70-130	0			
Trichloroethene	46.65	5.0	50	0	93.3	72-129	0			
Vinyl chloride	44.2	5.0	50	0	88.4	70-130	0			
Surr: 1,2-Dichloroethane-d4	*49.13*	5.0	*50*	0	*98.3*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*49.94*	5.0	*50*	0	*99.9*	*72-125*	0			
Surr: Dibromofluoromethane	*50.24*	5.0	*50*	0	*100*	*71-125*	0			
Surr: Toluene-d8	*52.76*	5.0	*50*	0	*106*	*75-125*	0			

MS Sample ID: **0801571-03AMS** Units: **µg/L** Analysis Date: **01/31/08 15:32**

Client ID: Run ID: **VOA1_080131A** SeqNo: **1318430** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	41.26	5.0	50	0	82.5	73-124	0			
1,2-Dichloroethane	52.65	5.0	50	0	105	76-120	0			
1,4-Dichlorobenzene	47.53	5.0	50	0	95.1	70-130	0			
2-Butanone	106.4	10	100	0	106	70-130	0			
Benzene	48.48	5.0	50	0	97	70-128	0			
Carbon tetrachloride	42.79	5.0	50	0	85.6	70-130	0			
Chlorobenzene	47.33	5.0	50	0	94.7	72-127	0			
Chloroform	48.45	5.0	50	0	96.9	70-130	0			
Tetrachloroethene	41.2	5.0	50	0	82.4	70-130	0			
Trichloroethene	53.53	5.0	50	3.646	99.8	72-129	0			
Vinyl chloride	40.92	5.0	50	0	81.8	70-130	0			
Surr: 1,2-Dichloroethane-d4	*50.89*	5.0	*50*	0	*102*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*51.96*	5.0	*50*	0	*104*	*72-125*	0			
Surr: Dibromofluoromethane	*50.9*	5.0	*50*	0	*102*	*71-125*	0			
Surr: Toluene-d8	*54.68*	5.0	*50*	0	*109*	*75-125*	0			

ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in assoc. Method Blank
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
U - Analyzed for but not detected
O - Referenced analyte value is > 4 times amount spiked
P - Dual Column results percent difference > 40%
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **R59446** Instrument ID **VOA1** Method: **SW1311/8260**

MSD Sample ID: **0801571-03AMSD** Units: **µg/L** Analysis Date: **01/31/08 15:58**

Client ID: Run ID: **VOA1_080131A** SeqNo: **1318431** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	39.08	5.0	50	0	78.2	73-124	41.26	5.43	20	
1,2-Dichloroethane	47.24	5.0	50	0	94.5	76-120	52.65	10.8	20	
1,4-Dichlorobenzene	44.5	5.0	50	0	89	70-130	47.53	6.57	20	
2-Butanone	102.8	10	100	0	103	70-130	106.4	3.44	20	
Benzene	44.78	5.0	50	0	89.6	70-128	48.48	7.95	20	
Carbon tetrachloride	39.52	5.0	50	0	79	70-130	42.79	7.94	20	
Chlorobenzene	44.44	5.0	50	0	88.9	72-127	47.33	6.3	20	
Chloroform	46.19	5.0	50	0	92.4	70-130	48.45	4.78	20	
Tetrachloroethene	40.13	5.0	50	0	80.3	70-130	41.2	2.65	20	
Trichloroethene	45.66	5.0	50	3.646	84	72-129	53.53	15.9	20	
Vinyl chloride	40.69	5.0	50	0	81.4	70-130	40.92	0.567	20	
Surr: 1,2-Dichloroethane-d4	*48.68*	5.0	*50*	0	*97.4*	*70-125*	50.89	*4.45*	*20*	
Surr: 4-Bromofluorobenzene	*52.01*	5.0	*50*	0	*104*	*72-125*	51.96	*0.103*	*20*	
Surr: Dibromofluoromethane	*49.83*	5.0	*50*	0	*99.7*	*71-125*	50.9	*2.13*	*20*	
Surr: Toluene-d8	*55.15*	5.0	*50*	0	*110*	*75-125*	54.68	*0.865*	*20*	

The following samples were analyzed in this batch: 0801483-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **27974** Instrument ID **ICS3000** Method: **E300**

MBLK Sample ID: **WBLKS1-012908** Units: **mg/Kg** Analysis Date: **01/29/08 21:49**
Client ID: Run ID: **ICS3000_080129A** SeqNo: **1317477** Prep Date: **1/23/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	5.0								
Surr: Selenate (surr)	*53.34*	1.0	*50*	0	*107*	*85-115*	0			

LCS Sample ID: **WLCSS1-012908** Units: **mg/Kg** Analysis Date: **01/29/08 22:13**
Client ID: Run ID: **ICS3000_080129A** SeqNo: **1317478** Prep Date: **1/23/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	202.8	5.0	200	0	101	90-110	0			
Surr: Selenate (surr)	*50.45*	1.0	*50*	0	*101*	*85-115*	0			

MS Sample ID: **0801382-01AMS** Units: **mg/Kg** Analysis Date: **01/29/08 23:22**
Client ID: Run ID: **ICS3000_080129A** SeqNo: **1317481** Prep Date: **1/23/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	336.7	5.0	99.7	244	93	75-125	0			
Surr: Selenate (surr)	*51.42*	1.0	*49.85*	0	*103*	*80-120*	0			

MSD Sample ID: **0801382-01AMSD** Units: **mg/Kg** Analysis Date: **01/29/08 23:45**
Client ID: Run ID: **ICS3000_080129A** SeqNo: **1317482** Prep Date: **1/23/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	333.4	5.0	99.7	244	89.7	75-125	336.7	0.982	20	
Surr: Selenate (surr)	*51.09*	1.0	*49.85*	0	*102*	*80-120*	51.42	*0.642*	*20*	

DUP Sample ID: **0801382-01ADUP** Units: **mg/Kg** Analysis Date: **01/29/08 22:59**
Client ID: Run ID: **ICS3000_080129A** SeqNo: **1317480** Prep Date: **1/23/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	245.1	5.0	0	0	0	0-0	244	0.449	20	
Surr: Selenate (surr)	*51.62*	1.0	*49.85*	0	*104*	*85-115*	51.14	*0.931*	*20*	

The following samples were analyzed in this batch: 0801483-01A

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J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
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U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **R59183** Instrument ID **WetChem** Method: **SW9045B**

LCS Sample ID: **WLCSS1-012408** Units: **pH Units** Analysis Date: **01/24/08 13:00**
Client ID: Run ID: **WETCHEM_080124B** SeqNo: **1312863** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.03	0.10	6	0	100	90-110		0		

DUP Sample ID: **0801391-01ADUP** Units: **pH Units** Analysis Date: **01/24/08 13:00**
Client ID: Run ID: **WETCHEM_080124B** SeqNo: **1312878** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	10.58	0.10	0	0	0	0-0	10.52	0.569	20	

DUP Sample ID: **0801486-01BDUP** Units: **pH Units** Analysis Date: **01/24/08 13:00**
Client ID: Run ID: **WETCHEM_080124B** SeqNo: **1312881** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.14	0.10	0	0	0	0-0	8.11	0.369	20	

The following samples were analyzed in this batch: 0801483-01A

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J - Analyte detected below quantitation limits
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **R59301** Instrument ID **WetChem** Method: **SW9095A** **(Dissolve)**

DUP Sample ID: **0801561-01ADUP** Units: **Pos/Neg** Analysis Date: **01/29/08 8:00**

Client ID: Run ID: **WETCHEM_080129A** SeqNo: **1315333** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Free Liquid	ND	0	0	0	0		0	0	100	

The following samples were analyzed in this batch: 0801483-01A

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J - Analyte detected below quantitation limits
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801483
Project: MHU

QC BATCH REPORT

Batch ID: **R59312** Instrument ID **WetChem** Method: **SW846, Chpt.**

DUP Sample ID: **0801568-01BDUP** Units: Analysis Date: **01/29/08 11:00**

Client ID: Run ID: **WETCHEM_080129B** SeqNo: **1315469** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Burns vigorously and persistently	ND	0	0	0	0	0-0	0	0	0	
Ignites spontaneously	ND	0	0	0	0	0-0	0	0	0	
Ignites through friction	ND	0	0	0	0	0-0	0	0	0	
Ignites under std. temp and pressur	ND	0	0	0	0	0-0	0	0	0	
Ignites with moisture	ND	0	0	0	0	0-0	0	0	0	

The following samples were analyzed in this batch: 0801483-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

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Chain of Custody Form

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The Chain of Custody is a Legal Document. *All information must be completed accurately.*

e-Lab Analytical, Inc.
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

QUALITY • INTEGRITY • SERVICE

Project Manager: | Work Order #: K0148?

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	MHU	A	TCLP VOAIS
Work Order		Project Number		B	" Semi VOAIS
Company Name	Navajo	Bill To Company		C	" Metals
Send Report To	Aaron Strange	Invoice Attn		D	RCI
Address		Address		E	PAINT Filter test
				F	Total Chlorides
City/State/Zip		City/State/Zip		G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No	Sample Description	Date	Time	Matrix	Pres	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MHU	1/22/08	1545	S	Y	1	X	X	X	X	X	X					
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☐ Other ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
Aaron Strange	1/22/08			
Relinquished by:	Date:	Time:	Received by Laboratory:	Cooler ID / Trip Blank Number
			R.T 1/23/08 09:00	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other _____

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to e-Lab Analytical, Inc.
2. Unless otherwise agreed in a formal contract, services provided by e-Lab Analytical, Inc. are expressly limited to the terms and conditions stated on the reverse.

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e-Lab Analytical, Inc.

Sample Receipt Checklist

Client Name: NAVAJO REFINING

Date/Time Received: 1/23/2008 9:00:00 AM

Work Order Number 0801483

Received by: RDH

Checklist completed by [signature] Signature 1/23/08 Date

Reviewed by [initials] Initials 1/24/08 Date

Matrix: S

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.8c	002	
Cooler(s)/Kit(s):	1308		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Adjusted? Checked by

Login Notes:

Client contacted: Date contacted: Person contacted

Contacted by: Regarding:

Comments:

Corrective Action

WO# 0801483

ORIGIN ID: ROWA (505) 748-3311
NAVAJO REFINING
NAVAJO REFINING COMPANY
501 E. MAIN STREET

ARTESIA, NM 88210
UNITED STATES US

Ship Date: 22JAN08
ActWgt: 65.0 LB MAN
System#: 185697/CAFE2331
Account: S 113684186

TO SAMPLE RECEIVING
ELAB
10450 STANCLIFF SUITE 210

HOUSTON, TX 77099

(281) 530-5656

FedEx Express

CLS0223077/2723

Ref:
INV:
PO: Dept:

Delivery Address Barcode

BILL RECIPIENT

STANDARD OVERNIGHT

TRK# 9391 8021 0663

Form 0201

WED
Deliver By:
23JAN08

IAH A2

77099 -TX-US

A9 JGQA

Part # 156148-434 NRIT9-05

e-Lab Analytical, Inc.
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. 281.530.5656
Fax. 218.530.5887

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CU
Date: 1/24/08
Name:
Company:

USTODY SEAL
Time:
Seal Broken By:
Date: 1/25/08

e-Lab Analytical, Inc

Date: January 30, 2008

Client: ALS e-Lab Analytical, Inc
Project: 0801483
Work Order: **0801446**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0801446-01	0801483-01B	Soil		1/22/2008 15:45	1/25/2008 10:00	☐

e-Lab Analytical, Inc

Date: *January 30, 2008*

Client: ALS e-Lab Analytical, Inc
Project: 0801483
Work Order: 0801446
Sample ID: 0801483-01B
Lab ID: 0801446-01
Collection Date: 1/22/2008 3:45:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**EPA 7.3.3.2**			Analyst: **DB**
Cyanide, Reactive	ND		40.0	mg/Kg	1	1/28/2008
SULFIDE, REACTIVE			**EPA 7.3.4.2**			Analyst: **DB**
Sulfide, Reactive	ND		40.0	mg/Kg	1	1/28/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc

CLIENT: ALS e-Lab Analytical, Inc
Work Order: 0801446
Project: 0801483

Date: *Jan 30 2008*

QC BATCH REPORT

Batch ID: **R56004** Instrument ID **WETCHEM** Method: **EPA 7.3.3.2**

MBLK Sample ID: **MB-R56004** Units: **mg/Kg** Analysis Date: **01/28/08 0:00**
Client ID: Run ID: **WETCHEM_080128G** SeqNo: **921211** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	ND	40								

LCS Sample ID: **LCS-R56004** Units: **mg/Kg** Analysis Date: **01/28/08 0:00**
Client ID: Run ID: **WETCHEM_080128G** SeqNo: **921212** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	161.5	40	620	0	26	2.8-70		0		

LCSD Sample ID: **LCSD-R56004** Units: **mg/Kg** Analysis Date: **01/28/08 0:00**
Client ID: Run ID: **WETCHEM_080128G** SeqNo: **921216** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	161.5	40	620	0	26	2.8-70	161.5	0	35	

MS Sample ID: **0801400-01A MS** Units: **mg/Kg** Analysis Date: **01/28/08 0:00**
Client ID: Run ID: **WETCHEM_080128G** SeqNo: **921217** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	176.2	40	620	0	28.4	2.8-70		0		

MSD Sample ID: **0801400-01A MSD** Units: **mg/Kg** Analysis Date: **01/28/08 0:00**
Client ID: Run ID: **WETCHEM_080128G** SeqNo: **921218** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	146.8	40	620	0	23.7	2.8-70	176.2	18.2	35	

The following samples were analyzed in this batch: 0801446-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: ALS e-Lab Analytical, Inc
Work Order: 0801446
Project: 0801483

QC BATCH REPORT

Batch ID: **R56005** Instrument ID **WETCHEM** Method: **EPA 7.3.4.2**

MBLK Sample ID: **MB-R56005** Units: **mg/Kg** Analysis Date: **01/28/08 0:00**

Client ID: Run ID: **WETCHEM_080128H** SeqNo: **921219** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide, Reactive	ND	40								

The following samples were analyzed in this batch: 0801446-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

0801446

Subcontractor:
e-Lab Analytical, Inc.
3352 128th Ave.
Holland, MI 49424

TEL: (616) 399-6070
FAX: (616) 399-6185
Acct #:

CHAIN-OF-CUSTODY RECORD

Date: Jan 23, 2008
COC ID: 5922
Due Date 2/4/2008

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order	2113323	Project Name	0801483	A Cyanide, Reactive (SW-846)
Work Order		Project Number		B Sulfide, Reactive (SW-846)
Company Name	e-Lab Analytical, Inc.	Bill To Company	e-Lab Analytical, Inc.	C
Send Report To	Jeffrey L Croston	Inv Attn	Accounts Payable	D
Address	10450 Stancliff Rd, Suite 210	Address	10450 Stancliff Rd, Suite 210	E
				F
City/State/Zip	Houston, Texas 77099-4338	City/State/Zip	Houston, Texas 77099-4338	G
Phone	(281) 530-5656	Phone	(281) 530-5656	H
Fax	(281) 530-5887	Fax	(281) 530-5887	I
eMail Address	jeff.croston@alsenviro.com	eMail CC	glenda.ramos@alsenviro.com	J

Sample ID	Matrix	Collection Date	Bottle	A	B	C	D	E	F	G	H	I	J
0801483-01B (MHU)	Soil	1/22/2008 15:45	(1) 2OZGNEAT	X	X								

Comments:

Please analyze for Reactive Cyanide and Reactive Sulfide. Report is due on 2/04/08. Please send report to Jeff Croston, jeff.croston@alsenviro.com, and CC: results to Glenda Ramos, glenda.ramos@alsenviro.com

Relinquished by:	Date/Time	Received by:	Date/Time	Cooler IDs	Report/QC Level
	1/23/08 UPS		1/25 10:00		Std
Relinquished by:	Date/Time	Received by:	Date/Time		

8TH AVE

17703783

17 of 1000

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REFERENCE NUMBER
SUB CONTRACT

RICHARD SANCHEZ
TELEPHONE 281-530-5656

E-LAB, INC.

1450 STANCLIFF RD STE #210

HOUSTON TX 77099

MI 495 9-04

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TELEPHONE 616-399-6070

E-LAB, INC.

3352 128TH AVE

Residential ☐

HOLLAND MI 49424

1Z 698 174 23 1004 3163
TRACKING NUMBER

(URC v.64.0A 02/2007)
0201952542609 1/07 S

United Parcel Service, Louisville, KY

SHIPMENT ID NUMBER	6981 7478 8QM

e-Lab Analytical, Inc.
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. 281.530.5656
Fax. 218.530.5887

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CUSTODY SEAL

Date: 12408 Time: 1600
Name: RICHARD SANCHEZ
Company: ALS e-LAB

Seal Broken By:
Date: 1/8/5

e-Lab Analytical, Inc

Sample Receipt Checklist

Client Name ELAB-HOU Date/Time Received: 1/25/2008 10:00:00 AM

Work Order Number 0801446 Received by: ARB

Checklist completed by _____ Signature _____ Date 1/25/08 Reviewed by _____ Initials _____ Date 1/25/08

Matrix: Soil Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.3 C		
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Adjusted? ND Checked by CM

Login Notes:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

January 31, 2008

Aaron Strange
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (505) 748-3311
Fax: (505) 746-5421

Re: M Kleihege

Work Order : **0801382**

Dear Aaron Strange,

e-Lab Analytical, Inc. received 1 sample on 1/18/2008 09:20 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by e-Lab Analytical, Inc. and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by e-Lab Analytical, Inc. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 27.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Jeffrey L Croston

Electronically approved by: Glenda H. Ramos

Jeffrey L Croston
Project Manager

Certificate No: T104704231-06-TX

e-Lab Analytical, Inc.

Date: January 31, 2008

Client: Navajo Refining Company
Project: M Kleihege
Work Order: **0801382**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0801382-01	SRU	Soil		1/16/2008 14:15	1/18/2008 09:20	☐

e-Lab Analytical, Inc.

Date: *January 31, 2008*

Client: Navajo Refining Company
Project: M Kleihege
Sample ID: SRU
Collection Date: 1/16/2008 2:15:00 PM

Work Order: 0801382
Lab ID: 0801382-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY			**SW7470**		Prep Date: **1/28/2008**	Analyst: **JCJ**
Mercury	ND		0.000200	mg/L	1	1/28/2008 2:49:45 PM
TCLP METALS, ICP			**SW1311/6020**		Prep Date: **1/22/2008**	Analyst: **SA**
Arsenic	ND		0.0500	mg/L	10	1/22/2008 7:18:00 PM
Barium	**2.08**		**0.0500**	**mg/L**	10	1/22/2008 7:18:00 PM
Cadmium	ND		0.0500	mg/L	10	1/22/2008 7:18:00 PM
Chromium	ND		0.0500	mg/L	10	1/22/2008 7:18:00 PM
Lead	ND		0.0500	mg/L	10	1/22/2008 7:18:00 PM
Selenium	ND		0.0500	mg/L	10	1/22/2008 7:18:00 PM
Silver	ND		0.0500	mg/L	10	1/22/2008 7:18:00 PM
TCLP SEMIVOLATILES			**SW1311/8270**		Prep Date: **1/22/2008**	Analyst: **ACN**
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	1/22/2008 6:53:00 PM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	1/22/2008 6:53:00 PM
2,4-Dinitrotoluene	ND		0.0050	mg/L	1	1/22/2008 6:53:00 PM
Cresols, Total	ND		0.030	mg/L	1	1/22/2008 6:53:00 PM
Hexachlorobenzene	ND		0.0050	mg/L	1	1/22/2008 6:53:00 PM
Hexachlorobutadiene	ND		0.0050	mg/L	1	1/22/2008 6:53:00 PM
Hexachloroethane	ND		0.0050	mg/L	1	1/22/2008 6:53:00 PM
Nitrobenzene	ND		0.0050	mg/L	1	1/22/2008 6:53:00 PM
Pentachlorophenol	ND		0.0050	mg/L	1	1/22/2008 6:53:00 PM
Pyridine	ND		0.0050	mg/L	1	1/22/2008 6:53:00 PM
Surr: 2,4,6-Tribromophenol	*64.7*		*42-124*	*%REC*	1	1/22/2008 6:53:00 PM
Surr: 2-Fluorobiphenyl	*70.5*		*48-120*	*%REC*	1	1/22/2008 6:53:00 PM
Surr: 2-Fluorophenol	*64.8*		*20-120*	*%REC*	1	1/22/2008 6:53:00 PM
Surr: 4-Terphenyl-d14	*76.2*		*51-135*	*%REC*	1	1/22/2008 6:53:00 PM
Surr: Nitrobenzene-d5	*70.0*		*41-120*	*%REC*	1	1/22/2008 6:53:00 PM
Surr: Phenol-d6	*72.9*		*20-120*	*%REC*	1	1/22/2008 6:53:00 PM
TCLP VOLATILES			**SW1311/8260B**		Prep Date: **1/23/2008**	Analyst: **PC**
1,1-Dichloroethene	ND		0.10	mg/L	20	1/24/2008 7:46:00 PM
1,2-Dichloroethane	ND		0.10	mg/L	20	1/24/2008 7:46:00 PM
1,4-Dichlorobenzene	ND		0.10	mg/L	20	1/24/2008 7:46:00 PM
2-Butanone	ND		0.20	mg/L	20	1/24/2008 7:46:00 PM
Benzene	ND		0.10	mg/L	20	1/24/2008 7:46:00 PM
Carbon tetrachloride	ND		0.10	mg/L	20	1/24/2008 7:46:00 PM
Chlorobenzene	ND		0.10	mg/L	20	1/24/2008 7:46:00 PM
Chloroform	ND		0.10	mg/L	20	1/24/2008 7:46:00 PM
Tetrachloroethene	ND		0.10	mg/L	20	1/24/2008 7:46:00 PM
Trichloroethene	ND		0.10	mg/L	20	1/24/2008 7:46:00 PM
Vinyl chloride	ND		0.10	mg/L	20	1/24/2008 7:46:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc.

Date: *January 31, 2008*

Client: Navajo Refining Company
Project: M Kleihege
Work Order: 0801382
Sample ID: SRU
Lab ID: 0801382-01
Collection Date: 1/16/2008 2:15:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 1,2-Dichloroethane-d4	*91.5*		*70-125*	*%REC*	20	1/24/2008 7:46:00 PM
Surr: 4-Bromofluorobenzene	*99.4*		*72-125*	*%REC*	20	1/24/2008 7:46:00 PM
Surr: Dibromofluoromethane	*102*		*71-125*	*%REC*	20	1/24/2008 7:46:00 PM
Surr: Toluene-d8	*98.7*		*75-125*	*%REC*	20	1/24/2008 7:46:00 PM
CYANIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Cyanide	ND		40.0	mg/Kg	1	1/24/2008
SULFIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Sulfide	ND		40.0	mg/Kg	1	1/23/2008
ANIONS BY ION CHROMATOGRAPHY - SOIL			**E300**		Prep Date: **1/23/2008**	Analyst: **RPM**
Chloride	**244**		**4.99**	**mg/Kg**	1	1/29/2008 10:36:00 PM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	1	1/29/2008 10:36:00 PM
IGNITABILITY FOR SOLIDS			**SW846, CHPT. 7.1.2**			Analyst: **MAM**
Burns vigorously and persistently	**No**				1	1/22/2008 3:00:00 PM
Ignites spontaneously	**No**				1	1/22/2008 3:00:00 PM
Ignites through friction	**No**				1	1/22/2008 3:00:00 PM
Ignites under std. temp and pressure	**No**				1	1/22/2008 3:00:00 PM
Ignites with moisture	**No**				1	1/22/2008 3:00:00 PM
PAINT FILTER TEST			**SW9095A**			Analyst: **KKP**
Free Liquid	**Negative**			**Pos/Neg**	1	1/22/2008 6:00:00 PM
PH IN SOLID			**SW9045B**			Analyst: **MAM**
pH	**8.39**		**0.100**	**pH Units**	1	1/22/2008 4:30:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc.

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

Date: *Jan 31 2008*

QC BATCH REPORT

Batch ID: **27848** Instrument ID **ICP7500** Method: **SW1311/6020**

MBLK Sample ID: **MBLKT1-012108** Units: **mg/L** Analysis Date: **01/22/08 18:18**

Client ID: Run ID: **ICP7500_080122A** SeqNo: **1311299** Prep Date: **1/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	0.002467	0.050								J
Selenium	0.0302	0.050								J
Silver	ND	0.050								

MBLK Sample ID: **MBLKW3-012208** Units: **mg/L** Analysis Date: **01/22/08 18:24**

Client ID: Run ID: **ICP7500_080122A** SeqNo: **1311300** Prep Date: **1/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	0.01968	0.050								J
Silver	ND	0.050								

LCS Sample ID: **MLCSW3-012208** Units: **mg/L** Analysis Date: **01/22/08 18:30**

Client ID: Run ID: **ICP7500_080122A** SeqNo: **1311301** Prep Date: **1/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1978	0.050	0.2	0	98.9	80-120	0			
Barium	0.2048	0.050	0.2	0	102	80-120	0			
Cadmium	0.2075	0.050	0.2	0	104	80-120	0			
Chromium	0.1909	0.050	0.2	0	95.4	80-120	0			
Lead	0.2028	0.050	0.2	0	101	80-120	0			
Selenium	0.2089	0.050	0.2	0	104	80-120	0			
Silver	0.1875	0.050	0.2	0	93.8	80-120	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **27848** Instrument ID **ICP7500** Method: **SW1311/6020**

MS Sample ID: **0801414-01AMS** Units: **mg/L** Analysis Date: **01/22/08 20:24**

Client ID: Run ID: **ICP7500_080122A** SeqNo: **1311323** Prep Date: **1/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2052	0.050	0.2	0.001175	102	75-125	0			
Barium	0.2651	0.050	0.2	0.03537	115	75-125	0			
Cadmium	0.2223	0.050	0.2	-0.00002658	111	75-125	0			
Chromium	0.2016	0.050	0.2	0.006704	97.4	75-125	0			
Lead	0.2122	0.050	0.2	0.0007044	106	75-125	0			
Selenium	0.2268	0.050	0.2	0.00804	109	75-125	0			
Silver	0.1881	0.050	0.2	-0.003423	95.8	75-125	0			

MSD Sample ID: **0801414-01AMSD** Units: **mg/L** Analysis Date: **01/22/08 20:30**

Client ID: Run ID: **ICP7500_080122A** SeqNo: **1311324** Prep Date: **1/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2039	0.050	0.2	0.001175	101	75-125	0.2052	0.636	25	
Barium	0.2459	0.050	0.2	0.03537	105	75-125	0.2651	7.51	25	
Cadmium	0.2141	0.050	0.2	-0.00002658	107	75-125	0.2223	3.76	25	
Chromium	0.205	0.050	0.2	0.006704	99.1	75-125	0.2016	1.67	25	
Lead	0.2071	0.050	0.2	0.0007044	103	75-125	0.2122	2.43	25	
Selenium	0.2033	0.050	0.2	0.00804	97.6	75-125	0.2268	10.9	25	
Silver	0.1795	0.050	0.2	-0.003423	91.5	75-125	0.1881	4.68	25	

DUP Sample ID: **0801414-01ADUP** Units: **mg/L** Analysis Date: **01/22/08 19:54**

Client ID: Run ID: **ICP7500_080122A** SeqNo: **1311318** Prep Date: **1/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050	0	0	0	0-0	0.001175	0	25	
Barium	0.03606	0.050	0	0	0	0-0	0.03537	0	25	J
Cadmium	ND	0.050	0	0	0	0-0	-0.00002658	0	25	
Chromium	0.007613	0.050	0	0	0	0-0	0.006704	0	25	J
Lead	ND	0.050	0	0	0	0-0	0.0007044	0	25	
Selenium	0.01835	0.050	0	0	0	0-0	0.00804	0	25	J
Silver	ND	0.050	0	0	0	0-0	-0.003423	0	25	

The following samples were analyzed in this batch: 0801382-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **27937** Instrument ID **Mercury** Method: **SW7470**

MBLK Sample ID: **GBLKW1-012808** Units: **mg/L** Analysis Date: **01/28/08 14:29**
Client ID: Run ID: **MERCURY_080128A** SeqNo: **1314938** Prep Date: **1/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	0			

MBLK Sample ID: **GBLKT1-012508** Units: **mg/L** Analysis Date: **01/28/08 14:47**
Client ID: Run ID: **MERCURY_080128A** SeqNo: **1314947** Prep Date: **1/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	0			

LCS Sample ID: **GLCSW1-012808** Units: **mg/L** Analysis Date: **01/28/08 14:31**
Client ID: Run ID: **MERCURY_080128A** SeqNo: **1314939** Prep Date: **1/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00535	0.00020	0.005	0	107	80-120	0			

LCSD Sample ID: **GLCSDW1-012808** Units: **mg/L** Analysis Date: **01/28/08 14:33**
Client ID: Run ID: **MERCURY_080128A** SeqNo: **1314940** Prep Date: **1/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00533	0.00020	0.005	0	107	80-120	0.00535	0.375	25	

MS Sample ID: **0801522-01AMS** Units: **mg/L** Analysis Date: **01/28/08 14:39**
Client ID: Run ID: **MERCURY_080128A** SeqNo: **1314943** Prep Date: **1/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00535	0.00020	0.005	-0.000023	107	75-125	0			

MSD Sample ID: **0801522-01AMSD** Units: **mg/L** Analysis Date: **01/28/08 14:41**
Client ID: Run ID: **MERCURY_080128A** SeqNo: **1314944** Prep Date: **1/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00544	0.00020	0.005	-0.000023	109	75-125	0.00535	1.67	20	

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **27937** Instrument ID **Mercury** Method: **SW7470**

DUP Sample ID: **0801522-01ADUP** Units: **mg/L** Analysis Date: **01/28/08 14:37**

Client ID: Run ID: **MERCURY_080128A** SeqNo: **1314942** Prep Date: **1/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	-0.000023	0	20	

The following samples were analyzed in this batch: 0801382-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **27849** Instrument ID **SV-5** Method: **SW8270**

MBLK Sample ID: **SBLKT1-080122** Units: **µg/L** Analysis Date: **01/22/08 16:36**

Client ID: Run ID: **SV-5_080122B** SeqNo: **1311274** Prep Date: **1/22/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Cresols, Total	ND	5.0								
Hexachlorobenzene	ND	5.0								
Hexachlorobutadiene	ND	5.0								
Hexachloroethane	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Pyridine	ND	5.0								
Surr: 2,4,6-Tribromophenol	*73.33*	0	*100*	0	*73.3*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*78.78*	0	*100*	0	*78.8*	*48-120*	0			
Surr: 2-Fluorophenol	*70.72*	0	*100*	0	*70.7*	*20-120*	0			
Surr: 4-Terphenyl-d14	*84.72*	0	*100*	0	*84.7*	*51-135*	0			
Surr: Nitrobenzene-d5	*76.15*	0	*100*	0	*76.2*	*41-120*	0			
Surr: Phenol-d6	*76.3*	0	*100*	0	*76.3*	*20-120*	0			

LCS Sample ID: **SLCST1-080122** Units: **µg/L** Analysis Date: **01/22/08 17:01**

Client ID: Run ID: **SV-5_080122B** SeqNo: **1311275** Prep Date: **1/22/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	91.4	5.0	100	0	91.4	52-115	0			
2,4,6-Trichlorophenol	91.64	5.0	100	0	91.6	56-115	0			
2,4-Dinitrotoluene	47.15	5.0	50	0	94.3	56-115	0			
Hexachlorobenzene	43.83	5.0	50	0	87.7	54-115	0			
Hexachlorobutadiene	43.66	5.0	50	0	87.3	51-115	0			
Hexachloroethane	43.07	5.0	50	0	86.1	54-115	0			
Nitrobenzene	44.79	5.0	50	0	89.6	40-124	0			
Pentachlorophenol	89.92	5.0	100	0	89.9	45-125	0			
Pyridine	39.3	5.0	50	0	78.6	34-115	0			
Surr: 2,4,6-Tribromophenol	*82.53*	0	*100*	0	*82.5*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*86.97*	0	*100*	0	*87*	*48-120*	0			
Surr: 2-Fluorophenol	*83.11*	0	*100*	0	*83.1*	*20-120*	0			
Surr: 4-Terphenyl-d14	*88.25*	0	*100*	0	*88.3*	*51-135*	0			
Surr: Nitrobenzene-d5	*82.96*	0	*100*	0	*83*	*41-120*	0			
Surr: Phenol-d6	*89.07*	0	*100*	0	*89.1*	*20-120*	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **27849** Instrument ID **SV-5** Method: **SW8270**

LCSD Sample ID: **SLCSDT1-080122** Units: **µg/L** Analysis Date: **01/22/08 17:26**

Client ID: Run ID: **SV-5_080122B** SeqNo: **1311276** Prep Date: **1/22/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	89.3	5.0	100	0	89.3	52-115	91.4	2.33	30	
2,4,6-Trichlorophenol	89.36	5.0	100	0	89.4	56-115	91.64	2.51	30	
2,4-Dinitrotoluene	46.93	5.0	50	0	93.9	56-115	47.15	0.471	30	
Hexachlorobenzene	44.09	5.0	50	0	88.2	54-115	43.83	0.611	30	
Hexachlorobutadiene	41.13	5.0	50	0	82.3	51-115	43.66	5.96	30	
Hexachloroethane	40.56	5.0	50	0	81.1	54-115	43.07	5.99	30	
Nitrobenzene	43.76	5.0	50	0	87.5	40-124	44.79	2.32	30	
Pentachlorophenol	93.32	5.0	100	0	93.3	45-125	89.92	3.71	30	
Pyridine	34.4	5.0	50	0	68.8	34-115	39.3	13.3	30	
Surr: 2,4,6-Tribromophenol	*80.73*	0	*100*	0	*80.7*	*42-124*	82.53	*2.21*	*30*	
Surr: 2-Fluorobiphenyl	*81.32*	0	*100*	0	*81.3*	*48-120*	86.97	*6.72*	*30*	
Surr: 2-Fluorophenol	*79.71*	0	*100*	0	*79.7*	*20-120*	83.11	*4.18*	*30*	
Surr: 4-Terphenyl-d14	*84.95*	0	*100*	0	*84.9*	*51-135*	88.25	*3.82*	*30*	
Surr: Nitrobenzene-d5	*78.38*	0	*100*	0	*78.4*	*41-120*	82.96	*5.68*	*30*	
Surr: Phenol-d6	*85.47*	0	*100*	0	*85.5*	*20-120*	89.07	*4.12*	*30*	

The following samples were analyzed in this batch: 0801382-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **R59202** Instrument ID **VOA1** Method: **SW1311/8260**

MBLK Sample ID: **VBLKW-012408** Units: **µg/L** Analysis Date: **01/24/08 12:36**

Client ID: Run ID: **VOA1_080124B** SeqNo: **1313385** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2-Butanone	ND	10								
Benzene	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroform	ND	5.0								
Tetrachloroethene	ND	5.0								
Trichloroethene	ND	5.0								
Vinyl chloride	ND	5.0								
Surr: 1,2-Dichloroethane-d4	*44.53*	5.0	*50*	0	*89.1*	*70-125*		0		
Surr: 4-Bromofluorobenzene	*48.51*	5.0	*50*	0	*97*	*72.4-125*		0		
Surr: Dibromofluoromethane	*51.02*	5.0	*50*	0	*102*	*71.2-125*		0		
Surr: Toluene-d8	*48.7*	5.0	*50*	0	*97.4*	*75-125*		0		

MBLK Sample ID: **VBLKTK1-012308** Units: **µg/L** Analysis Date: **01/24/08 18:30**

Client ID: Run ID: **VOA1_080124B** SeqNo: **1313390** Prep Date: **1/23/2008** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	100								
1,2-Dichloroethane	ND	100								
1,4-Dichlorobenzene	ND	100								
2-Butanone	ND	200								
Benzene	ND	100								
Carbon tetrachloride	ND	100								
Chlorobenzene	ND	100								
Chloroform	ND	100								
Tetrachloroethene	27.85	100								J
Trichloroethene	ND	100								
Vinyl chloride	ND	100								
Surr: 1,2-Dichloroethane-d4	*900.7*	100	*1000*	0	*90.1*	*70-125*		0		
Surr: 4-Bromofluorobenzene	*963.5*	100	*1000*	0	*96.3*	*72.4-125*		0		
Surr: Dibromofluoromethane	*996.4*	100	*1000*	0	*99.6*	*71.2-125*		0		
Surr: Toluene-d8	*1031*	100	*1000*	0	*103*	*75-125*		0		

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **R59202** Instrument ID **VOA1** Method: **SW1311/8260**

LCS Sample ID: **VLCSW-012408** Units: **µg/L** Analysis Date: **01/24/08 11:45**
Client ID: Run ID: **VOA1_080124B** SeqNo: **1313384** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	46.85	5.0	50	0	93.7	73-124	0			
1,2-Dichloroethane	50.95	5.0	50	0	102	76-120	0			
1,4-Dichlorobenzene	46.02	5.0	50	0	92	70-130	0			
2-Butanone	91.76	10	100	0	91.8	70-130	0			
Benzene	49.76	5.0	50	0	99.5	70-128	0			
Carbon tetrachloride	46.79	5.0	50	0	93.6	70-130	0			
Chlorobenzene	47.34	5.0	50	0	94.7	72-127	0			
Chloroform	49.16	5.0	50	0	98.3	70-130	0			
Tetrachloroethene	44.52	5.0	50	0	89	70-130	0			
Trichloroethene	47.42	5.0	50	0	94.8	72-129	0			
Vinyl chloride	44.29	5.0	50	0	88.6	70-130	0			
Surr: 1,2-Dichloroethane-d4	*48.41*	5.0	*50*	0	*96.8*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*47.45*	5.0	*50*	0	*94.9*	*72-125*	0			
Surr: Dibromofluoromethane	*50.22*	5.0	*50*	0	*100*	*71-125*	0			
Surr: Toluene-d8	*52.38*	5.0	*50*	0	*105*	*75-125*	0			

MS Sample ID: **0801494-01AMS** Units: **µg/L** Analysis Date: **01/24/08 15:58**
Client ID: Run ID: **VOA1_080124B** SeqNo: **1313388** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	48.27	5.0	50	0	96.5	73-124	0			
1,2-Dichloroethane	52.78	5.0	50	0	106	76-120	0			
1,4-Dichlorobenzene	46.33	5.0	50	0	92.7	70-130	0			
2-Butanone	103.1	10	100	0	103	70-130	0			
Benzene	50.42	5.0	50	0	101	70-128	0			
Carbon tetrachloride	46.23	5.0	50	0	92.5	70-130	0			
Chlorobenzene	47.62	5.0	50	0	95.2	72-127	0			
Chloroform	52.7	5.0	50	0	105	70-130	0			
Tetrachloroethene	78.14	5.0	50	34.09	88.1	70-130	0			
Trichloroethene	48.92	5.0	50	0	97.8	72-129	0			
Vinyl chloride	50.2	5.0	50	0	100	70-130	0			
Surr: 1,2-Dichloroethane-d4	*51.62*	5.0	*50*	0	*103*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*49.23*	5.0	*50*	0	*98.5*	*72-125*	0			
Surr: Dibromofluoromethane	*51.77*	5.0	*50*	0	*104*	*71-125*	0			
Surr: Toluene-d8	*50.66*	5.0	*50*	0	*101*	*75-125*	0			

ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **R59202** Instrument ID **VOA1** Method: **SW1311/8260**

MSD Sample ID: **0801494-01AMSD** Units: **µg/L** Analysis Date: **01/24/08 16:24**

Client ID: Run ID: **VOA1_080124B** SeqNo: **1313389** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	44.72	5.0	50	0	89.4	73-124	48.27	7.64	20	
1,2-Dichloroethane	51.01	5.0	50	0	102	76-120	52.78	3.41	20	
1,4-Dichlorobenzene	47.97	5.0	50	0	95.9	70-130	46.33	3.49	20	
2-Butanone	102.8	10	100	0	103	70-130	103.1	0.284	20	
Benzene	49.1	5.0	50	0	98.2	70-128	50.42	2.64	20	
Carbon tetrachloride	43.07	5.0	50	0	86.1	70-130	46.23	7.06	20	
Chlorobenzene	48.08	5.0	50	0	96.2	72-127	47.62	0.955	20	
Chloroform	52.78	5.0	50	0	106	70-130	52.7	0.166	20	
Tetrachloroethene	77.26	5.0	50	34.09	86.3	70-130	78.14	1.14	20	
Trichloroethene	46.41	5.0	50	0	92.8	72-129	48.92	5.27	20	
Vinyl chloride	45.3	5.0	50	0	90.6	70-130	50.2	10.3	20	
Surr: 1,2-Dichloroethane-d4	*50.08*	5.0	*50*	0	*100*	*70-125*	51.62	*3.04*	*20*	
Surr: 4-Bromofluorobenzene	*50.11*	5.0	*50*	0	*100*	*72-125*	49.23	*1.77*	*20*	
Surr: Dibromofluoromethane	*52.15*	5.0	*50*	0	*104*	*71-125*	51.77	*0.731*	*20*	
Surr: Toluene-d8	*52.08*	5.0	*50*	0	*104*	*75-125*	50.66	*2.77*	*20*	

The following samples were analyzed in this batch: 0801382-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **27974** Instrument ID **ICS3000** Method: **E300**

MBLK Sample ID: **WBLKS1-012908** Units: **mg/Kg** Analysis Date: **01/29/08 21:49**
Client ID: Run ID: **ICS3000_080129A** SeqNo: **1317477** Prep Date: **1/23/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	5.0								
Surr: Selenate (surr)	*53.34*	1.0	*50*	0	*107*	*85-115*	0			

LCS Sample ID: **WLCSS1-012908** Units: **mg/Kg** Analysis Date: **01/29/08 22:13**
Client ID: Run ID: **ICS3000_080129A** SeqNo: **1317478** Prep Date: **1/23/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	202.8	5.0	200	0	101	90-110	0			
Surr: Selenate (surr)	*50.45*	1.0	*50*	0	*101*	*85-115*	0			

MS Sample ID: **0801382-01AMS** Units: **mg/Kg** Analysis Date: **01/29/08 23:22**
Client ID: **SRU** Run ID: **ICS3000_080129A** SeqNo: **1317481** Prep Date: **1/23/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	336.7	5.0	99.7	244	93	75-125	0			
Surr: Selenate (surr)	*51.42*	1.0	*49.85*	0	*103*	*80-120*	0			

MSD Sample ID: **0801382-01AMSD** Units: **mg/Kg** Analysis Date: **01/29/08 23:45**
Client ID: **SRU** Run ID: **ICS3000_080129A** SeqNo: **1317482** Prep Date: **1/23/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	333.4	5.0	99.7	244	89.7	75-125	336.7	0.982	20	
Surr: Selenate (surr)	*51.09*	1.0	*49.85*	0	*102*	*80-120*	51.42	*0.642*	*20*	

DUP Sample ID: **0801382-01ADUP** Units: **mg/Kg** Analysis Date: **01/29/08 22:59**
Client ID: **SRU** Run ID: **ICS3000_080129A** SeqNo: **1317480** Prep Date: **1/23/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	245.1	5.0	0	0	0	0-0	244	0.449	20	
Surr: Selenate (surr)	*51.62*	1.0	*49.85*	0	*104*	*85-115*	51.14	*0.931*	*20*	

The following samples were analyzed in this batch: 0801382-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **R59087** Instrument ID **WetChem** Method: **SW846, Chpt.**

DUP Sample ID: **0801381-01BDUP** Units: Analysis Date: **01/22/08 15:00**

Client ID: Run ID: **WETCHEM_080122F** SeqNo: **1310847** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Burns vigorously and persistently	ND	0	0	0	0	0-0	0	0	0	
Ignites spontaneously	ND	0	0	0	0	0-0	0	0	0	
Ignites through friction	ND	0	0	0	0	0-0	0	0	0	
Ignites under std. temp and pressur	ND	0	0	0	0	0-0	0	0	0	
Ignites with moisture	ND	0	0	0	0	0-0	0	0	0	

The following samples were analyzed in this batch: 0801382-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **R59095** Instrument ID **WetChem** Method: **SW9045B**

LCS Sample ID: **WLCSS1-012208** Units: **pH Units** Analysis Date: **01/22/08 16:30**
Client ID: Run ID: **WETCHEM_080122H** SeqNo: **1310955** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.09	0.10	6	0	102	90-110	0			

DUP Sample ID: **0801381-01BDUP** Units: **pH Units** Analysis Date: **01/22/08 16:30**
Client ID: Run ID: **WETCHEM_080122H** SeqNo: **1310972** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.31	0.10	0	0	0	0-0	7.36	0.682	20	

DUP Sample ID: **0801399-01CDUP** Units: **pH Units** Analysis Date: **01/22/08 16:30**
Client ID: Run ID: **WETCHEM_080122H** SeqNo: **1310974** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.32	0.10	0	0	0	0-0	7.28	0.548	20	

The following samples were analyzed in this batch: 0801382-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0801382
Project: M Kleihege

QC BATCH REPORT

Batch ID: **R59098** Instrument ID **WetChem** Method: **SW9095A** **(Dissolve)**

DUP Sample ID: **0801382-01ADUP** Units: **Pos/Neg** Analysis Date: **01/22/08 18:00**

Client ID: **SRU** Run ID: **WETCHEM_080122J** SeqNo: **1311008** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Free Liquid	ND	0	0	0	0		0	0	100	

The following samples were analyzed in this batch: 0801382-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

☐ e-Lab Analytical, Inc.
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 1

The Chain of Custody is a Legal Document. All information must be completed accurately.

☐ e-Lab Analytical, Inc.
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Project Manager: | Work Order #: XO 38

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	M Kleihege	A	TCLP VOAs
Work Order		Project Number		B	" Semi VOAs
Company Name	Navajo Refining Co.	Bill To Company		C	" Metals
Send Report To	Aaron Strange	Invoice Attn		D	RCI
Address		Address		E	Paint Filter test
				F	Total Chlorides
City/State/Zip		City/State/Zip		G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SRU	1/16/08	1415	S	Y	1	X	X	X	X	X	X					
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Aaron Strange — Date: 1/17/08 — Time: 1615

Relinquished by: — Date: — Time:

Received by: — Received by (Laboratory): — 1/18/08 9:20

Logged by (Laboratory): — Date: — Time:

Checked by (Laboratory):

Notes:

Cooler ID | Trip Blank Number

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other _____

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to e-Lab Analytical, Inc.
2. Unless otherwise agreed in a formal contract, services provided by e-Lab Analytical, Inc. are expressly limited to the terms and conditions stated on the reverse.

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Sample Receipt Checklist

Client Name: NAVAJO REFINING

Date/Time Received: 1/18/2008 9:20:00 AM

Work Order Number 0801382

Received by: RNG

Checklist completed by [signature] Signature 1/18/08 Date

Reviewed by [initials] Initials 1/21/08 Date

Matrix: 1/21/08 Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.0c	002	
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐

	Adjusted?	Checked by

Login Notes:

Client contacted: Date contacted: Person contacted

Contacted by: Regarding:

Comments:

Corrective Action

W.O.# 0801382

e-Lab Analytical, Inc.
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. 281.530.5656
Fax. 218.530.5887

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CU

Date: 11/7/08
Name: Aaron
Company: Nova

ISTODY SEAL

Time: 1615
Strauss
Refining Co.

Seal Broken By:

Date: 11/8/08

e-Lab Analytical, Inc

Date: January 29, 2008

Client: ALS e-Lab Analytical, Inc
Project: 0801382
Work Order: **0801368**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0801368-01	0801382-01B	Soil		1/16/2008 14:15	1/22/2008 10:15	☐

e-Lab Analytical, Inc

Date: *January 29, 2008*

Client: ALS e-Lab Analytical, Inc
Project: 0801382
Work Order: 0801368
Sample ID: 0801382-01B
Lab ID: 0801368-01
Collection Date: 1/16/2008 2:15:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**EPA 7.3.3.2**			Analyst: **DB**
Cyanide, Reactive	ND		40.0	mg/Kg	1	1/24/2008
SULFIDE, REACTIVE			**EPA 7.3.4.2**			Analyst: **DB**
Sulfide, Reactive	ND		40.0	mg/Kg	1	1/23/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc

CLIENT: ALS e-Lab Analytical, Inc
Work Order: 0801368
Project: 0801382

Date: *Jan 29 2008*

QC BATCH REPORT

Batch ID: **R55914** Instrument ID **WETCHEM** Method: **EPA 7.3.4.2**

MBLK Sample ID: **MB-R55914** Units: **mg/Kg** Analysis Date: **01/23/08 0:00**

Client ID: Run ID: **WETCHEM_080123G** SeqNo: **919803** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide, Reactive	ND	40								

The following samples were analyzed in this batch: 0801368-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: ALS e-Lab Analytical, Inc
Work Order: 0801368
Project: 0801382

QC BATCH REPORT

Batch ID: **R55947** Instrument ID **WETCHEM** Method: **EPA 7.3.3.2**

MBLK Sample ID: **MB-R55947** Units: **mg/Kg** Analysis Date: **01/24/08 0:00**
Client ID: Run ID: **WETCHEM_080124H** SeqNo: **920199** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	ND	40								

LCS Sample ID: **LCS-R55947** Units: **mg/Kg** Analysis Date: **01/24/08 0:00**
Client ID: Run ID: **WETCHEM_080124H** SeqNo: **920200** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	190.8	40	620	0	30.8	2.8-70		0		

LCSD Sample ID: **LCSD-R55947** Units: **mg/Kg** Analysis Date: **01/24/08 0:00**
Client ID: Run ID: **WETCHEM_080124H** SeqNo: **920205** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	220.2	40	620	0	35.5	2.8-70	190.8	14.3	35	

MS Sample ID: **0801374-01A MS** Units: **mg/Kg** Analysis Date: **01/24/08 0:00**
Client ID: Run ID: **WETCHEM_080124H** SeqNo: **920206** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	88.08	40	620	0	14.2	2.8-70		0		

MSD Sample ID: **0801374-01A MSD** Units: **mg/Kg** Analysis Date: **01/24/08 0:00**
Client ID: Run ID: **WETCHEM_080124H** SeqNo: **920207** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	88.08	40	620	0	14.2	2.8-70	88.08	0	35	

The following samples were analyzed in this batch: 0801368-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

0801368

CHAIN-OF-CUSTODY RECORD

Date: Jan 18, 2008
COC ID: 5889
Due Date 1/30/2008

Subcontractor:
e-Lab Analytical, Inc.
3352 128th Ave. TEL: *(616) 399-6070*
FAX: (616) 399-6185
Holland, MI 49424 Acct #:

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order	2113280	Project Name	0801382	A Cyanide, Reactive (SW-846)
Work Order		Project Number		B Sulfide, Reactive (SW-846)
Company Name	e-Lab Analytical, Inc.	Bill To Company	e-Lab Analytical, Inc.	C
Send Report To	Jeffrey L Croston	Inv Attn	Accounts Payable	D
Address	10450 Stancliff Rd, Suite 210	Address	10450 Stancliff Rd, Suite 210	E
				F
City/State/Zip	Houston, Texas 77099-4338	City/State/Zip	Houston, Texas 77099-4338	G
Phone	(281) 530-5656	Phone	(281) 530-5656	H
Fax	(281) 530-5887	Fax	(281) 530-5887	I
eMail Address	jeff.croston@alsenviro.com	eMail CC	glenda.ramos@alsenviro.com	J

	Sample ID	Matrix	Collection Date	Bottle	A	B	C	D	E	F	G	H	I	J
1	0801382-01B (SRU)	Soil	1/16/2008 14:15	(1) 2OZGNEAT	X	X								

Comments:

Please analyze for Reactive Cyanide and Reactive Sulfide. Report is due on 1/30/08. Please send report to Jeff Croston, jeff.croston@alsenviro.com, and CC: results to Glenda Ramos, glenda.ramos@alsenviro.com

Relinquished by:	Date/Time	Received by:	Date/Time	Cooler IDs	Report/QC Level
	1/21/08 UPS	UPS	1/21/08		Std
Relinquished by: UPS	Date/Time 1/22/08 1015	Received by:	Date/Time 1/22/08 1015		

e-Lab Analytical, Inc

Sample Receipt Checklist

Client Name ELAB-HOU

Date/Time Received: 1/22/2008 10:15:00 AM

Work Order Number 0801368

Received by: AJK

Checklist completed by _____ 1/22/08
Signature Date

Reviewed by _____ 1/22/08
Initials Date

Matrix: Soil

Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.4°C		
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Adjusted? _____ Checked by _____

Login Notes:

Client contacted _____ *Date contacted:* _____ *Person contacted* _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

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SUB CONTRACT

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E-LAB, INC.

1450 STANCLIFF RD STE #210

HOUSTON TX 77099

DELIVERY TO

RECEIVING TELEPHONE 616-399-6070

E-LAB, INC.

3352 128TH AVE Residential ☐

HOLLAND MI 49424

(URC v.64.0A 02/2007)
0201952542609 1/07 S

United Parcel Service, Louisville, KY

MI 495 9-04

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HOLLAND MI 49424

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M220-RDL ☐

1500

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1093839 SS2004 US 04959 Jan 22 08:15:14 2008 HIP 7.0.1 INT4420

e-Lab Analytical, Inc.
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. 281.530.5656
Fax. 218.530.5887

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CUSTODY SEAL

Date: 1/21/08 Time: 16:26
Name: RAYMOND N GAMBOA
Company: ALS e-Lab

Seal Broken By:
Date: 1/22/08

08013688

100

Chavez, Carl J, EMNRD

From: Jones, Brad A., EMNRD
Sent: Wednesday, June 17, 2009 7:57 AM
To: Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV
Subject: FW: Navajo soil data - final set of 2
Attachments: 902391 Gary Davis Tank Ring Final.pdf; 810080 Soil Samples Final.pdf

---

From: Krueger, Pamela [mailto:pam.krueger@arcadis-us.com]
Sent: Tuesday, June 16, 2009 4:51 PM
To: Jones, Brad A., EMNRD
Subject: Navajo soil data - final set of 2

ARCADIS
Pamela R. Krueger
Senior Project Manager

11490 Westheimer, Suite 600
Houston, TX 77077
Tel 281.509.6416
Fax 281.497.7258
Mobile 713.249.8548
pam.krueger@arcadis-us.com
www.arcadis-us.com

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ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

26-Feb-09

Aaron Strange
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 746-5468
Fax: (575) 746-5421

Re: Gary Davis Tank Ring

Work Order : **0902391**

Dear Aaron,

ALS Laboratory Group received 1 sample on 2/14/2009 09:45 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 20.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

JayLynn F Thibault

Electronically approved by: Glenda H. Ramos

JayLynn F Thibault
Project Manager

Certificate No: T104704231-08-TX

ALS Laboratory Group

Date: 26-Feb-09

Client: Navajo Refining Company
Project: Gary Davis Tank Ring
Work Order: **0902391**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0902391-01	Sour Water Tank Ring	Soil		2/13/2009 14:42	2/14/2009 09:45	☐

ALS Laboratory Group

Date: *26-Feb-09*

Client: Navajo Refining Company
Project: Gary Davis Tank Ring
Sample ID: Sour Water Tank Ring
Collection Date: 2/13/2009 02:42 PM

Work Order: 0902391
Lab ID: 0902391-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **2/18/2009**	Analyst: **KMB**
nC6 to nC12	ND		500	mg/Kg	10	2/26/2009 11:45 AM
>nC12 to nC28	**7,800**		**500**	**mg/Kg**	10	2/26/2009 11:45 AM
>nC28 to nC35	**1,200**		**500**	**mg/Kg**	10	2/26/2009 11:45 AM
Total Petroleum Hydrocarbon	**9,000**		**500**	**mg/Kg**	10	2/26/2009 11:45 AM
Surr: 2-Fluorobiphenyl	*121*		*70-130*	*%REC*	10	2/26/2009 11:45 AM
Surr: Trifluoromethyl benzene	*101*		*70-130*	*%REC*	10	2/26/2009 11:45 AM
TCLP MERCURY			**SW7470**		Prep Date: **2/19/2009**	Analyst: **JCJ**
Mercury	ND		0.000200	mg/L	1	2/19/2009 06:30 PM
TCLP METALS			**SW1311/6020**		Prep Date: **2/19/2009**	Analyst: **ALR**
Arsenic	ND		0.0500	mg/L	10	2/20/2009 12:18 AM
Barium	**0.402**		**0.0500**	**mg/L**	10	2/20/2009 12:18 AM
Cadmium	ND		0.0500	mg/L	10	2/20/2009 12:18 AM
Chromium	ND		0.0500	mg/L	10	2/20/2009 12:18 AM
Lead	ND		0.0500	mg/L	10	2/20/2009 12:18 AM
Selenium	ND		0.0500	mg/L	10	2/20/2009 12:18 AM
Silver	ND		0.0500	mg/L	10	2/20/2009 12:18 AM
TCLP SEMIVOLATILES			**SW1311/8270**		Prep Date: **2/18/2009**	Analyst: **ACN**
2,4,5-Trichlorophenol	ND		5.0	µg/L	1	2/19/2009 11:48 AM
2,4,6-Trichlorophenol	ND		5.0	µg/L	1	2/19/2009 11:48 AM
2,4-Dinitrotoluene	ND		5.0	µg/L	1	2/19/2009 11:48 AM
Cresols, Total	**18**		**15**	**µg/L**	1	2/19/2009 11:48 AM
Hexachlorobenzene	ND		5.0	µg/L	1	2/19/2009 11:48 AM
Hexachlorobutadiene	ND		5.0	µg/L	1	2/19/2009 11:48 AM
Hexachloroethane	ND		5.0	µg/L	1	2/19/2009 11:48 AM
Nitrobenzene	ND		5.0	µg/L	1	2/19/2009 11:48 AM
Pentachlorophenol	ND		5.0	µg/L	1	2/19/2009 11:48 AM
Pyridine	ND		5.0	µg/L	1	2/19/2009 11:48 AM
Surr: 2,4,6-Tribromophenol	*69.0*		*42-124*	*%REC*	1	2/19/2009 11:48 AM
Surr: 2-Fluorobiphenyl	*52.3*		*48-120*	*%REC*	1	2/19/2009 11:48 AM
Surr: 2-Fluorophenol	*42.3*		*20-120*	*%REC*	1	2/19/2009 11:48 AM
Surr: 4-Terphenyl-d14	*64.5*		*51-135*	*%REC*	1	2/19/2009 11:48 AM
Surr: Nitrobenzene-d5	*42.8*		*41-120*	*%REC*	1	2/19/2009 11:48 AM
Surr: Phenol-d6	*50.7*		*20-120*	*%REC*	1	2/19/2009 11:48 AM
TCLP VOLATILES			**SW1311/8260B**		Prep Date: **2/18/2009**	Analyst: **PC**
1,1-Dichloroethene	ND		100	µg/L	20	2/19/2009 06:39 PM
1,2-Dichloroethane	ND		100	µg/L	20	2/19/2009 06:39 PM
1,4-Dichlorobenzene	ND		100	µg/L	20	2/19/2009 06:39 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *26-Feb-09*

Client: Navajo Refining Company
Project: Gary Davis Tank Ring
Sample ID: Sour Water Tank Ring
Collection Date: 2/13/2009 02:42 PM

Work Order: 0902391
Lab ID: 0902391-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Butanone	ND		200	µg/L	20	2/19/2009 06:39 PM
Benzene	ND		100	µg/L	20	2/19/2009 06:39 PM
Carbon tetrachloride	ND		100	µg/L	20	2/19/2009 06:39 PM
Chlorobenzene	ND		100	µg/L	20	2/19/2009 06:39 PM
Chloroform	ND		100	µg/L	20	2/19/2009 06:39 PM
Tetrachloroethene	ND		100	µg/L	20	2/19/2009 06:39 PM
Trichloroethene	ND		100	µg/L	20	2/19/2009 06:39 PM
Vinyl chloride	ND		100	µg/L	20	2/19/2009 06:39 PM
Surr: 1,2-Dichloroethane-d4	*105*		*70-125*	*%REC*	20	2/19/2009 06:39 PM
Surr: 4-Bromofluorobenzene	*97.0*		*72-125*	*%REC*	20	2/19/2009 06:39 PM
Surr: Dibromofluoromethane	*102*		*71-125*	*%REC*	20	2/19/2009 06:39 PM
Surr: Toluene-d8	*98.1*		*75-125*	*%REC*	20	2/19/2009 06:39 PM
REACTIVE CYANIDE			**SW-846**			Analyst: **HN**
Reactive Cyanide	ND		40.0	mg/Kg	1	2/20/2009
REACTIVE SULFIDE			**SW-846**			Analyst: **HN**
Reactive Sulfide	ND		40.0	mg/Kg	1	2/20/2009
IGNITABILITY			**SW1030**			Analyst: **TDW**
Ignitability, Solid	**Negative**			**no unit**	1	2/26/2009 11:00 AM
PH			**SW9045B**			Analyst: **TDW**
pH	**8.76**		**0.100**	**pH Units**	1	2/23/2009 04:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Client: Navajo Refining Company

Work Order: 0902391

Project: Gary Davis Tank Ring

Date: *26-Feb-09*

QC BATCH REPORT

Batch ID: **34558** Instrument ID **FID-11** Method: **TX1005**

MBLK Sample ID: **FBLKS1-090218-34558** Units: **mg/Kg** Analysis Date: **2/20/2009 05:19 PM**

Client ID: Run ID: **FID-11_090218B** SeqNo: **1607787** Prep Date: **2/18/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	ND	50								
>nC12 to nC28	ND	50								
>nC28 to nC35	ND	50								
Total Petroleum Hydrocarbon	ND	50								
Surr: 2-Fluorobiphenyl	*25.79*	0	*25*	0	*103*	*70-130*	0			
Surr: Trifluoromethyl benzene	*29.34*	0	*25*	0	*117*	*70-130*	0			

LCS Sample ID: **FLCSS1-090218-34558** Units: **mg/Kg** Analysis Date: **2/20/2009 05:50 PM**

Client ID: Run ID: **FID-11_090218B** SeqNo: **1607788** Prep Date: **2/18/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	291.2	50	250	0	116	75-125	0			
>nC12 to nC28	*250.6*	*50*	*250*	*0*	*100*	*75-125*	*0*			
Surr: 2-Fluorobiphenyl	*27.94*	0	*25*	0	*112*	*70-130*	0			
Surr: Trifluoromethyl benzene	*28.24*	0	*25*	0	*113*	*70-130*	0			

LCSD Sample ID: **FLCSDS1-090218-34558** Units: **mg/Kg** Analysis Date: **2/20/2009 06:21 PM**

Client ID: Run ID: **FID-11_090218B** SeqNo: **1607789** Prep Date: **2/18/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	297.6	50	250	0	119	75-125	291.2	2.2	20	
>nC12 to nC28	244.3	50	250	0	97.7	75-125	250.6	2.54	20	
Surr: 2-Fluorobiphenyl	*27.68*	0	*25*	0	*111*	*70-130*	27.94	*0.925*	*20*	
Surr: Trifluoromethyl benzene	*27.71*	0	*25*	0	*111*	*70-130*	28.24	*1.87*	*20*	

MS Sample ID: **0902433-05AMS** Units: **mg/Kg** Analysis Date: **2/20/2009 09:56 PM**

Client ID: Run ID: **FID-11_090218B** SeqNo: **1607795** Prep Date: **2/18/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	273.5	50	248.5	0	110	75-125	0			
>nC12 to nC28	219.4	50	248.5	0	88.3	75-125	0			
Surr: 2-Fluorobiphenyl	*26.35*	0	*24.85*	0	*106*	*70-130*	0			
Surr: Trifluoromethyl benzene	*27.53*	0	*24.85*	0	*111*	*70-130*	0			

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

O - *Referenced analyte value is > 4 times amount spiked*

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

P - *Dual Column results percent difference > 40%*

B - Analyte detected in assoc. Method Blank

U - Analyzed for but not detected

E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0902391
Project: Gary Davis Tank Ring

QC BATCH REPORT

Batch ID: **34558** Instrument ID **FID-11** Method: **TX1005**

MSD Sample ID: **0902433-05AMSD** Units: **mg/Kg** Analysis Date: **2/20/2009 10:26 PM**

Client ID: Run ID: **FID-11_090218B** SeqNo: **1607796** Prep Date: **2/18/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	277	50	248	0	112	75-125	273.5	1.28	20	
>nC12 to nC28	226.1	50	248	0	91.2	75-125	219.4	3.02	20	
Surr: 2-Fluorobiphenyl	*26.2*	0	*24.8*	0	*106*	*70-130*	26.35	*0.538*	*20*	
Surr: Trifluoromethyl benzene	*27.57*	0	*24.8*	0	*111*	*70-130*	27.53	*0.131*	*20*	

The following samples were analyzed in this batch: 0902391-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0902391
Project: Gary Davis Tank Ring

QC BATCH REPORT

Batch ID: **34571** Instrument ID **Mercury** Method: **SW7470**

MBLK Sample ID: **GBLKW3-021909-34571** Units: **mg/L** Analysis Date: **2/19/2009 06:14 PM**
Client ID: Run ID: **MERCURY_090219C** SeqNo: **1606365** Prep Date: **2/19/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

MBLK Sample ID: **GBLKT2-021809-34571** Units: **mg/L** Analysis Date: **2/19/2009 06:18 PM**
Client ID: Run ID: **MERCURY_090219C** SeqNo: **1606370** Prep Date: **2/19/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS Sample ID: **GLCSW3-021909-34571** Units: **mg/L** Analysis Date: **2/19/2009 06:16 PM**
Client ID: Run ID: **MERCURY_090219C** SeqNo: **1606367** Prep Date: **2/19/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00541	0.00020	0.005	0	108	80-120	0			

MS Sample ID: **0902388-01AMS** Units: **mg/L** Analysis Date: **2/19/2009 06:24 PM**
Client ID: Run ID: **MERCURY_090219C** SeqNo: **1606376** Prep Date: **2/19/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0054	0.00020	0.005	-0.000011	108	75-125	0			

MSD Sample ID: **0902388-01AMSD** Units: **mg/L** Analysis Date: **2/19/2009 06:26 PM**
Client ID: Run ID: **MERCURY_090219C** SeqNo: **1606378** Prep Date: **2/19/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00565	0.00020	0.005	-0.000011	113	75-125	0.0054	4.52	20	

DUP Sample ID: **0902388-01ADUP** Units: **mg/L** Analysis Date: **2/19/2009 06:22 PM**
Client ID: Run ID: **MERCURY_090219C** SeqNo: **1606374** Prep Date: **2/19/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	-0.000011	0	20	

The following samples were analyzed in this batch: 0902391-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0902391
Project: Gary Davis Tank Ring

QC BATCH REPORT

Batch ID: **34578** Instrument ID **ICPMS02** Method: **SW1311/6020**

MBLK Sample ID: **MBLKT1-021809-34578** Units: **mg/L** Analysis Date: **2/19/2009 10:08 PM**
Client ID: Run ID: **ICPMS02_090219A** SeqNo: **1606196** Prep Date: **2/19/2009** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

MBLK Sample ID: **MBLKW1-021909-34578** Units: **mg/L** Analysis Date: **2/19/2009 10:15 PM**
Client ID: Run ID: **ICPMS02_090219A** SeqNo: **1606197** Prep Date: **2/19/2009** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

LCS Sample ID: **MLCSW1-021909-34578** Units: **mg/L** Analysis Date: **2/19/2009 10:21 PM**
Client ID: Run ID: **ICPMS02_090219A** SeqNo: **1606198** Prep Date: **2/19/2009** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2344	0.050	0.25	0	93.8	80-120	0			
Barium	0.224	0.050	0.25	0	89.6	80-120	0			
Cadmium	0.2339	0.050	0.25	0	93.6	80-120	0			
Chromium	0.2231	0.050	0.25	0	89.2	80-120	0			
Lead	0.2278	0.050	0.25	0	91.1	80-120	0			
Selenium	0.2265	0.050	0.25	0	90.6	80-120	0			
Silver	0.2403	0.050	0.25	0	96.1	80-120	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0902391
Project: Gary Davis Tank Ring

QC BATCH REPORT

Batch ID: **34578** Instrument ID **ICPMS02** Method: **SW1311/6020**

MS Sample ID: **0902388-01AMS** Units: **mg/L** Analysis Date: **2/19/2009 10:47 PM**
Client ID: Run ID: **ICPMS02_090219A** SeqNo: **1606202** Prep Date: **2/19/2009** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2242	0.050	0.25	0.002535	88.7	75-125	0			
Barium	0.2803	0.050	0.25	0.07192	83.4	75-125	0			
Cadmium	0.2232	0.050	0.25	-0.001119	89.7	75-125	0			
Chromium	0.2124	0.050	0.25	0.0009784	84.6	75-125	0			
Lead	0.2182	0.050	0.25	0.002492	86.3	75-125	0			
Selenium	0.2342	0.050	0.25	0.005545	91.5	75-125	0			
Silver	0.216	0.050	0.25	-0.003329	87.7	75-125	0			

MSD Sample ID: **0902388-01AMSD** Units: **mg/L** Analysis Date: **2/19/2009 10:53 PM**
Client ID: Run ID: **ICPMS02_090219A** SeqNo: **1606203** Prep Date: **2/19/2009** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2377	0.050	0.25	0.002535	94.1	75-125	0.2242	5.85	25	
Barium	0.3041	0.050	0.25	0.07192	92.9	75-125	0.2803	8.15	25	
Cadmium	0.2404	0.050	0.25	-0.001119	96.6	75-125	0.2232	7.42	25	
Chromium	0.2237	0.050	0.25	0.0009784	89.1	75-125	0.2124	5.18	25	
Lead	0.2329	0.050	0.25	0.002492	92.2	75-125	0.2182	6.52	25	
Selenium	0.2372	0.050	0.25	0.005545	92.7	75-125	0.2342	1.27	25	
Silver	0.2273	0.050	0.25	-0.003329	92.3	75-125	0.216	5.1	25	

DUP Sample ID: **0902388-01ADUP** Units: **mg/L** Analysis Date: **2/19/2009 10:34 PM**
Client ID: Run ID: **ICPMS02_090219A** SeqNo: **1606200** Prep Date: **2/19/2009** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050	0	0	0	0-0	0.002535	0	25	
Barium	0.07029	0.050	0	0	0	0-0	0.07192	2.29	25	
Cadmium	ND	0.050	0	0	0	0-0	-0.001119	0	25	
Chromium	ND	0.050	0	0	0	0-0	0.0009784	0	25	
Lead	ND	0.050	0	0	0	0-0	0.002492	0	25	
Selenium	ND	0.050	0	0	0	0-0	0.005545	0	25	
Silver	ND	0.050	0	0	0	0-0	-0.003329	0	25	

The following samples were analyzed in this batch: 0902391-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0902391
Project: Gary Davis Tank Ring

QC BATCH REPORT

Batch ID: **34543** Instrument ID **SV-3** Method: **SW1311/8270**

MBLK Sample ID: **SBLKT1-090218-34543** Units: **µg/L** Analysis Date: **2/19/2009 09:45 AM**

Client ID: Run ID: **SV-3_090219C** SeqNo: **1606897** Prep Date: **2/18/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Cresols, Total	ND	15								
Hexachlorobenzene	ND	5.0								
Hexachlorobutadiene	ND	5.0								
Hexachloroethane	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Pyridine	ND	5.0								
Surr: 2,4,6-Tribromophenol	*64.89*	5.0	*100*	0	*64.9*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*73.55*	5.0	*100*	0	*73.5*	*48-120*	0			
Surr: 2-Fluorophenol	*64.59*	5.0	*100*	0	*64.6*	*20-120*	0			
Surr: 4-Terphenyl-d14	*68.84*	5.0	*100*	0	*68.8*	*51-135*	0			
Surr: Nitrobenzene-d5	*65.74*	5.0	*100*	0	*65.7*	*41-120*	0			
Surr: Phenol-d6	*65.54*	5.0	*100*	0	*65.5*	*20-120*	0			

LCS Sample ID: **SLCST1-090218-34543** Units: **µg/L** Analysis Date: **2/19/2009 10:09 AM**

Client ID: Run ID: **SV-3_090219C** SeqNo: **1606898** Prep Date: **2/18/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	75.66	5.0	100	0	75.7	52-115	0			
2,4,6-Trichlorophenol	77.34	5.0	100	0	77.3	53-115	0			
2,4-Dinitrotoluene	49.48	5.0	50	0	99	56-115	0			
Cresols, Total	158.4	15	250	0	63.4	35-115	0			
Hexachlorobenzene	40.98	5.0	50	0	82	54-115	0			
Hexachlorobutadiene	45.68	5.0	50	0	91.4	51-115	0			
Hexachloroethane	43.28	5.0	50	0	86.6	54-115	0			
Nitrobenzene	46.6	5.0	50	0	93.2	40-124	0			
Pentachlorophenol	55.83	5.0	100	0	55.8	45-125	0			
Pyridine	28.97	5.0	50	0	57.9	34-115	0			
Surr: 2,4,6-Tribromophenol	*76.28*	5.0	*100*	0	*76.3*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*84.67*	5.0	*100*	0	*84.7*	*48-120*	0			
Surr: 2-Fluorophenol	*63.91*	5.0	*100*	0	*63.9*	*20-120*	0			
Surr: 4-Terphenyl-d14	*74.71*	5.0	*100*	0	*74.7*	*51-135*	0			
Surr: Nitrobenzene-d5	*79.83*	5.0	*100*	0	*79.8*	*41-120*	0			
Surr: Phenol-d6	*55.12*	5.0	*100*	0	*55.1*	*20-120*	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0902391
Project: Gary Davis Tank Ring

QC BATCH REPORT

Batch ID: **34543** Instrument ID **SV-3** Method: **SW1311/8270**

LCSD Sample ID: **SLCSDT1-090218-34543** Units: **µg/L** Analysis Date: **2/19/2009 10:34 AM**

Client ID: Run ID: **SV-3_090219C** SeqNo: **1606899** Prep Date: **2/18/2009** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	67.08	5.0	100	0	67.1	52-115	75.66	12	25	
2,4,6-Trichlorophenol	69.1	5.0	100	0	69.1	53-115	77.34	11.3	25	
2,4-Dinitrotoluene	41.84	5.0	50	0	83.7	56-115	49.48	16.7	25	
Cresols, Total	141.8	15	250	0	56.7	35-115	158.4	11	25	
Hexachlorobenzene	35.2	5.0	50	0	70.4	54-115	40.98	15.2	25	
Hexachlorobutadiene	39.63	5.0	50	0	79.3	51-115	45.68	14.2	25	
Hexachloroethane	38.69	5.0	50	0	77.4	54-115	43.28	11.2	25	
Nitrobenzene	39.87	5.0	50	0	79.7	40-124	46.6	15.6	25	
Pentachlorophenol	52.52	5.0	100	0	52.5	45-125	55.83	6.11	25	
Pyridine	25.65	5.0	50	0	51.3	34-115	28.97	12.2	25	
Surr: 2,4,6-Tribromophenol	*71.19*	5.0	*100*	0	*71.2*	*42-124*	76.28	*6.9*	*25*	
Surr: 2-Fluorobiphenyl	*75.24*	5.0	*100*	0	*75.2*	*48-120*	84.67	*11.8*	*25*	
Surr: 2-Fluorophenol	*57.95*	5.0	*100*	0	*57.9*	*20-120*	63.91	*9.78*	*25*	
Surr: 4-Terphenyl-d14	*75.36*	5.0	*100*	0	*75.4*	*51-135*	74.71	*0.863*	*25*	
Surr: Nitrobenzene-d5	*69.47*	5.0	*100*	0	*69.5*	*41-120*	79.83	*13.9*	*25*	
Surr: Phenol-d6	*49.68*	5.0	*100*	0	*49.7*	*20-120*	55.12	*10.4*	*25*	

The following samples were analyzed in this batch: 0902391-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0902391
Project: Gary Davis Tank Ring

QC BATCH REPORT

Batch ID: **R73633** Instrument ID **VOA2** Method: **SW1311/8260**

MBLK Sample ID: **VBLKW-021909-R73633** Units: **µg/L** Analysis Date: **2/19/2009 11:46 AM**

Client ID: Run ID: **VOA2_090219C** SeqNo: **1606686** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2-Butanone	ND	10								
Benzene	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroform	ND	5.0								
Tetrachloroethene	ND	5.0								
Trichloroethene	ND	5.0								
Vinyl chloride	ND	5.0								
Surr: 1,2-Dichloroethane-d4	*52.07*	5.0	*50*	0	*104*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*49.11*	5.0	*50*	0	*98.2*	*72.4-125*	0			
Surr: Dibromofluoromethane	*47.83*	5.0	*50*	0	*95.7*	*71.2-125*	0			
Surr: Toluene-d8	*48.96*	5.0	*50*	0	*97.9*	*75-125*	0			

MBLK Sample ID: **MBLKV1-021809-R73633** Units: **µg/L** Analysis Date: **2/19/2009 05:01 PM**

Client ID: Run ID: **VOA2_090219C** SeqNo: **1606690** Prep Date: **2/18/2009** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	100								
1,2-Dichloroethane	ND	100								
1,4-Dichlorobenzene	ND	100								
2-Butanone	ND	200								
Benzene	ND	100								
Carbon tetrachloride	ND	100								
Chlorobenzene	ND	100								
Chloroform	ND	100								
Tetrachloroethene	ND	100								
Trichloroethene	ND	100								
Vinyl chloride	ND	100								
Surr: 1,2-Dichloroethane-d4	*1064*	100	*1000*	0	*106*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*979.6*	100	*1000*	0	*98*	*72.4-125*	0			
Surr: Dibromofluoromethane	*1017*	100	*1000*	0	*102*	*71.2-125*	0			
Surr: Toluene-d8	*989.1*	100	*1000*	0	*98.9*	*75-125*	0			

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J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0902391
Project: Gary Davis Tank Ring

QC BATCH REPORT

Batch ID: **R73633** Instrument ID **VOA2** Method: **SW1311/8260**

LCS Sample ID: **VLCSW-021909-R73633** Units: **µg/L** Analysis Date: **2/19/2009 10:57 AM**

Client ID: Run ID: **VOA2_090219C** SeqNo: **1606685** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	53.45	5.0	50	0	107	73-124	0			
1,2-Dichloroethane	51.98	5.0	50	0	104	76-120	0			
1,4-Dichlorobenzene	51.48	5.0	50	0	103	70-130	0			
2-Butanone	90.77	10	100	0	90.8	70-130	0			
Benzene	51.31	5.0	50	0	103	70-128	0			
Carbon tetrachloride	46.55	5.0	50	0	93.1	70-130	0			
Chlorobenzene	51.23	5.0	50	0	102	72-127	0			
Chloroform	52.8	5.0	50	0	106	70-130	0			
Tetrachloroethene	51.9	5.0	50	0	104	70-130	0			
Trichloroethene	51.44	5.0	50	0	103	72-129	0			
Vinyl chloride	54.73	5.0	50	0	109	70-130	0			
Surr: 1,2-Dichloroethane-d4	*50.56*	5.0	*50*	0	*101*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*50.63*	5.0	*50*	0	*101*	*72-125*	0			
Surr: Dibromofluoromethane	*51.48*	5.0	*50*	0	*103*	*71-125*	0			
Surr: Toluene-d8	*50.35*	5.0	*50*	0	*101*	*75-125*	0			

MS Sample ID: **0902474-01AMS** Units: **µg/L** Analysis Date: **2/19/2009 03:25 PM**

Client ID: Run ID: **VOA2_090219C** SeqNo: **1606688** Prep Date: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	5080	500	5000	0	102	73-124	0			
1,2-Dichloroethane	5051	500	5000	0	101	76-120	0			
1,4-Dichlorobenzene	4882	500	5000	0	97.6	70-130	0			
2-Butanone	8924	1,000	10000	0	89.2	70-130	0			
Benzene	4952	500	5000	37.96	98.3	70-128	0			
Carbon tetrachloride	4416	500	5000	0	88.3	70-130	0			
Chlorobenzene	5118	500	5000	203.3	98.3	72-127	0			
Chloroform	7426	500	5000	2483	98.9	70-130	0			
Tetrachloroethene	4992	500	5000	0	99.8	70-130	0			
Trichloroethene	4836	500	5000	0	96.7	72-129	0			
Vinyl chloride	5252	500	5000	0	105	70-130	0			
Surr: 1,2-Dichloroethane-d4	*5147*	500	*5000*	0	*103*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*5064*	500	*5000*	0	*101*	*72-125*	0			
Surr: Dibromofluoromethane	*5168*	500	*5000*	0	*103*	*71-125*	0			
Surr: Toluene-d8	*5045*	500	*5000*	0	*101*	*75-125*	0			

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J - Analyte detected below quantitation limits
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R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0902391
Project: Gary Davis Tank Ring

QC BATCH REPORT

Batch ID: **R73633** Instrument ID **VOA2** Method: **SW1311/8260**

MSD Sample ID: **0902474-01AMSD** Units: **µg/L** Analysis Date: **2/19/2009 03:49 PM**

Client ID: Run ID: **VOA2_090219C** SeqNo: **1606689** Prep Date: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	5101	500	5000	0	102	73-124	5080	0.409	20	
1,2-Dichloroethane	5168	500	5000	0	103	76-120	5051	2.29	20	
1,4-Dichlorobenzene	4861	500	5000	0	97.2	70-130	4882	0.417	20	
2-Butanone	9858	1,000	10000	0	98.6	70-130	8924	9.95	20	
Benzene	4929	500	5000	37.96	97.8	70-128	4952	0.465	20	
Carbon tetrachloride	4640	500	5000	0	92.8	70-130	4416	4.96	20	
Chlorobenzene	5035	500	5000	203.3	96.6	72-127	5118	1.64	20	
Chloroform	7814	500	5000	2483	107	70-130	7426	5.09	20	
Tetrachloroethene	5167	500	5000	0	103	70-130	4992	3.44	20	
Trichloroethene	4860	500	5000	0	97.2	72-129	4836	0.511	20	
Vinyl chloride	5128	500	5000	0	103	70-130	5252	2.39	20	
Surr: 1,2-Dichloroethane-d4	*5277*	500	*5000*	0	*106*	*70-125*	5147	*2.5*	*20*	
Surr: 4-Bromofluorobenzene	*5022*	500	*5000*	0	*100*	*72-125*	5064	*0.829*	*20*	
Surr: Dibromofluoromethane	*5230*	500	*5000*	0	*105*	*71-125*	5168	*1.19*	*20*	
Surr: Toluene-d8	*5002*	500	*5000*	0	*100*	*75-125*	5045	*0.856*	*20*	

The following samples were analyzed in this batch: 0902391-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0902391
Project: Gary Davis Tank Ring

QC BATCH REPORT

Batch ID: **R73734** Instrument ID **WetChem** Method: **SW9045B**

LCS Sample ID: **WLCSW22309-R73734** Units: **pH Units** Analysis Date: **2/23/2009 04:00 PM**
Client ID: Run ID: **WETCHEM_090223F** SeqNo: **1608641** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.02	0.10	6	0	100	90-110	0			

DUP Sample ID: **0902395-01ADUP** Units: **pH Units** Analysis Date: **2/23/2009 04:00 PM**
Client ID: Run ID: **WETCHEM_090223F** SeqNo: **1608702** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.37	0.10	0	0	0	0-0	7.38	0.136	20	

DUP Sample ID: **0902396-01ADUP** Units: **pH Units** Analysis Date: **2/23/2009 04:00 PM**
Client ID: Run ID: **WETCHEM_090223F** SeqNo: **1608705** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.37	0.10	0	0	0	0-0	7.32	0.681	20	

The following samples were analyzed in this batch: 0902391-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0902391
Project: Gary Davis Tank Ring

QC BATCH REPORT

Batch ID: **R73857** Instrument ID **WetChem** Method: **SW1030**

DUP Sample ID: **0902391-01adup** Units: **no unit** Analysis Date: **2/26/2009 11:00 AM**

Client ID: **Sour Water Tank Ring** Run ID: **WETCHEM_090226A** SeqNo: **1610860** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability, Solid	ND	0	0	0	0		0	0		

The following samples were analyzed in this batch: 0902391-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

☐ ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
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Chain of Custody Form

☐ ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
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Fax: +1 616 399 6185

Page 1 of 1

ALS Project Manager: | ALS Work Order #: 0903491

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Gary Davis Tank Ring	A	TCLP VOAS
Work Order		Project Number		B	TCLP SemiVOAS
Company Name	Navajo Refining Co	Bill To Company		C	TCLP Metals
Send Report To	Aaron Strange	Invoice Attn		D	RCI
Address		Address		E	TPH
				F	
City/State/Zip		City/State/Zip		G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Sour Water Tank Ring	2/13/09	1442	S	Y	1	X	X	X	X	X	X					
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☐ Other ☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Aaron Strange	2/13/09	1615	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	2/14/09	0945	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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Sample Receipt Checklist

Client Name NAVAJO REFINING

Date/Time Received 2/14/2009 09:45

Work Order Number 0902391

Received by JMC

Checklist completed by Signature 2.16.09 Date

Reviewed by Initials Date 2/17/09

Matrix soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ✓	No	Not Present
Custody seals intact on shipping container/cooler?	Yes ✓	No	Not Present
Custody seals intact on sample bottles?	Yes	No	Not Present ✓
Chain of custody present?	Yes ✓	No	
Chain of custody signed when relinquished and received?	Yes ✓	No	
Chain of custody agrees with sample labels?	Yes ✓	No	
Samples in proper container/bottle?	Yes ✓	No	
Sample containers intact?	Yes ✓	No	
Sufficient sample volume for indicated test?	Yes ✓	No	
All samples received within holding time?	Yes ✓	No	
Container/Temp Blank temperature in compliance?	Yes ✓	No	
Temperature(s)/Thermometer(s):	2.6c, 2.9c	002	
Cooler(s)/Kit(s):	988,1815		
Water - VOA vials have zero headspace?	Yes	No	No VOA vials submitted ✓
Water - pH acceptable upon receipt?	Yes	No	N/A ✓

Adjusted? Checked by

Login Notes:

Client contacted: Date contacted: Person contacted

Contacted by: Regarding:

Comments:

Corrective Action

ORIGIN ID: ROWA (505) 748-3311
NAVAJO REFINING
NAVAJO REFINING COMPANY
501 E. MAIN STREET

ARTESIA, NM 88210
UNITED STATES US

Ship Date: 13FEB09
ActWgt: 58.0 LB MAN
System#: 185697/CAFE2353

10450 STANCLIFF RD. SUITE 210

HOUSTON, TX 77099 (US)

Express

CLS050107/15/23

TRK# 9391 8022 7717

PRIORITY SATURDAY

10450 STANCLIFF RD. SUITE 210

PLACE THIS LABEL ON PACKAGE
NEXT TO THE SHIPPING LABEL

Part # 156148-434 NAIT 9-05

Cooler # 5 of 5

ORIGIN ID: ROWA (505) 748-3311
NAVAJO REFINING
NAVAJO REFINING COMPANY
501 E. MAIN STREET

ARTESIA, NM 88210
UNITED STATES US

Ship Date: 13FEB09
ActWgt: 62.0 LB MAN
System#: 185697/CAFE2353

TO SAMPLE RECEIVING (281) 530-6666
ELAB/ALS
10450 STANCLIFF RD. SUITE 210

HOUSTON, TX 77099 (US)

FedEx Express

CLS050107/15/23

TRK# 9391 8022 7728

PRIORITY SATURDAY

10450 STANCLIFF RD. SUITE 210

PLACE THIS LABEL ON PACKAGE
NEXT TO THE SHIPPING LABEL

Part # 156148-434 NAIT 9-05

Cooler # 1 of 5

040251

090239J

ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 2/13/09 Time: 1615
Name: Aaron Strange
Company: Navajo Refining Co

Seal Broken By: Jane
Date: 2/14/09

988

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CUSTODY SEAL

09 Time: 1615
ron Strange
vajo Refining Co

Seal Broken By: Jane
Date: 2/14/09

815

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

09-Oct-08

Aaron Strange
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 746-5468
Fax: (505) 746-5421

Re: Soil Samples

Work Order : **0810080**

Dear Aaron,

ALS Laboratory Group received 12 samples on 10/3/2008 09:15 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 20.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Jaylynn F Thibault

Electronically approved by: Glenda H. Ramos

Jaylynn F Thibault
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac
Certificate No: T104704231-08-TX

ALS Laboratory Group

Date: 09-Oct-08

Client: Navajo Refining Company
Project: Soil Samples
Work Order: **0810080**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0810080-01	Hydrogen Unit/East Pile #1	Soil		10/2/2008 12:48	10/3/2008 09:15	☐
0810080-02	Hydrogen Unit/East Pile #2	Soil		10/2/2008 12:52	10/3/2008 09:15	☐
0810080-03	Hydrogen Unit/West Pile #1	Soil		10/2/2008 13:03	10/3/2008 09:15	☐
0810080-04	Hydrogen Unit/West Pile #2	Soil		10/2/2008 13:09	10/3/2008 09:15	☐
0810080-05	SRU3 #1	Soil		10/2/2008 13:15	10/3/2008 09:15	☐
0810080-06	SRU3 #2	Soil		10/2/2008 13:22	10/3/2008 09:15	☐
0810080-07	New ROSE #1	Soil		10/2/2008 13:38	10/3/2008 09:15	☐
0810080-08	New ROSE #2	Soil		10/2/2008 13:43	10/3/2008 09:15	☐
0810080-09	T-1227 Ring #1	Soil		10/2/2008 13:49	10/3/2008 09:15	☐
0810080-10	T-1227 Ring #2	Soil		10/2/2008 13:54	10/3/2008 09:15	☐
0810080-11	LP Tank Foundation #1	Soil		10/2/2008 14:05	10/3/2008 09:15	☐
0810080-12	LP Tank Foundation #2	Soil		10/2/2008 14:10	10/3/2008 09:15	☐

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Sample ID: Hydrogen Unit/East Pile #1
Collection Date: 10/2/2008 12:48 PM

Work Order: 0810080
Lab ID: 0810080-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	ND		49	mg/Kg	1	10/7/2008 12:18 PM
>nC12 to nC28	ND		49	mg/Kg	1	10/7/2008 12:18 PM
>nC28 to nC35	ND		49	mg/Kg	1	10/7/2008 12:18 PM
Total Petroleum Hydrocarbon	ND		49	mg/Kg	1	10/7/2008 12:18 PM
Surr: 2-Fluorobiphenyl	*89.1*		*70-130*	*%REC*	1	10/7/2008 12:18 PM
Surr: Trifluoromethyl benzene	*101*		*70-130*	*%REC*	1	10/7/2008 12:18 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Sample ID: Hydrogen Unit/East Pile #2
Collection Date: 10/2/2008 12:52 PM

Work Order: 0810080
Lab ID: 0810080-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	ND		49	mg/Kg	1	10/7/2008 01:10 PM
>nC12 to nC28	**150**		**49**	**mg/Kg**	**1**	10/7/2008 01:10 PM
>nC28 to nC35	**49**	J	**49**	**mg/Kg**	**1**	10/7/2008 01:10 PM
Total Petroleum Hydrocarbon	**199**		**49**	**mg/Kg**	**1**	10/7/2008 01:10 PM
Surr: 2-Fluorobiphenyl	*91.0*		*70-130*	*%REC*	1	10/7/2008 01:10 PM
Surr: Trifluoromethyl benzene	*101*		*70-130*	*%REC*	1	10/7/2008 01:10 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Work Order: 0810080
Sample ID: Hydrogen Unit/West Pile #1
Lab ID: 0810080-03
Collection Date: 10/2/2008 01:03 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	ND		49	mg/Kg	1	10/8/2008 09:36 AM
>nC12 to nC28	ND		49	mg/Kg	1	10/8/2008 09:36 AM
>nC28 to nC35	ND		49	mg/Kg	1	10/8/2008 09:36 AM
Total Petroleum Hydrocarbon	ND		49	mg/Kg	1	10/8/2008 09:36 AM
Surr: 2-Fluorobiphenyl	*85.6*		*70-130*	*%REC*	1	10/8/2008 09:36 AM
Surr: Trifluoromethyl benzene	*106*		*70-130*	*%REC*	1	10/8/2008 09:36 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Work Order: 0810080
Sample ID: Hydrogen Unit/West Pile #2
Lab ID: 0810080-04
Collection Date: 10/2/2008 01:09 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	ND		49	mg/Kg	1	10/8/2008 07:04 AM
>nC12 to nC28	ND		49	mg/Kg	1	10/8/2008 07:04 AM
>nC28 to nC35	ND		49	mg/Kg	1	10/8/2008 07:04 AM
Total Petroleum Hydrocarbon	ND		49	mg/Kg	1	10/8/2008 07:04 AM
Surr: 2-Fluorobiphenyl	*90.5*		*70-130*	*%REC*	1	10/8/2008 07:04 AM
Surr: Trifluoromethyl benzene	*104*		*70-130*	*%REC*	1	10/8/2008 07:04 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Work Order: 0810080
Sample ID: SRU3 #1
Lab ID: 0810080-05
Collection Date: 10/2/2008 01:15 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	ND		49	mg/Kg	1	10/8/2008 07:54 AM
>nC12 to nC28	ND		49	mg/Kg	1	10/8/2008 07:54 AM
>nC28 to nC35	ND		49	mg/Kg	1	10/8/2008 07:54 AM
Total Petroleum Hydrocarbon	ND		49	mg/Kg	1	10/8/2008 07:54 AM
Surr: 2-Fluorobiphenyl	*87.0*		*70-130*	*%REC*	1	10/8/2008 07:54 AM
Surr: Trifluoromethyl benzene	*102*		*70-130*	*%REC*	1	10/8/2008 07:54 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Sample ID: SRU3 #2
Collection Date: 10/2/2008 01:22 PM

Work Order: 0810080
Lab ID: 0810080-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	ND		49	mg/Kg	1	10/7/2008 04:37 PM
>nC12 to nC28	ND		49	mg/Kg	1	10/7/2008 04:37 PM
>nC28 to nC35	ND		49	mg/Kg	1	10/7/2008 04:37 PM
Total Petroleum Hydrocarbon	ND		49	mg/Kg	1	10/7/2008 04:37 PM
Surr: 2-Fluorobiphenyl	*101*		*70-130*	*%REC*	1	10/7/2008 04:37 PM
Surr: Trifluoromethyl benzene	*107*		*70-130*	*%REC*	1	10/7/2008 04:37 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Sample ID: New ROSE #1
Collection Date: 10/2/2008 01:38 PM

Work Order: 0810080
Lab ID: 0810080-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	**78**		**49**	**mg/Kg**	1	10/8/2008 02:47 PM
>nC12 to nC28	**910**		**49**	**mg/Kg**	1	10/8/2008 02:47 PM
>nC28 to nC35	**300**		**49**	**mg/Kg**	1	10/8/2008 02:47 PM
Total Petroleum Hydrocarbon	**1,290**		**49**	**mg/Kg**	1	10/8/2008 02:47 PM
Surr: 2-Fluorobiphenyl	*107*		*70-130*	*%REC*	1	10/8/2008 02:47 PM
Surr: Trifluoromethyl benzene	*99.1*		*70-130*	*%REC*	1	10/8/2008 02:47 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Work Order: 0810080
Sample ID: New ROSE #2
Lab ID: 0810080-08
Collection Date: 10/2/2008 01:43 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	ND		50	mg/Kg	1	10/8/2008 08:45 AM
>nC12 to nC28	ND		50	mg/Kg	1	10/8/2008 08:45 AM
>nC28 to nC35	ND		50	mg/Kg	1	10/8/2008 08:45 AM
Total Petroleum Hydrocarbon	ND		50	mg/Kg	1	10/8/2008 08:45 AM
Surr: 2-Fluorobiphenyl	*88.8*		*70-130*	*%REC*	1	10/8/2008 08:45 AM
Surr: Trifluoromethyl benzene	*103*		*70-130*	*%REC*	1	10/8/2008 08:45 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Sample ID: T-1227 Ring #1
Collection Date: 10/2/2008 01:49 PM

Work Order: 0810080
Lab ID: 0810080-09
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	ND		49	mg/Kg	1	10/7/2008 05:28 PM
>nC12 to nC28	ND		49	mg/Kg	1	10/7/2008 05:28 PM
>nC28 to nC35	ND		49	mg/Kg	1	10/7/2008 05:28 PM
Total Petroleum Hydrocarbon	ND		49	mg/Kg	1	10/7/2008 05:28 PM
Surr: 2-Fluorobiphenyl	*85.5*		*70-130*	*%REC*	1	10/7/2008 05:28 PM
Surr: Trifluoromethyl benzene	*102*		*70-130*	*%REC*	1	10/7/2008 05:28 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Sample ID: T-1227 Ring #2
Collection Date: 10/2/2008 01:54 PM

Work Order: 0810080
Lab ID: 0810080-10
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	ND		50	mg/Kg	1	10/7/2008 06:20 PM
>nC12 to nC28	ND		50	mg/Kg	1	10/7/2008 06:20 PM
>nC28 to nC35	ND		50	mg/Kg	1	10/7/2008 06:20 PM
Total Petroleum Hydrocarbon	ND		50	mg/Kg	1	10/7/2008 06:20 PM
Surr: 2-Fluorobiphenyl	*94.0*		*70-130*	*%REC*	1	10/7/2008 06:20 PM
Surr: Trifluoromethyl benzene	*106*		*70-130*	*%REC*	1	10/7/2008 06:20 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Work Order: 0810080
Sample ID: LP Tank Foundation #1
Lab ID: 0810080-11
Collection Date: 10/2/2008 02:05 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	ND		49	mg/Kg	1	10/7/2008 07:11 PM
>nC12 to nC28	ND		49	mg/Kg	1	10/7/2008 07:11 PM
>nC28 to nC35	ND		49	mg/Kg	1	10/7/2008 07:11 PM
Total Petroleum Hydrocarbon	ND		49	mg/Kg	1	10/7/2008 07:11 PM
Surr: 2-Fluorobiphenyl	*106*		*70-130*	*%REC*	1	10/7/2008 07:11 PM
Surr: Trifluoromethyl benzene	*114*		*70-130*	*%REC*	1	10/7/2008 07:11 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *09-Oct-08*

Client: Navajo Refining Company
Project: Soil Samples
Work Order: 0810080
Sample ID: LP Tank Foundation #2
Lab ID: 0810080-12
Collection Date: 10/2/2008 02:10 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TEXAS TPH			**TX1005**		Prep Date: **10/3/2008**	Analyst: **KMB**
nC6 to nC12	ND		49	mg/Kg	1	10/7/2008 08:03 PM
>nC12 to nC28	ND		49	mg/Kg	1	10/7/2008 08:03 PM
>nC28 to nC35	ND		49	mg/Kg	1	10/7/2008 08:03 PM
Total Petroleum Hydrocarbon	ND		49	mg/Kg	1	10/7/2008 08:03 PM
Surr: 2-Fluorobiphenyl	*100*		*70-130*	*%REC*	1	10/7/2008 08:03 PM
Surr: Trifluoromethyl benzene	*113*		*70-130*	*%REC*	1	10/7/2008 08:03 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Client: Navajo Refining Company
Work Order: 0810080
Project: Soil Samples

Date: *09-Oct-08*

QC BATCH REPORT

Batch ID: **32189** Instrument ID **FID-7** Method: **TX1005**

MBLK Sample ID: **FBLKS1-081003-32189** Units: **mg/Kg** Analysis Date: **10/8/2008 12:11 PM**
Client ID: Run ID: **FID-7_081003A** SeqNo: **1505791** Prep Date: **10/3/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	ND	50								
>nC12 to nC28	ND	50								
>nC28 to nC35	ND	50								
Total Petroleum Hydrocarbon	ND	50								
Surr: 2-Fluorobiphenyl	*46.68*	0	*50*	0	*93.4*	*70-130*	0			
Surr: Trifluoromethyl benzene	*52.94*	0	*50*	0	*106*	*70-130*	0			

LCS Sample ID: **FLCSS1-081003-32189** Units: **mg/Kg** Analysis Date: **10/8/2008 01:03 PM**
Client ID: Run ID: **FID-7_081003A** SeqNo: **1505887** Prep Date: **10/3/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	238.7	50	250	0	95.5	75-125	0			
>nC12 to nC28	248.6	50	250	0	99.4	75-125	0			
Surr: 2-Fluorobiphenyl	*55.48*	0	*50*	0	*111*	*70-130*	0			
Surr: Trifluoromethyl benzene	*56.1*	0	*50*	0	*112*	*70-130*	0			

LCSD Sample ID: **FLCSDS1-081003-32189** Units: **mg/Kg** Analysis Date: **10/8/2008 01:55 PM**
Client ID: Run ID: **FID-7_081003A** SeqNo: **1505888** Prep Date: **10/3/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	249.4	50	250	0	99.7	75-125	238.7	4.38	20	
>nC12 to nC28	264.6	50	250	0	106	75-125	248.6	6.25	20	
Surr: 2-Fluorobiphenyl	*56.74*	0	*50*	0	*113*	*70-130*	55.48	*2.25*	*20*	
Surr: Trifluoromethyl benzene	*56.76*	0	*50*	0	*114*	*70-130*	56.1	*1.16*	*20*	

MS Sample ID: **0810061-01AMS** Units: **mg/Kg** Analysis Date: **10/8/2008 12:10 PM**
Client ID: Run ID: **FID-7_081003A** SeqNo: **1505793** Prep Date: **10/3/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	212	50	248.8	0	85.2	75-125	0			
>nC12 to nC28	225.4	50	248.8	0	90.6	75-125	0			
Surr: 2-Fluorobiphenyl	*42.43*	0	*49.75*	0	*85.3*	*70-130*	0			
Surr: Trifluoromethyl benzene	*48.84*	0	*49.75*	0	*98.2*	*70-130*	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0810080
Project: Soil Samples

QC BATCH REPORT

Batch ID: **32189** Instrument ID **FID-7** Method: **TX1005**

MSD Sample ID: **0810061-01AMSD** Units: **mg/Kg** Analysis Date: **10/8/2008 01:03 PM**

Client ID: Run ID: **FID-7_081003A** SeqNo: **1505809** Prep Date: **10/3/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	222.3	50	249	0	89.3	75-125	212	4.75	20	
>nC12 to nC28	233.6	50	249	0	93.8	75-125	225.4	3.53	20	
Surr: 2-Fluorobiphenyl	*42.82*	0	*49.8*	0	*86*	*70-130*	42.43	*0.906*	*20*	
Surr: Trifluoromethyl benzene	*50*	0	*49.8*	0	*100*	*70-130*	48.84	*2.35*	*20*	

The following samples were analyzed in this batch:

0810080-01A	0810080-02A	0810080-03A
0810080-04A	0810080-05A	0810080-06A
0810080-07A	0810080-08A	0810080-09A
0810080-10A	0810080-11A	0810080-12A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

e-Lab Analytical, Inc.
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 2

The Chain of Custody is a Legal Document. All information must be completed accurately.

e-Lab Analytical, Inc.
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

QUALITY • INTEGRITY • SERVICE

Project Manager: | Work Order #: 08020

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Soil Samples	A	TPH
Work Order		Project Number		B	
Company Name	Navajo Refining Co.	Bill To Company		C	
Send Report To	Aaron Strange	Invoice Attn		D	
Address	PO Box 159	Address		E	
				F	
City/State/Zip	Artesia NM 88210	City/State/Zip		G	
Phone	575-748-3311	Phone		H	
Fax	575-746-5421	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Hydrogen Unit/East Pile #1	10/2/08	1248	S	NO	1	X										
2	Hydrogen Unit/East Pile #2		1252														
3	Hydrogen Unit/West Pile #1		1303														
4	Hydrogen Unit/West Pile #2		1309														
5	SRU3 #1		1315														
6	SRU3 #2		1322														
7	New ROSE #1		1338														
8	New ROSE #2		1343														
9	T-1227 Ring #1		1349														
10	T-1227 Ring #2		1354														

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Aaron Strange — Date: 10/2/08 — Time: 1615

Relinquished by: — Date: 10/3/8 — Time: 9:15

Received by:

Received by (Laboratory):

Checked by (Laboratory):

Notes:

Logged by (Laboratory): — Date: — Time:

Cooler ID | Trip Blank Number

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to e-Lab Analytical, Inc.

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2. Unless otherwise agreed in a formal contract, services provided by e-Lab Analytical, Inc. are expressly limited to the terms and conditions stated on the reverse.

e-Lab Analytical, Inc.
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 1

The Chain of Custody is a Legal Document. All information must be completed accurately.

e-Lab Analytical, Inc.
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Project Manager:

Work Order#: 080090

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order:		Project Name:	Soil Samples	A	TPH
Work Order:		Project Number:		B	
Company Name:	Navajo Refining Co	Bill To Company:		C	
Send Report To:	Aaron Strange	Invoice Attn:		D	
Address:	PO Box 159	Address:		E	
				F	
City/State/Zip:	Artesia NM 88211	City/State/Zip:		G	
Phone:	575-748-3311	Phone:		H	
Fax:	575-746-5421	Fax:		I	
e-Mail Address:		e-Mail Address:		J	

No.	Sample Description	Date	Time	Matrix	Pres	#Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	LP Tank Foundation #1	10/2/08	1405	S	NO	1	X										
2	LP Tank Foundation #2	10/2/08	1410	S	NO	1	X										
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Aaron Strange	Date: 10/2/08	Time: 1615	Received by:	Notes:	
Relinquished by:	Date: 10/3/08	Time: 9:15	Received by (Laboratory):	Cooler ID:	Trip Blank Number:
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		

QC Package: (Check One Box Below)
- ☐ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other _____
- ☐ TRRP Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to e-Lab Analytical, Inc.

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ALS Laboratory Group

Sample Receipt Checklist

Client Name: NAVAJO REFINING

Date/Time Received: 10/3/2008 09:15

Work Order Number 0810080

Received by: RSZ

Checklist completed by [signature] 10.3.08
Signature Date

Reviewed by Initials [signature] Date 10/3/08

Matrix: soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ✓	No	Not Present
Custody seals intact on shipping container/cooler?	Yes ✓	No	Not Present
Custody seals intact on sample bottles?	Yes	No	Not Present ✓
Chain of custody present?	Yes ✓	No	
Chain of custody signed when relinquished and received?	Yes ✓	No	
Chain of custody agrees with sample labels?	Yes ✓	No	
Samples in proper container/bottle?	Yes ✓	No	
Sample containers intact?	Yes ✓	No	
Sufficient sample volume for indicated test?	Yes ✓	No	
All samples received within holding time?	Yes ✓	No	
Container/Temp Blank temperature in compliance?	Yes ✓	No	
Temperature(s)/Thermometer(s):	1.7c	002	
Cooler(s)/Kit(s):	1566		
Water - VOA vials have zero headspace?	Yes	No	No VOA vials submitted ✓
Water - pH acceptable upon receipt?	Yes	No	N/A ✓

Adjusted? Checked by

Login Notes:

Client contacted: Date contacted: Person contacted

Contacted by: Regarding:

Comments:

Corrective Action

0810080

ALS e-Lab Analytical
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. 281.530.5656
Fax. 218.530.5887

CUSTODY SEAL

Date: 10/2/08 Time: 1615
Name: Aaron Strang
Company: Navajo Refining Co.

Seal Broken By: DZ
Date: 10/3/8

Chavez, Carl J, EMNRD

From: Jones, Brad A., EMNRD
Sent: Wednesday, June 17, 2009 7:57 AM
To: Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV
Subject: FW: Navajo soil data - message 2
Attachments: 805051 Disposal Final.pdf; 802274 Disposal Final[1].pdf

---

From: Krueger, Pamela [mailto:pam.krueger@arcadis-us.com]
Sent: Tuesday, June 16, 2009 4:50 PM
To: Jones, Brad A., EMNRD
Subject: Navajo soil data - message 2

ARCADIS
Pamela R. Krueger
Senior Project Manager

11490 Westheimer, Suite 600
Houston, TX 77077
Tel 281.509.6416
Fax 281.497.7258
Mobile 713.249.8548
pam.krueger@arcadis-us.com
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ARCADIS, Imagine the result

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ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

13-May-08

Aaron Strange
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (505) 748-3311
Fax: (505) 746-5421

Re: Disposal

Work Order : **0805051**

Dear Aaron,

e-Lab Analytical, Inc. received 1 sample on 5/1/2008 09:20 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by e-Lab Analytical, Inc. and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by e-Lab Analytical, Inc. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 25.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Jeffrey L Croston

Electronically approved by: Glenda H. Ramos

Jeffrey L Croston
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

Certificate No: T104704231-06-TX

e-Lab Analytical, Inc.

Date: 13-May-08

Client: Navajo Refining Company
Project: Disposal
Work Order: **0805051**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0805051-01	MHV Soils	Soil		4/30/2008 14:35	5/1/2008 09:20	☐

e-Lab Analytical, Inc.

Date: *13-May-08*

Client: Navajo Refining Company
Project: Disposal
Sample ID: MHV Soils
Collection Date: 4/30/2008 02:35 PM

Work Order: 0805051
Lab ID: 0805051-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY			**SW7470**		Prep Date: **5/5/2008**	Analyst: **RPM**
Mercury	ND		0.000200	mg/L	1	5/5/2008 05:19 PM
TCLP METALS, ICP			**SW1311/6020**		Prep Date: **5/5/2008**	Analyst: **ALR**
Arsenic	ND		0.0500	mg/L	10	5/5/2008 06:52 PM
Barium	**0.268**		**0.0500**	**mg/L**	10	5/5/2008 06:52 PM
Cadmium	ND		0.0500	mg/L	10	5/5/2008 06:52 PM
Chromium	ND		0.0500	mg/L	10	5/5/2008 06:52 PM
Lead	ND		0.0500	mg/L	10	5/5/2008 06:52 PM
Selenium	ND		0.0500	mg/L	10	5/5/2008 06:52 PM
Silver	ND		0.0500	mg/L	10	5/5/2008 06:52 PM
TCLP SEMIVOLATILES			**SW1311/8270**		Prep Date: **5/3/2008**	Analyst: **ACN**
2,4,5-Trichlorophenol	ND		5.0	µg/L	1	5/5/2008 04:57 PM
2,4,6-Trichlorophenol	ND		5.0	µg/L	1	5/5/2008 04:57 PM
2,4-Dinitrotoluene	ND		5.0	µg/L	1	5/5/2008 04:57 PM
Cresols, Total	ND		15	µg/L	1	5/5/2008 04:57 PM
Hexachlorobenzene	ND		5.0	µg/L	1	5/5/2008 04:57 PM
Hexachlorobutadiene	ND		5.0	µg/L	1	5/5/2008 04:57 PM
Hexachloroethane	ND		5.0	µg/L	1	5/5/2008 04:57 PM
Nitrobenzene	ND		5.0	µg/L	1	5/5/2008 04:57 PM
Pentachlorophenol	ND		5.0	µg/L	1	5/5/2008 04:57 PM
Pyridine	ND		5.0	µg/L	1	5/5/2008 04:57 PM
Surr: 2,4,6-Tribromophenol	*72.5*		*42-124*	*%REC*	1	5/5/2008 04:57 PM
Surr: 2-Fluorobiphenyl	*72.2*		*48-120*	*%REC*	1	5/5/2008 04:57 PM
Surr: 2-Fluorophenol	*61.9*		*20-120*	*%REC*	1	5/5/2008 04:57 PM
Surr: 4-Terphenyl-d14	*74.6*		*51-135*	*%REC*	1	5/5/2008 04:57 PM
Surr: Nitrobenzene-d5	*68.8*		*41-120*	*%REC*	1	5/5/2008 04:57 PM
Surr: Phenol-d6	*65.9*		*20-120*	*%REC*	1	5/5/2008 04:57 PM
TCLP VOLATILES			**SW1311/8260B**		Prep Date: **5/2/2008**	Analyst: **PC**
1,1-Dichloroethene	ND		100	µg/L	20	5/4/2008 04:00 AM
1,2-Dichloroethane	ND		100	µg/L	20	5/4/2008 04:00 AM
1,4-Dichlorobenzene	ND		100	µg/L	20	5/4/2008 04:00 AM
2-Butanone	ND		200	µg/L	20	5/4/2008 04:00 AM
Benzene	ND		100	µg/L	20	5/4/2008 04:00 AM
Carbon tetrachloride	ND		100	µg/L	20	5/4/2008 04:00 AM
Chlorobenzene	ND		100	µg/L	20	5/4/2008 04:00 AM
Chloroform	ND		100	µg/L	20	5/4/2008 04:00 AM
Tetrachloroethene	ND		100	µg/L	20	5/4/2008 04:00 AM
Trichloroethene	ND		100	µg/L	20	5/4/2008 04:00 AM
Vinyl chloride	ND		100	µg/L	20	5/4/2008 04:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc.

Date: *13-May-08*

Client: Navajo Refining Company
Project: Disposal
Sample ID: MHV Soils
Collection Date: 4/30/2008 02:35 PM

Work Order: 0805051
Lab ID: 0805051-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 1,2-Dichloroethane-d4	*96.7*		*70-125*	*%REC*	20	5/4/2008 04:00 AM
Surr: 4-Bromofluorobenzene	*96.0*		*72-125*	*%REC*	20	5/4/2008 04:00 AM
Surr: Dibromofluoromethane	*110*		*71-125*	*%REC*	20	5/4/2008 04:00 AM
Surr: Toluene-d8	*99.1*		*75-125*	*%REC*	20	5/4/2008 04:00 AM
CYANIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Cyanide	ND		40.0	mg/Kg	1	5/9/2008
SULFIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Sulfide	ND		40.0	mg/Kg	1	5/9/2008
IGNITABILITY FOR SOLIDS			**SW846, CHPT. 7.1.2**			Analyst: **MAM**
Burns vigorously and persistently	**No**				1	5/2/2008 11:00 AM
Ignites spontaneously	**No**				1	5/2/2008 11:00 AM
Ignites through friction	**No**				1	5/2/2008 11:00 AM
Ignites under std. temp and pressure	**No**				1	5/2/2008 11:00 AM
Ignites with moisture	**No**				1	5/2/2008 11:00 AM
PH IN SOLID			**SW9045B**			Analyst: **MAM**
pH	**7.73**		**0.100**	**pH Units**	1	5/2/2008 03:30 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc.

Client: Navajo Refining Company
Work Order: 0805051
Project: Disposal

Date: *13-May-08*

QC BATCH REPORT

Batch ID: **29536** Instrument ID **Mercury** Method: **SW7470**

MBLK Sample ID: **GBLKW1-050508** Units: **mg/L** Analysis Date: **5/5/2008 04:49 PM**
Client ID: Run ID: **MERCURY_080505B** SeqNo: **1385829** Prep Date: **5/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

MBLK Sample ID: **GBLKT1-050308** Units: **mg/L** Analysis Date: **5/5/2008 05:25 PM**
Client ID: Run ID: **MERCURY_080505B** SeqNo: **1385847** Prep Date: **5/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS Sample ID: **GLCSW1-050508** Units: **mg/L** Analysis Date: **5/5/2008 04:51 PM**
Client ID: Run ID: **MERCURY_080505B** SeqNo: **1385830** Prep Date: **5/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00537	0.00020	0.005	0	107	80-120	0			

LCSD Sample ID: **GLCSDW1-050508** Units: **mg/L** Analysis Date: **5/5/2008 04:53 PM**
Client ID: Run ID: **MERCURY_080505B** SeqNo: **1385831** Prep Date: **5/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0054	0.00020	0.005	0	108	80-120	0.00537	0.557	25	

MS Sample ID: **0805073-01BMS** Units: **mg/L** Analysis Date: **5/5/2008 04:59 PM**
Client ID: Run ID: **MERCURY_080505B** SeqNo: **1385834** Prep Date: **5/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00562	0.00020	0.005	-0.000007	113	75-125	0			

MSD Sample ID: **0805073-01BMSD** Units: **mg/L** Analysis Date: **5/5/2008 05:01 PM**
Client ID: Run ID: **MERCURY_080505B** SeqNo: **1385835** Prep Date: **5/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00526	0.00020	0.005	-0.000007	105	75-125	0.00562	6.62	20	

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805051
Project: Disposal

QC BATCH REPORT

Batch ID: **29536** Instrument ID **Mercury** Method: **SW7470**

DUP Sample ID: **0805073-01BDUP** Units: **mg/L** Analysis Date: **5/5/2008 04:57 PM**

Client ID: Run ID: **MERCURY_080505B** SeqNo: **1385833** Prep Date: **5/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	-0.000007	0	20	

The following samples were analyzed in this batch: 0805051-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805051
Project: Disposal

QC BATCH REPORT

Batch ID: **29538** Instrument ID **ICPMS02** Method: **SW1311/6020**

MBLK Sample ID: **MBLKT1-050308** Units: **mg/L** Analysis Date: **5/5/2008 04:14 PM**
Client ID: Run ID: **ICPMS02_080505A** SeqNo: **1385785** Prep Date: **5/5/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

MBLK Sample ID: **MBLKW1-050508** Units: **mg/L** Analysis Date: **5/5/2008 04:20 PM**
Client ID: Run ID: **ICPMS02_080505A** SeqNo: **1385786** Prep Date: **5/5/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

LCS Sample ID: **MLCSW1-050508** Units: **mg/L** Analysis Date: **5/5/2008 04:26 PM**
Client ID: Run ID: **ICPMS02_080505A** SeqNo: **1385787** Prep Date: **5/5/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1924	0.050	0.2	0	96.2	80-120	0			
Barium	0.2039	0.050	0.2	0	102	80-120	0			
Cadmium	0.2037	0.050	0.2	0	102	80-120	0			
Chromium	0.1833	0.050	0.2	0	91.6	80-120	0			
Lead	0.2039	0.050	0.2	0	102	80-120	0			
Selenium	0.2114	0.050	0.2	0	106	80-120	0			
Silver	0.183	0.050	0.2	0	91.5	80-120	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805051
Project: Disposal

QC BATCH REPORT

Batch ID: **29538** Instrument ID **ICPMS02** Method: **SW1311/6020**

MS Sample ID: **0805050-05AMS** Units: **mg/L** Analysis Date: **5/5/2008 04:52 PM**
Client ID: Run ID: **ICPMS02_080505A** SeqNo: **1385791** Prep Date: **5/5/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2221	0.050	0.2	0.01629	103	75-125	0			
Barium	0.5894	0.050	0.2	0.3494	120	75-125	0			
Cadmium	0.207	0.050	0.2	0.00343	102	75-125	0			
Chromium	0.1915	0.050	0.2	0.01778	86.9	75-125	0			
Lead	0.2187	0.050	0.2	0.01062	104	75-125	0			
Selenium	0.1983	0.050	0.2	0.01317	92.6	75-125	0			
Silver	0.1729	0.050	0.2	-0.001586	87.2	75-125	0			

MSD Sample ID: **0805050-05AMSD** Units: **mg/L** Analysis Date: **5/5/2008 04:58 PM**
Client ID: Run ID: **ICPMS02_080505A** SeqNo: **1385792** Prep Date: **5/5/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2104	0.050	0.2	0.01629	97.1	75-125	0.2221	5.41	25	
Barium	0.5394	0.050	0.2	0.3494	95	75-125	0.5894	8.86	25	
Cadmium	0.1958	0.050	0.2	0.00343	96.2	75-125	0.207	5.56	25	
Chromium	0.1855	0.050	0.2	0.01778	83.9	75-125	0.1915	3.18	25	
Lead	0.2107	0.050	0.2	0.01062	100	75-125	0.2187	3.73	25	
Selenium	0.2035	0.050	0.2	0.01317	95.2	75-125	0.1983	2.59	25	
Silver	0.1678	0.050	0.2	-0.001586	84.7	75-125	0.1729	2.99	25	

DUP Sample ID: **0805050-05ADUP** Units: **mg/L** Analysis Date: **5/5/2008 04:39 PM**
Client ID: Run ID: **ICPMS02_080505A** SeqNo: **1385789** Prep Date: **5/5/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050	0	0	0	0-0	0.01629	0	25	
Barium	0.3569	0.050	0	0	0	0-0	0.3494	2.12	25	
Cadmium	ND	0.050	0	0	0	0-0	0.00343	0	25	
Chromium	ND	0.050	0	0	0	0-0	0.01778	0	25	
Lead	ND	0.050	0	0	0	0-0	0.01062	0	25	
Selenium	ND	0.050	0	0	0	0-0	0.01317	0	25	
Silver	ND	0.050	0	0	0	0-0	-0.001586	0	25	

The following samples were analyzed in this batch: 0805051-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
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E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805051
Project: Disposal

QC BATCH REPORT

Batch ID: **29532** Instrument ID **SV-3** Method: **SW8270**

MBLK Sample ID: **SBLKT1-080503** Units: **µg/L** Analysis Date: **5/5/2008 05:45 PM**

Client ID: Run ID: **SV-3_080505A** SeqNo: **1385952** Prep Date: **5/3/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Cresols, Total	ND	5.0								
Hexachlorobenzene	ND	5.0								
Hexachlorobutadiene	ND	5.0								
Hexachloroethane	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Pyridine	ND	5.0								
Surr: 2,4,6-Tribromophenol	*69.53*	5.0	*100*	0	*69.5*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*77.65*	5.0	*100*	0	*77.7*	*48-120*	0			
Surr: 2-Fluorophenol	*66.07*	5.0	*100*	0	*66.1*	*20-120*	0			
Surr: 4-Terphenyl-d14	*77.99*	5.0	*100*	0	*78*	*51-135*	0			
Surr: Nitrobenzene-d5	*72.66*	5.0	*100*	0	*72.7*	*41-120*	0			
Surr: Phenol-d6	*71.77*	5.0	*100*	0	*71.8*	*20-120*	0			

LCS Sample ID: **SLCST1-080503** Units: **µg/L** Analysis Date: **5/5/2008 11:47 AM**

Client ID: Run ID: **SV-3_080505A** SeqNo: **1385693** Prep Date: **5/3/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	80.49	5.0	100	0	80.5	52-115	0			
2,4,6-Trichlorophenol	85.19	5.0	100	0	85.2	56-115	0			
2,4-Dinitrotoluene	41.77	5.0	50	0	83.5	56-115	0			
Cresols, Total	187.5	5.0	200	0	93.8	48-115	0			
Hexachlorobenzene	42.24	5.0	50	0	84.5	54-115	0			
Hexachlorobutadiene	38.44	5.0	50	0	76.9	51-115	0			
Hexachloroethane	35	5.0	50	0	70	54-115	0			
Nitrobenzene	39.19	5.0	50	0	78.4	40-124	0			
Pentachlorophenol	83.29	5.0	100	0	83.3	45-125	0			
Pyridine	36.73	5.0	50	0	73.5	34-115	0			
Surr: 2,4,6-Tribromophenol	*76.85*	5.0	*100*	0	*76.9*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*79.37*	5.0	*100*	0	*79.4*	*48-120*	0			
Surr: 2-Fluorophenol	*68.32*	5.0	*100*	0	*68.3*	*20-120*	0			
Surr: 4-Terphenyl-d14	*76.08*	5.0	*100*	0	*76.1*	*51-135*	0			
Surr: Nitrobenzene-d5	*71.66*	5.0	*100*	0	*71.7*	*41-120*	0			
Surr: Phenol-d6	*73.4*	5.0	*100*	0	*73.4*	*20-120*	0			

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U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805051
Project: Disposal

QC BATCH REPORT

Batch ID: **29532** Instrument ID **SV-3** Method: **SW8270**

LCSD Sample ID: **SLCSDT1-080503** Units: **µg/L** Analysis Date: **5/5/2008 12:16 PM**

Client ID: Run ID: **SV-3_080505A** SeqNo: **1385694** Prep Date: **5/3/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	81.98	5.0	100	0	82	52-115	80.49	1.84	30	
2,4,6-Trichlorophenol	80.79	5.0	100	0	80.8	56-115	85.19	5.3	30	
2,4-Dinitrotoluene	42.3	5.0	50	0	84.6	56-115	41.77	1.26	30	
Cresols, Total	199.9	5.0	200	0	100	48-115	187.5	6.41	30	
Hexachlorobenzene	44.71	5.0	50	0	89.4	54-115	42.24	5.7	30	
Hexachlorobutadiene	40.64	5.0	50	0	81.3	51-115	38.44	5.57	30	
Hexachloroethane	40.23	5.0	50	0	80.5	54-115	35	13.9	30	
Nitrobenzene	40.19	5.0	50	0	80.4	40-124	39.19	2.53	30	
Pentachlorophenol	88.51	5.0	100	0	88.5	45-125	83.29	6.08	30	
Pyridine	38.39	5.0	50	0	76.8	34-115	36.73	4.41	30	
Surr: 2,4,6-Tribromophenol	*78.45*	5.0	*100*	0	*78.5*	*42-124*	76.85	*2.06*	*30*	
Surr: 2-Fluorobiphenyl	*77.32*	5.0	*100*	0	*77.3*	*48-120*	79.37	*2.62*	*30*	
Surr: 2-Fluorophenol	*73.54*	5.0	*100*	0	*73.5*	*20-120*	68.32	*7.36*	*30*	
Surr: 4-Terphenyl-d14	*81.16*	5.0	*100*	0	*81.2*	*51-135*	76.08	*6.46*	*30*	
Surr: Nitrobenzene-d5	*76.12*	5.0	*100*	0	*76.1*	*41-120*	71.66	*6.04*	*30*	
Surr: Phenol-d6	*76.47*	5.0	*100*	0	*76.5*	*20-120*	73.4	*4.09*	*30*	

The following samples were analyzed in this batch: 0805051-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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Client: Navajo Refining Company
Work Order: 0805051
Project: Disposal

QC BATCH REPORT

Batch ID: **R62778** Instrument ID **VOA1** Method: **SW1311/8260**

MBLK Sample ID: **VBLKW-050308** Units: **µg/L** Analysis Date: **5/4/2008 03:09 AM**
Client ID: Run ID: **VOA1_080503D** SeqNo: **1385614** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2-Butanone	ND	10								
Benzene	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroform	ND	5.0								
Tetrachloroethene	ND	5.0								
Trichloroethene	ND	5.0								
Vinyl chloride	ND	5.0								
Surr: 1,2-Dichloroethane-d4	*44.91*	5.0	*50*	0	*89.8*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*52.68*	5.0	*50*	0	*105*	*72.4-125*	0			
Surr: Dibromofluoromethane	*52.38*	5.0	*50*	0	*105*	*71.2-125*	0			
Surr: Toluene-d8	*51.52*	5.0	*50*	0	*103*	*75-125*	0			

MBLK Sample ID: **VBLKTK1-042508** Units: **µg/L** Analysis Date: **5/4/2008 03:34 AM**
Client ID: Run ID: **VOA1_080503D** SeqNo: **1385615** Prep Date: **4/25/2008** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	100								
1,2-Dichloroethane	ND	100								
1,4-Dichlorobenzene	ND	100								
2-Butanone	ND	200								
Benzene	ND	100								
Carbon tetrachloride	ND	100								
Chlorobenzene	ND	100								
Chloroform	ND	100								
Tetrachloroethene	ND	100								
Trichloroethene	ND	100								
Vinyl chloride	ND	100								
Surr: 1,2-Dichloroethane-d4	*925.3*	100	*1000*	0	*92.5*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*1028*	100	*1000*	0	*103*	*72.4-125*	0			
Surr: Dibromofluoromethane	*1053*	100	*1000*	0	*105*	*71.2-125*	0			
Surr: Toluene-d8	*1022*	100	*1000*	0	*102*	*75-125*	0			

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U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805051
Project: Disposal

QC BATCH REPORT

Batch ID: **R62778** Instrument ID **VOA1** Method: **SW1311/8260**

LCS Sample ID: **VLCSW-050308** Units: **µg/L** Analysis Date: **5/4/2008 02:18 AM**

Client ID: Run ID: **VOA1_080503D** SeqNo: **1385613** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	53.44	5.0	50	0	107	73-124	0			
1,2-Dichloroethane	45.19	5.0	50	0	90.4	76-120	0			
1,4-Dichlorobenzene	47.78	5.0	50	0	95.6	70-130	0			
2-Butanone	93.87	10	100	0	93.9	70-130	0			
Benzene	47.49	5.0	50	0	95	70-128	0			
Carbon tetrachloride	45.07	5.0	50	0	90.1	70-130	0			
Chlorobenzene	47.66	5.0	50	0	95.3	72-127	0			
Chloroform	49.3	5.0	50	0	98.6	70-130	0			
Tetrachloroethene	47.4	5.0	50	0	94.8	70-130	0			
Trichloroethene	51.07	5.0	50	0	102	72-129	0			
Vinyl chloride	46.26	5.0	50	0	92.5	70-130	0			
Surr: 1,2-Dichloroethane-d4	*46.23*	5.0	*50*	0	*92.5*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*51.43*	5.0	*50*	0	*103*	*72-125*	0			
Surr: Dibromofluoromethane	*51.79*	5.0	*50*	0	*104*	*71-125*	0			
Surr: Toluene-d8	*50.23*	5.0	*50*	0	*100*	*75-125*	0			

MS Sample ID: **0805032-02AMS** Units: **µg/L** Analysis Date: **5/4/2008 05:16 AM**

Client ID: Run ID: **VOA1_080503D** SeqNo: **1385618** Prep Date: **5/2/2008** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	975.5	100	1000	0	97.6	73-124	0			
1,2-Dichloroethane	1001	100	1000	0	100	76-120	0			
1,4-Dichlorobenzene	858	100	1000	0	85.8	70-130	0			
2-Butanone	1898	200	2000	0	94.9	70-130	0			
Benzene	1006	100	1000	0	101	70-128	0			
Carbon tetrachloride	850	100	1000	0	85	70-130	0			
Chlorobenzene	932.4	100	1000	0	93.2	72-127	0			
Chloroform	1027	100	1000	0	103	70-130	0			
Tetrachloroethene	863.8	100	1000	0	86.4	70-130	0			
Trichloroethene	957.1	100	1000	0	95.7	72-129	0			
Vinyl chloride	892.7	100	1000	0	89.3	70-130	0			
Surr: 1,2-Dichloroethane-d4	*1002*	100	*1000*	0	*100*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*1034*	100	*1000*	0	*103*	*72-125*	0			
Surr: Dibromofluoromethane	*1068*	100	*1000*	0	*107*	*71-125*	0			
Surr: Toluene-d8	*1031*	100	*1000*	0	*103*	*75-125*	0			

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R - RPD outside accepted recovery limits
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B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805051
Project: Disposal

QC BATCH REPORT

Batch ID: **R62778** Instrument ID **VOA1** Method: **SW1311/8260**

MSD Sample ID: **0805032-02AMSD** Units: **µg/L** Analysis Date: **5/4/2008 05:41 AM**

Client ID: Run ID: **VOA1_080503D** SeqNo: **1385619** Prep Date: **5/2/2008** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	919.1	100	1000	0	91.9	73-124	975.5	5.96	20	
1,2-Dichloroethane	939.3	100	1000	0	93.9	76-120	1001	6.35	20	
1,4-Dichlorobenzene	876.2	100	1000	0	87.6	70-130	858	2.09	20	
2-Butanone	1826	200	2000	0	91.3	70-130	1898	3.87	20	
Benzene	930.5	100	1000	0	93	70-128	1006	7.84	20	
Carbon tetrachloride	828.5	100	1000	0	82.8	70-130	850	2.57	20	
Chlorobenzene	922.2	100	1000	0	92.2	72-127	932.4	1.09	20	
Chloroform	916.2	100	1000	0	91.6	70-130	1027	11.4	20	
Tetrachloroethene	808.4	100	1000	0	80.8	70-130	863.8	6.63	20	
Trichloroethene	900.8	100	1000	0	90.1	72-129	957.1	6.06	20	
Vinyl chloride	850.2	100	1000	0	85	70-130	892.7	4.87	20	
Surr: 1,2-Dichloroethane-d4	*942.9*	100	*1000*	0	*94.3*	*70-125*	1002	*6.03*	*20*	
Surr: 4-Bromofluorobenzene	*1013*	100	*1000*	0	*101*	*72-125*	1034	*2.05*	*20*	
Surr: Dibromofluoromethane	*983.7*	100	*1000*	0	*98.4*	*71-125*	1068	*8.23*	*20*	
Surr: Toluene-d8	*974.5*	100	*1000*	0	*97.4*	*75-125*	1031	*5.68*	*20*	

The following samples were analyzed in this batch: 0805051-01A

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E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805051
Project: Disposal

QC BATCH REPORT

Batch ID: **R62677** Instrument ID **WetChem** Method: **SW846, Chpt.**

DUP Sample ID: **0804634-01ADUP** Units: Analysis Date: **5/2/2008 11:00 AM**

Client ID: Run ID: **WETCHEM_080502A** SeqNo: **1383740** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Burns vigorously and persistently	ND	0	0	0	0	0-0	0	0	0	
Ignites spontaneously	ND	0	0	0	0	0-0	0	0	0	
Ignites through friction	ND	0	0	0	0	0-0	0	0	0	
Ignites under std. temp and pressur	ND	0	0	0	0	0-0	0	0	0	
Ignites with moisture	ND	0	0	0	0	0-0	0	0	0	

The following samples were analyzed in this batch: 0805051-01A

ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
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Client: Navajo Refining Company
Work Order: 0805051
Project: Disposal

QC BATCH REPORT

Batch ID: **R62718** Instrument ID **WetChem** Method: **SW9045B**

LCS Sample ID: **WLCSS1-050208** Units: **pH Units** Analysis Date: **5/2/2008 03:30 PM**

Client ID: Run ID: **WETCHEM_080502D** SeqNo: **1384380** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.04	0.10	6	0	101	90-110	0			

DUP Sample ID: **0805051-01ADUP** Units: **pH Units** Analysis Date: **5/2/2008 03:30 PM**

Client ID: **MHV Soils** Run ID: **WETCHEM_080502D** SeqNo: **1384430** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.79	0.10	0	0	0	0-0	7.73	0.773	20	

The following samples were analyzed in this batch: 0805051-01A

ND - Not Detected at the Reporting Limit
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U - Analyzed for but not detected
E - Value above quantitation range

e-Lab Analytical, Inc.
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 1

The Chain of Custody Is a Legal Document. All information must be completed accurately.

e-Lab Analytical, Inc.
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

QUALITY - INTEGRITY - SERVICE

Project Manager: (ALS)

Work Order #: 880551

Customer Information

Purchase Order	
Work Order	
Company Name	Navajo Refining Co.
Send Report To	Aaron Strange
Address	P.O. Box 159
City/State/Zip	Artesia N.M. 88211
Phone	(575) 748-3311
Fax	(575) 746-5421
e-Mail Address	

Project Information

Project Name	Disposal
Project Number	
Bill To Company	
Invoice Attn	
Address	
City/State/Zip	
Phone	
Fax	
e-Mail Address	

Parameter/Method Request for Analysis

A	TCLP VOAs
B	" SemiVOAs
C	" Metals
D	RCI
E	~~Paint Filter~~ AS
F	~~Total Chlorides~~ AS
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MHV Soils	4/30/08	1435	S	Y	1	X	X	X	X	~~X~~	~~X~~	NO	ETF			
2	T-110 Soils	"	1515	S	Y	1	X	X	X	X	X	~~X~~					
3	Bone Yard Refrack	"	1445	S	Y	1	X	X	X	X							
4	D-396 Cat	"	1500	S	Y	1	X	X	X	X							
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Aaron Strange — Date: 4/30/08 — Time: 1615

Relinquished by: — Date: — Time:

Received by:

Received by Laboratory: R.F 5/1/08 09:20

Notes:

Logged by (Laboratory): — Date: — Time:

Checked by (Laboratory):

Cooler ID | Trip Blank Number

QC Package: (Check One Box Below)

☐ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other _____
☐ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-NaHSO 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to e-Lab Analytical, Inc.
2. Unless otherwise agreed in a formal contract, services provided by e-Lab Analytical, Inc. are expressly limited to the terms and conditions stated on the reverse.

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e-Lab Analytical, Inc.

Sample Receipt Checklist

Client Name: NAVAJO REFINING

Date/Time Received: 5/1/2008 09:20

Work Order Number 0805051

Received by: RDH

Checklist completed by [signature] Signature 5/2/08 Date

Reviewed by [initials] Initials 5/6/08 Date

Matrix: S

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.4c	002	
Cooler(s)/Kit(s):	1489		
Water - VOA vials have zero headspace?	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☑	N/A ☐

Adjusted? Checked by

Login Notes:

Client contacted: Date contacted: Person contacted

Contacted by: Regarding:

Comments:

Corrective Action

~~[illegible]~~
~~[illegible]~~

ORIGIN ID: ROWA (505) 748-3311
NAVAJO REFINING
NAVAJO REFINING COMPANY
501 E. MAIN STREET

ARTESIA, NM 88210
UNITED STATES US

Ship Date: 30APR08
ActWgt: 49.0 LB MAN
System#: 185697/CAFE2353
Account: S 113684186

TO SAMPLE RECEIVING
ELAB
10450 STANCLIFF SUITE 210

HOUSTON, TX 77099

(281) 530-5656

FedEx
Express

CLS05107/22/23

Delivery Address Barcode

BILL RECIPIENT

STANDARD OVERNIGHT

THU
Deliver By:
01MAY08

TRK# 9391 8021 5595

Form 0201

IAH A2

77099 -TX-US

AB JGQA

Part # 1531-10-434 HRIT 04-07

ALS e-Lab Analytical
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. 281.530.5656
Fax. 218.530.5887

CU
Date: 4/30/0
Name: Aaron
Company: Navajo

JSTODY SEAL
Time: 1615
Strange
ja Refining Co

Seal Broken By:
Date: 5/1/08

ALS Laboratory Group

Date: 12-May-08

Client: ALS Laboratory Group
Project: 0805051
Work Order: **0805153**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0805153-01	0805051-01B	Soil		4/30/2008 14:35	5/2/2008 09:50	☐

ALS Laboratory Group

Date: *12-May-08*

Client: ALS Laboratory Group
Project: 0805051
Sample ID: 0805051-01B
Collection Date: 4/30/2008 02:35 PM

Work Order: 0805153
Lab ID: 0805153-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**EPA 7.3.3.2**			Analyst: **DB**
Cyanide, Reactive	ND		40.0	mg/Kg	1	5/9/2008
SULFIDE, REACTIVE			**EPA 7.3.4.2**			Analyst: **DB**
Sulfide, Reactive	ND		40.0	mg/Kg	1	5/9/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

ALS Laboratory Group

Client: ALS Laboratory Group
Work Order: 0805153
Project: 0805051

Date: *12-May-08*

QC BATCH REPORT

Batch ID: **R58521** Instrument ID **WETCHEM** Method: **EPA 7.3.3.2**

MBLK Sample ID: **WBLKW1-050908** Units: **mg/Kg** Analysis Date: **5/9/2008**
Client ID: Run ID: **WETCHEM_080509G** SeqNo: **966641** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	ND	40								

LCS Sample ID: **WLCSW1-050908** Units: **mg/Kg** Analysis Date: **5/9/2008**
Client ID: Run ID: **WETCHEM_080509G** SeqNo: **966642** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	205.5	40	250	0	82.2	75-125	0			

LCSD Sample ID: **WLCSDW1-05090** Units: **mg/Kg** Analysis Date: **5/9/2008**
Client ID: Run ID: **WETCHEM_080509G** SeqNo: **966655** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	220.2	40	250	0	88.1	75-125	205.5	6.9	35	

MS Sample ID: **0805038-01A MS** Units: **mg/Kg** Analysis Date: **5/9/2008**
Client ID: Run ID: **WETCHEM_080509G** SeqNo: **966656** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	249.6	40	250	0	99.8	50-150	0			

MSD Sample ID: **0805038-01A MSD** Units: **mg/Kg** Analysis Date: **5/9/2008**
Client ID: Run ID: **WETCHEM_080509G** SeqNo: **966657** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	249.6	40	250	0	99.8	50-150	249.6	0	35	

The following samples were analyzed in this batch: 0805153-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: ALS Laboratory Group
Work Order: 0805153
Project: 0805051

QC BATCH REPORT

Batch ID: **R58522** Instrument ID **WETCHEM** Method: **EPA 7.3.4.2**

MBLK Sample ID: **MB-R58522** Units: **mg/Kg** Analysis Date: **5/9/2008**

Client ID: Run ID: **WETCHEM_080509H** SeqNo: **966658** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide, Reactive	ND	40								

The following samples were analyzed in this batch: 0805153-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

0805153

p.2 281-530-3053 e-Lab Analytical, Inc. May 02 2008 2:20PM

Subcontractor:
e-Lab Analytical, Inc.
3352 128th Ave.
Holland, MI 49424
TEL: (616) 399-6070
FAX: (616) 399-6185
Acct #:

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Date: 02-May-08
COC ID: 6316
Due Date 13-May-08

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order		Project Name	0805051	A Cyanide, Reactive (SW-846)
Work Order		Project Number		B Sulfide, Reactive (SW-846)
Company Name	e-Lab Analytical, Inc.	Bill To Company	e-Lab Analytical, Inc.	C
Send Report To	Jeffrey L Croston	Inv Attn	Accounts Payable	D
Address	10450 Stancliff Rd, Suite 210	Address	10450 Stancliff Rd, Suite 210	E
				F
City/State/Zip	Houston, Texas 77099-4338	City/State/Zip	Houston, Texas 77099-4338	G
Phone	(281) 530-5656	Phone	(281) 530-5656	H
Fax	(281) 530-5887	Fax	(281) 530-5887	I
eMail Address	jeff.croston@alsenviro.com	eMail CC	glenda.ramos@alsenviro.com	J

Sample ID	Matrix	Collection Date 24hr	Bottle	A	B	C	D	E	F	G	H	I	J
0805051-01B (MHV Soils)	Soil	4/30/2008 14:35	(1) 2OZGNEAT	X	X								

Comments:

Please analyze for Reactive Cyanide & Reactive Sulfide.

Relinquished by:	Date/Time	Received by:	Date/Time	Cooler IDs	Report/QC Level
	5/1/08				Std
Relinquished by:	Date/Time ~~5/2/08~~ UPS 5/7/08	Received by:	Date/Time 5/2/08 0950		

ALS USA MI, CORP

Sample Receipt Checklist

Client Name ELAB-HOU

Date/Time Received: 5/2/2008 09:50

Work Order Number 0805153

Received by: AJK

Checklist completed by _____ 5/7/08
Signature Date

Reviewed by _____ 5/7/08
Initials Date

Matrix: Soil

Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.6°C		
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Adjusted? _____ Checked by _____

Login Notes:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

UPS Next Day Air Saver®

Shipping Document

WEIGHT	DIMENSIONAL WEIGHT	LARGE PACKAGE	SHIPPER RELEASE
		☐	☐

1P 1P

Saver

The shipper authorizes UPS to act as forwarding agent for export control and customs purposes.
The shipper certifies that these commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. law is prohibited.

SHIPMENT FROM

UPS ACCOUNT NO. 698174

REFERENCE NUMBER
SUB CONTRACT

RICHARD SANCHEZ
TELEPHONE 281-530-5656

E-LAB, INC.

1450 STANCLIFF RD STE #210

HOUSTON TX 77099

MI 495 9-04

UPS Next Day Air Saver 1P
EXTREMELY URGENT

DELIVER TO

RECEIVING
TELEPHONE 616-399-6070

E-LAB, INC.

3352 128TH AVE
Residential ☐

HOLLAND MI 49424

1Z 698 174 23 1004 3887
TRACKING NUMBER

(URC v.64.0A 02/2007)
0201952542609 1/07 S

United Parcel Service, Louisville, KY

SHIPMENT ID NUMBER	6981 7478 8TF

3352 128TH AVE

HOLLAND MI 49424

P: S: I:

M220-RDL ☐

1500

1Z 698 174 23 1004 3887

e-Lab Analytical, Inc.
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. 281.530.5656
Fax. 218.530.5887

QUALITY · INTEGRITY · SERVICE

CUSTODY SEAL

Date: 5/1/08 Time: 1645
Name: DWIGHT HARRIS
Company: AIS

Seal Broken By:
Date: 5/2/09

0805153 0805034 5/1/08

February 27, 2008

Jeff Byrd
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (505) 746-5468
Fax: (505) 746-5421

Re: Disposal

Work Order : **0802274**

Dear Jeff Byrd,

e-Lab Analytical, Inc. received 2 samples on 2/14/2008 09:20 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by e-Lab Analytical, Inc. and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by e-Lab Analytical, Inc. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 28.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Jeffrey L Croston

Electronically approved by: Glenda H. Ramos

Jeffrey L Croston
Project Manager

Certificate No: T104704231-06-TX

e-Lab Analytical, Inc.

Date: February 27, 2008

Client: Navajo Refining Company
Project: Disposal
Work Order: **0802274**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0802274-01	Gary Davis HP	Soil		2/13/2008 15:00	2/14/2008 09:20	☐
0802274-02	Gary Davis HP	Soil		2/13/2008	2/14/2008 09:20	☐

e-Lab Analytical, Inc. *Date: February 27, 2008*

Client:	Navajo Refining Company
Project:	Disposal
Work Order:	0802274

Case Narrative

Batch 28291 Metals MS/MSD was an unrelated sample.

e-Lab Analytical, Inc.

Date: *February 27, 2008*

Client: Navajo Refining Company
Project: Disposal
Work Order: 0802274
Sample ID: Gary Davis HP
Lab ID: 0802274-01
Collection Date: 2/13/2008 3:00:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP METALS, ICP			**SW1311/6020**		Prep Date: **2/19/2008**	Analyst: **ALR**
Arsenic	ND		0.0500	mg/L	10	2/20/2008 2:01:00 AM
Barium	**0.483**		**0.0500**	**mg/L**	10	2/20/2008 2:01:00 AM
Cadmium	ND		0.0500	mg/L	10	2/20/2008 2:01:00 AM
Chromium	ND		0.0500	mg/L	10	2/20/2008 2:01:00 AM
Lead	**0.141**		**0.0500**	**mg/L**	10	2/20/2008 2:01:00 AM
Selenium	ND		0.0500	mg/L	10	2/20/2008 2:01:00 AM
Silver	ND		0.0500	mg/L	10	2/20/2008 2:01:00 AM
TCLP SEMIVOLATILES			**SW1311/8270**		Prep Date: **2/19/2008**	Analyst: **ACN**
2,4,5-Trichlorophenol	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
2,4,6-Trichlorophenol	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
2,4-Dinitrotoluene	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Cresols, Total	ND		30	µg/L	1	2/20/2008 9:59:00 AM
Hexachlorobenzene	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Hexachlorobutadiene	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Hexachloroethane	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Nitrobenzene	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Pentachlorophenol	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Pyridine	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Surr: 2,4,6-Tribromophenol	*63.7*		*42-124*	*%REC*	1	2/20/2008 9:59:00 AM
Surr: 2-Fluorobiphenyl	*71.7*		*48-120*	*%REC*	1	2/20/2008 9:59:00 AM
Surr: 2-Fluorophenol	*62.1*		*20-120*	*%REC*	1	2/20/2008 9:59:00 AM
Surr: 4-Terphenyl-d14	*73.1*		*51-135*	*%REC*	1	2/20/2008 9:59:00 AM
Surr: Nitrobenzene-d5	*63.2*		*41-120*	*%REC*	1	2/20/2008 9:59:00 AM
Surr: Phenol-d6	*69.3*		*20-120*	*%REC*	1	2/20/2008 9:59:00 AM
TCLP VOLATILES			**SW1311/8260B**		Prep Date: **2/18/2008**	Analyst: **PC**
1,1-Dichloroethene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
1,2-Dichloroethane	ND		100	µg/L	20	2/19/2008 10:42:00 PM
1,4-Dichlorobenzene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
2-Butanone	ND		200	µg/L	20	2/19/2008 10:42:00 PM
Benzene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Carbon tetrachloride	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Chlorobenzene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Chloroform	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Tetrachloroethene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Trichloroethene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Vinyl chloride	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Surr: 1,2-Dichloroethane-d4	*98.0*		*70-125*	*%REC*	20	2/19/2008 10:42:00 PM
Surr: 4-Bromofluorobenzene	*98.5*		*72-125*	*%REC*	20	2/19/2008 10:42:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

Client: Navajo Refining Company
Project: Disposal **Work Order:** 0802274
Sample ID: Gary Davis HP **Lab ID:** 0802274-01
Collection Date: 2/13/2008 3:00:00 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Dibromofluoromethane	*103*		*71-125*	*%REC*	20	2/19/2008 10:42:00 PM
Surr: Toluene-d8	*103*		*75-125*	*%REC*	20	2/19/2008 10:42:00 PM
CYANIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Cyanide	ND		40.0	mg/Kg	1	2/21/2008
SULFIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Sulfide	ND		40.0	mg/Kg	1	2/21/2008
ANIONS BY ION CHROMATOGRAPHY - SOIL			**E300**		Prep Date: **2/15/2008**	Analyst: **PV**
Chloride	**200**		**4.85**	**mg/Kg**	1	2/15/2008 9:17:00 PM
Surr: Selenate (surr)	*98.1*		*85-115*	*%REC*	1	2/15/2008 9:17:00 PM
IGNITABILITY FOR SOLIDS			**SW846, CHPT. 7.1.2**			Analyst: **MAM**
Burns vigorously and persistently	**No**				1	2/18/2008 10:30:00 AM
Ignites spontaneously	**No**				1	2/18/2008 10:30:00 AM
Ignites through friction	**No**				1	2/18/2008 10:30:00 AM
Ignites under std. temp and pressure	**No**				1	2/18/2008 10:30:00 AM
Ignites with moisture	**No**				1	2/18/2008 10:30:00 AM
PAINT FILTER TEST			**SW9095A**			Analyst: **KKP**
Free Liquid	**Negative**			**Pos/Neg**	1	2/18/2008 10:00:00 AM
PH IN SOLID			**SW9045B**			Analyst: **MAM**
pH	**8.19**		**0.100**	**pH Units**	1	2/18/2008 12:00:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc.

Date: *February 27, 2008*

Client: Navajo Refining Company
Project: Disposal
Work Order: 0802274
Sample ID: Gary Davis HP
Lab ID: 0802274-02
Collection Date: 2/13/2008
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP METALS, ICP			**SW1311/6020**		Prep Date: **2/19/2008**	Analyst: **ALR**
Arsenic	ND		0.0500	mg/L	10	2/20/2008 2:01:00 AM
Barium	**0.483**		**0.0500**	**mg/L**	10	2/20/2008 2:01:00 AM
Cadmium	ND		0.0500	mg/L	10	2/20/2008 2:01:00 AM
Chromium	ND		0.0500	mg/L	10	2/20/2008 2:01:00 AM
Lead	**0.141**		**0.0500**	**mg/L**	10	2/20/2008 2:01:00 AM
Selenium	ND		0.0500	mg/L	10	2/20/2008 2:01:00 AM
Silver	ND		0.0500	mg/L	10	2/20/2008 2:01:00 AM
TCLP SEMIVOLATILES			**SW1311/8270**		Prep Date: **2/19/2008**	Analyst: **ACN**
2,4,5-Trichlorophenol	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
2,4,6-Trichlorophenol	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
2,4-Dinitrotoluene	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Cresols, Total	ND		30	µg/L	1	2/20/2008 9:59:00 AM
Hexachlorobenzene	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Hexachlorobutadiene	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Hexachloroethane	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Nitrobenzene	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Pentachlorophenol	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Pyridine	ND		5.0	µg/L	1	2/20/2008 9:59:00 AM
Surr: 2,4,6-Tribromophenol	*63.7*		*42-124*	*%REC*	1	2/20/2008 9:59:00 AM
Surr: 2-Fluorobiphenyl	*71.7*		*48-120*	*%REC*	1	2/20/2008 9:59:00 AM
Surr: 2-Fluorophenol	*62.1*		*20-120*	*%REC*	1	2/20/2008 9:59:00 AM
Surr: 4-Terphenyl-d14	*73.1*		*51-135*	*%REC*	1	2/20/2008 9:59:00 AM
Surr: Nitrobenzene-d5	*63.2*		*41-120*	*%REC*	1	2/20/2008 9:59:00 AM
Surr: Phenol-d6	*69.3*		*20-120*	*%REC*	1	2/20/2008 9:59:00 AM
TCLP VOLATILES			**SW1311/8260B**		Prep Date: **2/18/2008**	Analyst: **PC**
1,1-Dichloroethene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
1,2-Dichloroethane	ND		100	µg/L	20	2/19/2008 10:42:00 PM
1,4-Dichlorobenzene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
2-Butanone	ND		200	µg/L	20	2/19/2008 10:42:00 PM
Benzene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Carbon tetrachloride	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Chlorobenzene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Chloroform	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Tetrachloroethene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Trichloroethene	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Vinyl chloride	ND		100	µg/L	20	2/19/2008 10:42:00 PM
Surr: 1,2-Dichloroethane-d4	*98.0*		*70-125*	*%REC*	20	2/19/2008 10:42:00 PM
Surr: 4-Bromofluorobenzene	*98.5*		*72-125*	*%REC*	20	2/19/2008 10:42:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc.

Date: *February 27, 2008*

Client: Navajo Refining Company
Project: Disposal
Sample ID: Gary Davis HP
Collection Date: 2/13/2008

Work Order: 0802274
Lab ID: 0802274-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Dibromofluoromethane	*103*		*71-125*	*%REC*	20	2/19/2008 10:42:00 PM
Surr: Toluene-d8	*103*		*75-125*	*%REC*	20	2/19/2008 10:42:00 PM
CYANIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Cyanide	ND		40.0	mg/Kg	1	2/21/2008
SULFIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Sulfide	ND		40.0	mg/Kg	1	2/21/2008
ANIONS BY ION CHROMATOGRAPHY - SOIL			**E300**		Prep Date: **2/15/2008**	Analyst: **PV**
Chloride	**200**		**4.85**	**mg/Kg**	1	2/15/2008 9:17:00 PM
Surr: Selenate (surr)	*98.1*		*85-115*	*%REC*	1	2/15/2008 9:17:00 PM
IGNITABILITY FOR SOLIDS			**SW846, CHPT. 7.1.2**			Analyst: **MAM**
Burns vigorously and persistently	**No**				1	2/18/2008 10:30:00 AM
Ignites spontaneously	**No**				1	2/18/2008 10:30:00 AM
Ignites through friction	**No**				1	2/18/2008 10:30:00 AM
Ignites under std. temp and pressure	**No**				1	2/18/2008 10:30:00 AM
Ignites with moisture	**No**				1	2/18/2008 10:30:00 AM
PAINT FILTER TEST			**SW9095A**			Analyst: **KKP**
Free Liquid	**Negative**			**Pos/Neg**	1	2/18/2008 10:00:00 AM
PH IN SOLID			**SW9045B**			Analyst: **MAM**
pH	**8.19**		**0.100**	**pH Units**	1	2/18/2008 12:00:00 PM

Qualifiers:

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E - Value above quantitation range
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e-Lab Analytical, Inc.

CLIENT: Navajo Refining Company
Work Order: 0802274
Project: Disposal

Date: *Feb 27 2008*

QC BATCH REPORT

Batch ID: **28291** Instrument ID **ICPMS03** Method: **SW1311/6020**

MBLK Sample ID: **MBLKT1-021808** Units: **mg/L** Analysis Date: **02/20/08 0:11**

Client ID: Run ID: **ICPMS03_080219A** SeqNo: **1330739** Prep Date: **2/19/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

MBLK Sample ID: **MBLKW2-021908** Units: **mg/L** Analysis Date: **02/20/08 0:16**

Client ID: Run ID: **ICPMS03_080219A** SeqNo: **1330740** Prep Date: **2/19/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

LCS Sample ID: **MLCSW2-021908** Units: **mg/L** Analysis Date: **02/20/08 0:22**

Client ID: Run ID: **ICPMS03_080219A** SeqNo: **1330742** Prep Date: **2/19/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1909	0.050	0.2	0	95.4	80-120	0			
Barium	0.184	0.050	0.2	0	92	80-120	0			
Cadmium	0.1927	0.050	0.2	0	96.4	80-120	0			
Chromium	0.1798	0.050	0.2	0	89.9	80-120	0			
Lead	0.1907	0.050	0.2	0	95.4	80-120	0			
Selenium	0.1782	0.050	0.2	0	89.1	80-120	0			
Silver	0.1913	0.050	0.2	0	95.6	80-120	0			

ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0802274
Project: Disposal

QC BATCH REPORT

Batch ID: **28291** Instrument ID **ICPMS03** Method: **SW1311/6020**

MS Sample ID: **0802025-18AMS** Units: **mg/L** Analysis Date: **02/20/08 0:45**
Client ID: Run ID: **ICPMS03_080219A** SeqNo: **1330748** Prep Date: **2/19/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.426	0.050	0.2	6.277	74.5	75-125	0			SO
Barium	1.639	0.050	0.2	1.451	94	75-125	0			O
Cadmium	0.1983	0.050	0.2	0.0004326	98.9	75-125	0			
Chromium	0.1974	0.050	0.2	0.008492	94.5	75-125	0			
Lead	0.1998	0.050	0.2	0.001678	99.1	75-125	0			
Selenium	0.1962	0.050	0.2	0.00004895	98.1	75-125	0			
Silver	0.186	0.050	0.2	0.0002297	92.9	75-125	0			

MSD Sample ID: **0802025-18AMSD** Units: **mg/L** Analysis Date: **02/20/08 0:51**
Client ID: Run ID: **ICPMS03_080219A** SeqNo: **1330749** Prep Date: **2/19/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.354	0.050	0.2	6.277	38.5	75-125	6.426	1.13	25	SO
Barium	1.658	0.050	0.2	1.451	104	75-125	1.639	1.15	25	O
Cadmium	0.2021	0.050	0.2	0.0004326	101	75-125	0.1983	1.9	25	
Chromium	0.1926	0.050	0.2	0.008492	92.1	75-125	0.1974	2.46	25	
Lead	0.1965	0.050	0.2	0.001678	97.4	75-125	0.1998	1.67	25	
Selenium	0.2017	0.050	0.2	0.00004895	101	75-125	0.1962	2.76	25	
Silver	0.1872	0.050	0.2	0.0002297	93.5	75-125	0.186	0.643	25	

DUP Sample ID: **0802025-18ADUP** Units: **mg/L** Analysis Date: **02/20/08 0:34**
Client ID: Run ID: **ICPMS03_080219A** SeqNo: **1330745** Prep Date: **2/19/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.274	0.050	0	0	0	0-0	6.277	0.0478	25	
Barium	1.464	0.050	0	0	0	0-0	1.451	0.892	25	
Cadmium	ND	0.050	0	0	0	0-0	0.0004326	0	25	
Chromium	0.007859	0.050	0	0	0	0-0	0.008492	0	25	J
Lead	ND	0.050	0	0	0	0-0	0.001678	0	25	
Selenium	ND	0.050	0	0	0	0-0	0.00004895	0	25	
Silver	ND	0.050	0	0	0	0-0	0.0002297	0	25	

The following samples were analyzed in this batch: 0802274-01A

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R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
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U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0802274
Project: Disposal

QC BATCH REPORT

Batch ID: **28302** Instrument ID **SV-5** Method: **SW1311/8270**

MBLK Sample ID: **SBLKT1-080219** Units: **µg/L** Analysis Date: **02/20/08 8:44**

Client ID: Run ID: **SV-5_080220A** SeqNo: **1330854** Prep Date: **2/19/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Cresols, Total	ND	30								
Hexachlorobenzene	ND	5.0								
Hexachlorobutadiene	ND	5.0								
Hexachloroethane	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Pyridine	ND	5.0								
Surr: 2,4,6-Tribromophenol	*54.55*	5.0	*100*	0	*54.5*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*69.37*	5.0	*100*	0	*69.4*	*48-120*	0			
Surr: 2-Fluorophenol	*57.04*	5.0	*100*	0	*57*	*20-120*	0			
Surr: 4-Terphenyl-d14	*69.12*	5.0	*100*	0	*69.1*	*51-135*	0			
Surr: Nitrobenzene-d5	*59.87*	5.0	*100*	0	*59.9*	*41-120*	0			
Surr: Phenol-d6	*58.63*	5.0	*100*	0	*58.6*	*20-120*	0			

LCS Sample ID: **SLCST1-080219** Units: **µg/L** Analysis Date: **02/20/08 9:09**

Client ID: Run ID: **SV-5_080220A** SeqNo: **1330855** Prep Date: **2/19/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	74.55	5.0	100	0	74.5	52-115	0			
2,4,6-Trichlorophenol	74.18	5.0	100	0	74.2	53-115	0			
2,4-Dinitrotoluene	33.56	5.0	50	0	67.1	56-115	0			
Cresols, Total	181.1	30	250	0	72.5	35-115	0			
Hexachlorobenzene	37.64	5.0	50	0	75.3	54-115	0			
Hexachlorobutadiene	36.72	5.0	50	0	73.4	51-115	0			
Hexachloroethane	36.03	5.0	50	0	72.1	54-115	0			
Nitrobenzene	34.28	5.0	50	0	68.6	40-124	0			
Pentachlorophenol	69.65	5.0	100	0	69.7	45-125	0			
Pyridine	30.63	5.0	50	0	61.3	34-115	0			
Surr: 2,4,6-Tribromophenol	*60.67*	5.0	*100*	0	*60.7*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*71.77*	5.0	*100*	0	*71.8*	*48-120*	0			
Surr: 2-Fluorophenol	*64.65*	5.0	*100*	0	*64.7*	*20-120*	0			
Surr: 4-Terphenyl-d14	*69.96*	5.0	*100*	0	*70*	*51-135*	0			
Surr: Nitrobenzene-d5	*62.83*	5.0	*100*	0	*62.8*	*41-120*	0			
Surr: Phenol-d6	*68.26*	5.0	*100*	0	*68.3*	*20-120*	0			

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U - Analyzed for but not detected
O - Referenced analyte value is > 4 times amount spiked
P - Dual Column results percent difference > 40%
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0802274
Project: Disposal

QC BATCH REPORT

Batch ID: **28302** Instrument ID **SV-5** Method: **SW1311/8270**

LCSD Sample ID: **SLCSDT1-080219** Units: **µg/L** Analysis Date: **02/20/08 9:34**

Client ID: Run ID: **SV-5_080220A** SeqNo: **1330856** Prep Date: **2/19/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	87.57	5.0	100	0	87.6	52-115	74.55	16.1	25	
2,4,6-Trichlorophenol	81.29	5.0	100	0	81.3	53-115	74.18	9.15	25	
2,4-Dinitrotoluene	37.99	5.0	50	0	76	56-115	33.56	12.4	25	
Cresols, Total	196.5	30	250	0	78.6	35-115	181.1	8.12	25	
Hexachlorobenzene	40.91	5.0	50	0	81.8	54-115	37.64	8.33	25	
Hexachlorobutadiene	40.47	5.0	50	0	80.9	51-115	36.72	9.7	25	
Hexachloroethane	37.78	5.0	50	0	75.6	54-115	36.03	4.75	25	
Nitrobenzene	37.85	5.0	50	0	75.7	40-124	34.28	9.91	25	
Pentachlorophenol	76.28	5.0	100	0	76.3	45-125	69.65	9.08	25	
Pyridine	33.35	5.0	50	0	66.7	34-115	30.63	8.49	25	
Surr: 2,4,6-Tribromophenol	*61.99*	5.0	*100*	0	*62*	*42-124*	60.67	*2.14*	*25*	
Surr: 2-Fluorobiphenyl	*73.85*	5.0	*100*	0	*73.9*	*48-120*	71.77	*2.86*	*25*	
Surr: 2-Fluorophenol	*64.73*	5.0	*100*	0	*64.7*	*20-120*	64.65	*0.12*	*25*	
Surr: 4-Terphenyl-d14	*71.7*	5.0	*100*	0	*71.7*	*51-135*	69.96	*2.46*	*25*	
Surr: Nitrobenzene-d5	*66.03*	5.0	*100*	0	*66*	*41-120*	62.83	*4.97*	*25*	
Surr: Phenol-d6	*69.32*	5.0	*100*	0	*69.3*	*20-120*	68.26	*1.54*	*25*	

The following samples were analyzed in this batch: 0802274-01A

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R - RPD outside accepted recovery limits
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E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0802274
Project: Disposal

QC BATCH REPORT

Batch ID: **R60107** Instrument ID **VOA1** Method: **SW1311/8260**

MBLK Sample ID: **VBLKW-021908** Units: **µg/L** Analysis Date: **02/19/08 16:48**

Client ID: Run ID: **VOA1_080219B** SeqNo: **1331140** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2-Butanone	ND	10								
Benzene	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroform	ND	5.0								
Tetrachloroethene	ND	5.0								
Trichloroethene	ND	5.0								
Vinyl chloride	ND	5.0								
Surr: 1,2-Dichloroethane-d4	*42.55*	5.0	*50*	0	*85.1*	*70-125*		0		
Surr: 4-Bromofluorobenzene	*50.27*	5.0	*50*	0	*101*	*72.4-125*		0		
Surr: Dibromofluoromethane	*46.63*	5.0	*50*	0	*93.3*	*71.2-125*		0		
Surr: Toluene-d8	*52.61*	5.0	*50*	0	*105*	*75-125*		0		

MBLK Sample ID: **VBLKTK1-021808** Units: **µg/L** Analysis Date: **02/19/08 21:26**

Client ID: Run ID: **VOA1_080219B** SeqNo: **1331144** Prep Date: **2/18/2008** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	100								
1,2-Dichloroethane	ND	100								
1,4-Dichlorobenzene	ND	100								
2-Butanone	ND	200								
Benzene	ND	100								
Carbon tetrachloride	ND	100								
Chlorobenzene	ND	100								
Chloroform	ND	100								
Tetrachloroethene	ND	100								
Trichloroethene	ND	100								
Vinyl chloride	ND	100								
Surr: 1,2-Dichloroethane-d4	*1010*	100	*1000*	0	*101*	*70-125*		0		
Surr: 4-Bromofluorobenzene	*1038*	100	*1000*	0	*104*	*72.4-125*		0		
Surr: Dibromofluoromethane	*1037*	100	*1000*	0	*104*	*71.2-125*		0		
Surr: Toluene-d8	*1063*	100	*1000*	0	*106*	*75-125*		0		

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B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0802274
Project: Disposal

QC BATCH REPORT

Batch ID: **R60107** Instrument ID **VOA1** Method: **SW1311/8260**

LCS Sample ID: **VLCSW-021908** Units: **µg/L** Analysis Date: **02/19/08 15:58**

Client ID: Run ID: **VOA1_080219B** SeqNo: **1331139** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	53.45	5.0	50	0	107	73-124	0			
1,2-Dichloroethane	49.86	5.0	50	0	99.7	76-120	0			
1,4-Dichlorobenzene	50.48	5.0	50	0	101	70-130	0			
2-Butanone	102.6	10	100	0	103	70-130	0			
Benzene	50.47	5.0	50	0	101	70-128	0			
Carbon tetrachloride	52.32	5.0	50	0	105	70-130	0			
Chlorobenzene	*50.04*	*5.0*	*50*	*0*	*100*	*72-127*	*0*			
Chloroform	50.67	5.0	50	0	101	70-130	0			
Tetrachloroethene	51.94	5.0	50	0	104	70-130	0			
Trichloroethene	52.56	5.0	50	0	105	72-129	0			
Vinyl chloride	49.87	5.0	50	0	99.7	70-130	0			
Surr: 1,2-Dichloroethane-d4	*48.91*	5.0	*50*	0	*97.8*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*51.53*	5.0	*50*	0	*103*	*72-125*	0			
Surr: Dibromofluoromethane	*51.06*	5.0	*50*	0	*102*	*71-125*	0			
Surr: Toluene-d8	*53.35*	5.0	*50*	0	*107*	*75-125*	0			

MS Sample ID: **0802269-01AMS** Units: **µg/L** Analysis Date: **02/19/08 18:55**

Client ID: Run ID: **VOA1_080219B** SeqNo: **1331142** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	49.23	5.0	50	0	98.5	73-124	0			
1,2-Dichloroethane	53.53	5.0	50	0	107	76-120	0			
1,4-Dichlorobenzene	48.63	5.0	50	0	97.3	70-130	0			
2-Butanone	114.2	10	100	0	114	70-130	0			
Benzene	50.38	5.0	50	0	101	70-128	0			
Carbon tetrachloride	47.01	5.0	50	0	94	70-130	0			
Chlorobenzene	48.2	5.0	50	0	96.4	72-127	0			
Chloroform	50.8	5.0	50	0	102	70-130	0			
Tetrachloroethene	45.12	5.0	50	0	90.2	70-130	0			
Trichloroethene	50.03	5.0	50	0	100	72-129	0			
Vinyl chloride	49.93	5.0	50	0	99.9	70-130	0			
Surr: 1,2-Dichloroethane-d4	*51.07*	5.0	*50*	0	*102*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*50.36*	5.0	*50*	0	*101*	*72-125*	0			
Surr: Dibromofluoromethane	*52.82*	5.0	*50*	0	*106*	*71-125*	0			
Surr: Toluene-d8	*52.26*	5.0	*50*	*0*	*105*	*75-125*	*0*			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0802274
Project: Disposal

QC BATCH REPORT

Batch ID: **R60107** Instrument ID **VOA1** Method: **SW1311/8260**

MSD Sample ID: **0802269-01AMSD** Units: **µg/L** Analysis Date: **02/19/08 19:20**

Client ID: Run ID: **VOA1_080219B** SeqNo: **1331143** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	44.14	5.0	50	0	88.3	73-124	49.23	10.9	20	
1,2-Dichloroethane	50.62	5.0	50	0	101	76-120	53.53	5.59	20	
1,4-Dichlorobenzene	47.39	5.0	50	0	94.8	70-130	48.63	2.58	20	
2-Butanone	106.7	10	100	0	107	70-130	114.2	6.77	20	
Benzene	45.34	5.0	50	0	90.7	70-128	50.38	10.5	20	
Carbon tetrachloride	43.39	5.0	50	0	86.8	70-130	47.01	8.01	20	
Chlorobenzene	48.76	5.0	50	0	97.5	72-127	48.2	1.17	20	
Chloroform	49.56	5.0	50	0	99.1	70-130	50.8	2.47	20	
Tetrachloroethene	44.55	5.0	50	0	89.1	70-130	45.12	1.27	20	
Trichloroethene	48.36	5.0	50	0	96.7	72-129	50.03	3.38	20	
Vinyl chloride	46.78	5.0	50	0	93.6	70-130	49.93	6.53	20	
Surr: 1,2-Dichloroethane-d4	*48.61*	5.0	*50*	0	*97.2*	*70-125*	51.07	*4.94*	*20*	
Surr: 4-Bromofluorobenzene	*53.47*	5.0	*50*	0	*107*	*72-125*	50.36	*5.99*	*20*	
Surr: Dibromofluoromethane	*50.82*	5.0	*50*	0	*102*	*71-125*	52.82	*3.87*	*20*	
Surr: Toluene-d8	*54.51*	5.0	*50*	0	*109*	*75-125*	52.26	*4.22*	*20*	

The following samples were analyzed in this batch: 0802274-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0802274
Project: Disposal

QC BATCH REPORT

Batch ID: **28244** Instrument ID **ICS3000** Method: **E300**

MBLK Sample ID: **WBLKS1-021508** Units: **mg/Kg** Analysis Date: **02/15/08 16:17**
Client ID: Run ID: **ICS3000_080215C** SeqNo: **1330079** Prep Date: **2/15/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	5.0								
Surr: Selenate (surr)	*50.49*	1.0	*50*	0	*101*	*85-115*	0			

LCS Sample ID: **WLCSS1-021508** Units: **mg/Kg** Analysis Date: **02/15/08 16:40**
Client ID: Run ID: **ICS3000_080215C** SeqNo: **1330080** Prep Date: **2/15/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	199.6	5.0	200	0	99.8	90-110	0			
Surr: Selenate (surr)	*48.58*	1.0	*50*	0	*97.2*	*85-115*	0			

MS Sample ID: **0802274-01AMS** Units: **mg/Kg** Analysis Date: **02/15/08 22:03**
Client ID: **Gary Davis HP** Run ID: **ICS3000_080215C** SeqNo: **1330093** Prep Date: **2/15/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	292.6	4.8	96.93	200.1	95.4	75-125	0			
Surr: Selenate (surr)	*48.69*	0.97	*48.47*	0	*100*	*80-120*	0			

MSD Sample ID: **0802274-01AMSD** Units: **mg/Kg** Analysis Date: **02/15/08 22:26**
Client ID: **Gary Davis HP** Run ID: **ICS3000_080215C** SeqNo: **1330094** Prep Date: **2/15/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	290.5	4.8	96.93	200.1	93.2	75-125	292.6	0.735	20	
Surr: Selenate (surr)	*48.41*	0.97	*48.47*	0	*99.9*	*80-120*	48.69	*0.579*	*20*	

DUP Sample ID: **0802274-01ADUP** Units: **mg/Kg** Analysis Date: **02/15/08 21:40**
Client ID: **Gary Davis HP** Run ID: **ICS3000_080215C** SeqNo: **1330092** Prep Date: **2/15/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	199.8	4.8	0	0	0	0-0	200.1	0.15	20	
Surr: Selenate (surr)	*47.55*	0.97	*48.47*	0	*98.1*	*85-115*	47.55	*0*	*20*	

The following samples were analyzed in this batch: 0802274-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0802274
Project: Disposal

QC BATCH REPORT

Batch ID: **R60007** Instrument ID **WetChem** Method: **SW846, Chpt.**

DUP Sample ID: **0802274-01ADUP** Units: Analysis Date: **02/18/08 10:30**

Client ID: **Gary Davis HP** Run ID: **WETCHEM_080218A** SeqNo: **1329144** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Burns vigorously and persistently	ND	0	0	0	0	0-0	0	0	0	
Ignites spontaneously	ND	0	0	0	0	0-0	0	0	0	
Ignites through friction	ND	0	0	0	0	0-0	0	0	0	
Ignites under std. temp and pressur	ND	0	0	0	0	0-0	0	0	0	
Ignites with moisture	ND	0	0	0	0	0-0	0	0	0	

The following samples were analyzed in this batch: 0802274-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0802274
Project: Disposal

QC BATCH REPORT

Batch ID: **R60011** Instrument ID **WetChem** Method: **SW9045B**

LCS Sample ID: **WLCSS1-021808** Units: **pH Units** Analysis Date: **02/18/08 12:00**

Client ID: Run ID: **WETCHEM_080218B** SeqNo: **1329236** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.01	0.10	6	0	100	90-110	0			

DUP Sample ID: **0802302-01ADUP** Units: **pH Units** Analysis Date: **02/18/08 12:00**

Client ID: Run ID: **WETCHEM_080218B** SeqNo: **1329242** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.96	0.10	0	0	0	0-0	7.92	0.504	20	

The following samples were analyzed in this batch: 0802274-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: Navajo Refining Company
Work Order: 0802274
Project: Disposal

QC BATCH REPORT

Batch ID: **R60035** Instrument ID **WetChem** Method: **SW9095A** **(Dissolve)**

DUP Sample ID: **0802275-01ADUP** Units: **Pos/Neg** Analysis Date: **02/18/08 10:00**

Client ID: Run ID: **WETCHEM_080218F** SeqNo: **1329814** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Free Liquid	ND	0	0	0	0		0	0	100	

The following samples were analyzed in this batch: 0802274-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

e-Lab Analytical, Inc.
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 1

The Chain of Custody is a Legal Document. All information must be completed accurately.

e-Lab Analytical, Inc.
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Project Manager: | Work Order #: 0802247

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Disposal	A	TCLP VOA's
Work Order		Project Number		B	" Semi VOA's
Company Name	Navajo	Bill To Company		C	" Metals
Send Report To	Aaron Strange	Invoice Attn		D	RCI
Address		Address		E	Paint Filter test
				F	Total Chlorides
City/State/Zip		City/State/Zip		G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Gary Davis HP	2/13/08	1500	S	Y	1	X	X	X	X	X						
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Aaron Strange | Date: 2/13/08 | Time: 1615 | Received by:

Relinquished by: | Date: | Time: | Received by (Laboratory): 2/14/08 69.7°F

Logged by (Laboratory): | Date: | Time: | Checked by (Laboratory):

Notes:

Cooler ID | Trip Blank Number

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to e-Lab Analytical, Inc.

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e-Lab Analytical, Inc.

Sample Receipt Checklist

Client Name NAVAJO REFINING

Date/Time Received: 2/14/2008 9:20:00 AM

Work Order Number 0802274

Received by: RNG

Checklist completed by Katrina Dathorne 2-14-08
Signature Date

Reviewed by JL 2/15/08
Initials Date

Matrix: S

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.4C	002	
Cooler(s)/Kit(s):	1562		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Adjusted? Checked by

Login Notes:

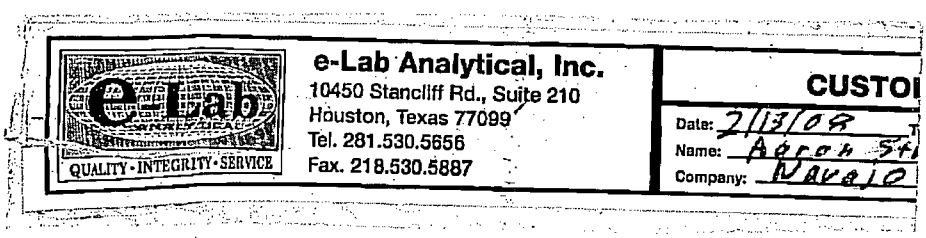
Client contacted: Date contacted: Person contacted

Contacted by: Regarding:

Comments:

Corrective Action

0802274



e-Lab Analytical, Inc.
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. 281.530.5656
Fax. 218.530.5887

QUALITY · INTEGRITY · SERVICE

CUSTO
Date: 2/13/08
Name: Aaron St
Company: Navajo

DY SEAL
ime: 1615
4200

Seal Broken By:
Date: 2/14/08

e-Lab Analytical, Inc

Date: February 26, 2008

Client: ALS e-Lab Analytical, Inc
Project: 0802274
Work Order: **0802261**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0802261-01	0802274-02A	Soil		2/13/2008	2/15/2008 09:50	☐

e-Lab Analytical, Inc

Date: *February 26, 2008*

Client: ALS e-Lab Analytical, Inc
Project: 0802274
Work Order: 0802261
Sample ID: 0802274-02A
Lab ID: 0802261-01
Collection Date: 2/13/2008
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**EPA 7.3.3.2**			Analyst: **DB**
Cyanide, Reactive	ND		40.0	mg/Kg	1	2/21/2008
SULFIDE, REACTIVE			**EPA 7.3.4.2**			Analyst: **DB**
Sulfide, Reactive	ND		40.0	mg/Kg	1	2/21/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc

CLIENT: ALS e-Lab Analytical, Inc
Work Order: 0802261
Project: 0802274

Date: *Feb 26 2008*

QC BATCH REPORT

Batch ID: **R56560** Instrument ID **WETCHEM** Method: **EPA 7.3.4.2**

MBLK Sample ID: **WBLKW1-022108** Units: **mg/Kg** Analysis Date: **02/21/08 0:00**

Client ID: Run ID: **WETCHEM_080221G** SeqNo: **929923** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide, Reactive	ND	40								

The following samples were analyzed in this batch: 0802261-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

CLIENT: ALS e-Lab Analytical, Inc
Work Order: 0802261
Project: 0802274

QC BATCH REPORT

Batch ID: **R56564** Instrument ID **WETCHEM** Method: **EPA 7.3.3.2**

MBLK Sample ID: **MB-R56564** Units: **mg/Kg** Analysis Date: **02/21/08 0:00**
Client ID: Run ID: **WETCHEM_080221J** SeqNo: **929957** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	ND	40								

LCS Sample ID: **LCS-R56564** Units: **mg/Kg** Analysis Date: **02/21/08 0:00**
Client ID: Run ID: **WETCHEM_080221J** SeqNo: **929958** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	190.8	40	250	0	76.3	75-125		0		

LCSD Sample ID: **LCSD-R56564** Units: **mg/Kg** Analysis Date: **02/21/08 0:00**
Client ID: Run ID: **WETCHEM_080221J** SeqNo: **929964** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	190.8	40	250	0	76.3	75-125	190.8	0	35	

MS Sample ID: **0802260-01A MS** Units: **mg/Kg** Analysis Date: **02/21/08 0:00**
Client ID: Run ID: **WETCHEM_080221J** SeqNo: **929965** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250	14.68	88.1	50-150		0		

MSD Sample ID: **0802260-01A MSD** Units: **mg/Kg** Analysis Date: **02/21/08 0:00**
Client ID: Run ID: **WETCHEM_080221J** SeqNo: **929966** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250	14.68	88.1	50-150	234.9	0	35	

The following samples were analyzed in this batch: 0802261-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

0802261

Subcontractor:
e-Lab Analytical, Inc.
3352 128th Ave.
Holland, MI 49424

TEL: (616) 399-6070
FAX: (616) 399-6185
Acct #:

CHAIN-OF-CUSTODY RECORD

Date: Feb 14, 2008
COC ID: 6020
Due Date 2/26/2008

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order		Project Name	0802274	A Cyanide, Reactive (SW-846)
Work Order		Project Number		B Sulfide, Reactive (SW-846)
Company Name	e-Lab Analytical, Inc.	Bill To Company	e-Lab Analytical, Inc.	C
Send Report To	Jeffrey L Croston	Inv Attn	Accounts Payable	D
Address	10450 Stancliff Rd, Suite 210	Address	10450 Stancliff Rd, Suite 210	E
				F
City/State/Zip	Houston, Texas 77099-4338	City/State/Zip	Houston, Texas 77099-4338	G
Phone	(281) 530-5656	Phone	(281) 530-5656	H
Fax	(281) 530-5887	Fax	(281) 530-5887	I
eMail Address	jcroston@elabi.com	eMail CC	glenda.ramos@alsenviro.com	J

Sample ID	Matrix	Collection Date	Bottle	A	B	C	D	E	F	G	H	I	J
0802274-02A (Gary Davis HP)	Soil	2/13/2008	(1) 2OZGNEAT	X	X								

Comments:
Please analyze for Reactive Cyanide and Reactive Sulfide.

Relinquished by:	Date/Time	Received by:	Date/Time	Cooler IDs	Report/QC Level
					Std
Relinquished by: Patricia Dathorne UPS	Date/Time 2/15/08 0950	Received by: UPS	Date/Time 2/14/08 2/15/08 0950		

e-Lab Analytical, Inc

Sample Receipt Checklist

Client Name ELAB-HOU

Date/Time Received: 2/15/2008 9:50:00 AM

Work Order Number 0802261

Received by: AJK

Checklist completed by _____ 2/15/08
Signature Date

Reviewed by _____ 2/15/08
Initials Date

Matrix: Soil

Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.2°C		
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Adjusted? _____ Checked by _____

Login Notes:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

UPS Next Day Air Saver

Shipping Document

WEIGHT	DIMENSIONAL WEIGHT	LARGE PACKAGE	SHIPPER RELEASE
29		☐	☐

1P 1P

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SHIPMENT FROM

UPS ACCOUNT NO. 698174

REFERENCE NUMBER
SUB CONTRACT

RICHARD SANCHEZ
TELEPHONE 281-530-5656

E-LAB, INC.

1450 STANCLIFF RD STE #210

HOUSTON TX 77099

MI 495 9-04

UPS Next Day Air Saver 1P

DELIVER TO

RECEIVING
TELEPHONE 616-399-6070

E-LAB, INC.

3352 128TH AVE

HOLLAND MI 49424

1Z 698 174 23 1004 3243

SHIPMENT ID NUMBER 6981 747B 80W

(URC v.64.0A 02/2007)
0201952542609 1/07 S

United Parcel Service, Louisville, KY

DWS ID Label

3352 128TH AVE

HOLLAND MI 49424

P: S: I:

M220-RDL ☐

1500

1Z6981742310043243

1Z 698 174 23 1004 3243

1255391 SS2007 US 04959 Feb 15 07:57:28 2008 HIP 7.0.1 INT4420

e-Lab Analytical, Inc.
10450 Stancliff Rd., Suite 210
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QUALITY · INTEGRITY · SERVICE

CUSTODY SEAL

Date: 2-14-08 Time: 1600
Name: RICHARD SANCHEZ
Company: AES ELAB

Seal Broken By:
Date: 2/15/08

0802261

Chavez, Carl J, EMNRD

From: Jones, Brad A., EMNRD
Sent: Wednesday, June 17, 2009 7:57 AM
To: Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV
Subject: FW: Navajo soil data - message 3
Attachments: 807664 T-1227 Disposal Final.pdf; 805461 Disposal - SRV Hyd Final.pdf

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From: Krueger, Pamela [mailto:pam.krueger@arcadis-us.com]
Sent: Tuesday, June 16, 2009 4:51 PM
To: Jones, Brad A., EMNRD
Subject: Navajo soil data - message 3

ARCADIS
Pamela R. Krueger
Senior Project Manager

11490 Westheimer, Suite 600
Houston, TX 77077
Tel 281.509.6416
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ARCADIS, Imagine the result

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ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

11-Aug-08

Aaron Strange
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 746-5468
Fax: (505) 746-5421

Re: T-1227 Disposal

Work Order : **0807664**

Dear Aaron,

ALS Laboratory Group received 1 sample on 7/30/2008 08:55 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 26.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Jeffrey L Croston

Electronically approved by: Glenda H. Ramos

Jeffrey L Croston
Project Manager

Certificate No: T104704231-08-TX

ALS Laboratory Group

Date: 11-Aug-08

Client: Navajo Refining Company
Project: T-1227 Disposal
Work Order: **0807664**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0807664-01	T-1227 Excavation	Solid		7/29/2008 14:40	7/30/2008 08:55	☐

ALS Laboratory Group

Date: 11-Aug-08

Client: Navajo Refining Company
Project: T-1227 Disposal
Work Order: 0807664

Case Narrative

Volatiles (Sample T-1227) Surrogate recovery was above the control limits for 1,2 - Dichloroethane-d4 (129%). Recovery was biased high and sample was ND, therefore the data was accepted.

ALS Laboratory Group

Date: *11-Aug-08*

Client: Navajo Refining Company
Project: T-1227 Disposal
Sample ID: T-1227 Excavation
Collection Date: 7/29/2008 02:40 PM

Work Order: 0807664
Lab ID: 0807664-01
Matrix: SOLID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY			**SW7470**		Prep Date: **8/5/2008**	Analyst: **JCJ**
Mercury	ND		0.000200	mg/L	1	8/5/2008 05:55 PM
TCLP METALS, ICP			**SW1311/6020**		Prep Date: **8/1/2008**	Analyst: **ALR**
Arsenic	ND		0.0500	mg/L	10	8/2/2008 03:20 AM
Barium	**2.47**		**0.0500**	**mg/L**	10	8/2/2008 03:20 AM
Cadmium	ND		0.0500	mg/L	10	8/2/2008 03:20 AM
Chromium	ND		0.0500	mg/L	10	8/2/2008 03:20 AM
Lead	ND		0.0500	mg/L	10	8/2/2008 03:20 AM
Selenium	ND		0.0500	mg/L	10	8/2/2008 03:20 AM
Silver	ND		0.0500	mg/L	10	8/2/2008 03:20 AM
TCLP SEMIVOLATILES			**SW1311/8270**		Prep Date: **8/1/2008**	Analyst: **ACN**
2,4,5-Trichlorophenol	ND		5.0	µg/L	1	8/5/2008 02:08 PM
2,4,6-Trichlorophenol	ND		5.0	µg/L	1	8/5/2008 02:08 PM
2,4-Dinitrotoluene	ND		5.0	µg/L	1	8/5/2008 02:08 PM
Cresols, Total	ND		15	µg/L	1	8/5/2008 02:08 PM
Hexachlorobenzene	ND		5.0	µg/L	1	8/5/2008 02:08 PM
Hexachlorobutadiene	ND		5.0	µg/L	1	8/5/2008 02:08 PM
Hexachloroethane	ND		5.0	µg/L	1	8/5/2008 02:08 PM
Nitrobenzene	ND		5.0	µg/L	1	8/5/2008 02:08 PM
Pentachlorophenol	ND		5.0	µg/L	1	8/5/2008 02:08 PM
Pyridine	ND		5.0	µg/L	1	8/5/2008 02:08 PM
Surr: 2,4,6-Tribromophenol	*66.5*		*42-124*	*%REC*	1	8/5/2008 02:08 PM
Surr: 2-Fluorobiphenyl	*71.8*		*48-120*	*%REC*	1	8/5/2008 02:08 PM
Surr: 2-Fluorophenol	*63.2*		*20-120*	*%REC*	1	8/5/2008 02:08 PM
Surr: 4-Terphenyl-d14	*79.1*		*51-135*	*%REC*	1	8/5/2008 02:08 PM
Surr: Nitrobenzene-d5	*69.5*		*41-120*	*%REC*	1	8/5/2008 02:08 PM
Surr: Phenol-d6	*66.3*		*20-120*	*%REC*	1	8/5/2008 02:08 PM
TCLP VOLATILES			**SW1311/8260B**		Prep Date: **8/1/2008**	Analyst: **PC**
1,1-Dichloroethene	ND		100	µg/L	20	8/4/2008 05:38 PM
1,2-Dichloroethane	ND		100	µg/L	20	8/4/2008 05:38 PM
1,4-Dichlorobenzene	ND		100	µg/L	20	8/4/2008 05:38 PM
2-Butanone	ND		200	µg/L	20	8/4/2008 05:38 PM
Benzene	ND		100	µg/L	20	8/4/2008 05:38 PM
Carbon tetrachloride	ND		100	µg/L	20	8/4/2008 05:38 PM
Chlorobenzene	ND		100	µg/L	20	8/4/2008 05:38 PM
Chloroform	ND		100	µg/L	20	8/4/2008 05:38 PM
Tetrachloroethene	ND		100	µg/L	20	8/4/2008 05:38 PM
Trichloroethene	ND		100	µg/L	20	8/4/2008 05:38 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *11-Aug-08*

Client: Navajo Refining Company
Project: T-1227 Disposal
Sample ID: T-1227 Excavation
Collection Date: 7/29/2008 02:40 PM

Work Order: 0807664
Lab ID: 0807664-01
Matrix: SOLID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl chloride	ND		100	µg/L	20	8/4/2008 05:38 PM
Surr: 1,2-Dichloroethane-d4	*129*	S	*70-125*	*%REC*	20	8/4/2008 05:38 PM
Surr: 4-Bromofluorobenzene	*97.6*		*72-125*	*%REC*	20	8/4/2008 05:38 PM
Surr: Dibromofluoromethane	*115*		*71-125*	*%REC*	20	8/4/2008 05:38 PM
Surr: Toluene-d8	*109*		*75-125*	*%REC*	20	8/4/2008 05:38 PM
CYANIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Cyanide	ND		40.0	mg/Kg	1	8/4/2008
SULFIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Sulfide	ND		40.0	mg/Kg	1	8/4/2008
IGNITABILITY FOR SOLIDS			**SW846, CHPT. 7.1.2**			Analyst: **MAM**
Burns vigorously and persistently	**No**				1	8/4/2008 01:15 PM
Ignites spontaneously	**No**				1	8/4/2008 01:15 PM
Ignites through friction	**No**				1	8/4/2008 01:15 PM
Ignites under std. temp and pressure	**No**				1	8/4/2008 01:15 PM
Ignites with moisture	**No**				1	8/4/2008 01:15 PM
PH IN SOLID			**SW9045B**			Analyst: **MAM**
pH	**8.48**		**0.100**	**pH Units**	1	8/4/2008 04:30 PM

Qualifiers:

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B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Client: Navajo Refining Company
Work Order: 0807664
Project: T-1227 Disposal

Date: *11-Aug-08*

QC BATCH REPORT

Batch ID: **31148** Instrument ID **ICPMS02** Method: **SW1311/6020**

MBLK Sample ID: **MBLKT1-073108-31148** Units: **mg/L** Analysis Date: **8/2/2008 12:39 AM**
Client ID: Run ID: **ICPMS02_080801A** SeqNo: **1457361** Prep Date: **8/1/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

MBLK Sample ID: **MBLKW2-080108-31148** Units: **mg/L** Analysis Date: **8/2/2008 12:45 AM**
Client ID: Run ID: **ICPMS02_080801A** SeqNo: **1457364** Prep Date: **8/1/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

LCS Sample ID: **MLCSW2-080108-31148** Units: **mg/L** Analysis Date: **8/2/2008 12:52 AM**
Client ID: Run ID: **ICPMS02_080801A** SeqNo: **1457367** Prep Date: **8/1/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2003	0.050	0.2	0	100	80-120	0			
Barium	0.1864	0.050	0.2	0	93.2	80-120	0			
Cadmium	0.1946	0.050	0.2	0	97.3	80-120	0			
Chromium	0.1941	0.050	0.2	0	97	80-120	0			
Lead	0.1909	0.050	0.2	0	95.4	80-120	0			
Selenium	0.1957	0.050	0.2	0	97.8	80-120	0			
Silver	0.192	0.050	0.2	0	96	80-120	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0807664
Project: T-1227 Disposal

QC BATCH REPORT

Batch ID: **31148** Instrument ID **ICPMS02** Method: **SW1311/6020**

MS Sample ID: **0807678-14BMS** Units: **mg/L** Analysis Date: **8/2/2008 07:32 AM**
Client ID: Run ID: **ICPMS02_080801A** SeqNo: **1457451** Prep Date: **8/1/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1986	0.050	0.2	0.001314	98.6	75-125	0			
Barium	0.8107	0.050	0.2	0.5948	108	75-125	0			
Cadmium	0.1919	0.050	0.2	0.002576	94.7	75-125	0			
Chromium	0.1861	0.050	0.2	0.001567	92.3	75-125	0			
Lead	0.1981	0.050	0.2	0.003894	97.1	75-125	0			
Selenium	0.2002	0.050	0.2	-0.004002	102	75-125	0			
Silver	0.1873	0.050	0.2	0.001833	92.7	75-125	0			

MSD Sample ID: **0807678-14BMSD** Units: **mg/L** Analysis Date: **8/2/2008 07:38 AM**
Client ID: Run ID: **ICPMS02_080801A** SeqNo: **1457452** Prep Date: **8/1/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2084	0.050	0.2	0.001314	104	75-125	0.1986	4.82	25	
Barium	0.8267	0.050	0.2	0.5948	116	75-125	0.8107	1.95	25	
Cadmium	0.1994	0.050	0.2	0.002576	98.4	75-125	0.1919	3.83	25	
Chromium	0.1945	0.050	0.2	0.001567	96.5	75-125	0.1861	4.41	25	
Lead	0.2014	0.050	0.2	0.003894	98.8	75-125	0.1981	1.65	25	
Selenium	0.198	0.050	0.2	-0.004002	101	75-125	0.2002	1.1	25	
Silver	0.1877	0.050	0.2	0.001833	92.9	75-125	0.1873	0.213	25	

DUP Sample ID: **0807678-14BDUP** Units: **mg/L** Analysis Date: **8/2/2008 07:19 AM**
Client ID: Run ID: **ICPMS02_080801A** SeqNo: **1457449** Prep Date: **8/1/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050	0	0	0	0-0	0.001314	0	25	
Barium	0.6429	0.050	0	0	0	0-0	0.5948	7.77	25	
Cadmium	ND	0.050	0	0	0	0-0	0.002576	0	25	
Chromium	ND	0.050	0	0	0	0-0	0.001567	0	25	
Lead	ND	0.050	0	0	0	0-0	0.003894	0	25	
Selenium	ND	0.050	0	0	0	0-0	-0.004002	0	25	
Silver	ND	0.050	0	0	0	0-0	0.001833	0	25	

The following samples were analyzed in this batch: 0807664-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0807664
Project: T-1227 Disposal

QC BATCH REPORT

Batch ID: **31204** Instrument ID **Mercury** Method: **SW7470**

MBLK Sample ID: **GBLKW2-080508-31204** Units: **mg/L** Analysis Date: **8/5/2008 05:17 PM**
Client ID: Run ID: **MERCURY_080805B** SeqNo: **1459407** Prep Date: **8/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

MBLK Sample ID: **GBLKT1-080408-31204** Units: **mg/L** Analysis Date: **8/5/2008 05:27 PM**
Client ID: Run ID: **MERCURY_080805B** SeqNo: **1459410** Prep Date: **8/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS Sample ID: **GLCSW2-080508-31204** Units: **mg/L** Analysis Date: **8/5/2008 05:23 PM**
Client ID: Run ID: **MERCURY_080805B** SeqNo: **1459408** Prep Date: **8/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00514	0.00020	0.005	0	103	80-120	0			

LCSD Sample ID: **GLCSDW2-080508-31204** Units: **mg/L** Analysis Date: **8/5/2008 05:25 PM**
Client ID: Run ID: **MERCURY_080805B** SeqNo: **1459409** Prep Date: **8/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00512	0.00020	0.005	0	102	80-120	0.00514	0.39	25	

MS Sample ID: **0808033-04CMS** Units: **mg/L** Analysis Date: **8/5/2008 05:33 PM**
Client ID: Run ID: **MERCURY_080805B** SeqNo: **1459413** Prep Date: **8/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00487	0.00020	0.005	0.000009	97.2	75-125	0			

MSD Sample ID: **0808033-04CMSD** Units: **mg/L** Analysis Date: **8/5/2008 05:35 PM**
Client ID: Run ID: **MERCURY_080805B** SeqNo: **1459414** Prep Date: **8/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00489	0.00020	0.005	0.000009	97.6	75-125	0.00487	0.41	20	

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0807664
Project: T-1227 Disposal

QC BATCH REPORT

Batch ID: **31204** Instrument ID **Mercury** Method: **SW7470**

DUP Sample ID: **0808033-04CDUP** Units: **mg/L** Analysis Date: **8/5/2008 05:31 PM**

Client ID: Run ID: **MERCURY_080805B** SeqNo: **1459412** Prep Date: **8/5/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	0.000009	0	20	

The following samples were analyzed in this batch: 0807664-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0807664
Project: T-1227 Disposal

QC BATCH REPORT

Batch ID: **31154** Instrument ID **SV-5** Method: **SW1311/8270**

MBLK Sample ID: **SBLKT1-080801-31154** Units: **µg/L** Analysis Date: **8/4/2008 01:00 PM**

Client ID: Run ID: **SV-5_080804B** SeqNo: **1459566** Prep Date: **8/1/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Cresols, Total	ND	15								
Hexachlorobenzene	ND	5.0								
Hexachlorobutadiene	ND	5.0								
Hexachloroethane	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Pyridine	ND	5.0								
Surr: 2,4,6-Tribromophenol	*56.5*	5.0	*100*	0	*56.5*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*76.16*	5.0	*100*	0	*76.2*	*48-120*	0			
Surr: 2-Fluorophenol	*65.54*	5.0	*100*	0	*65.5*	*20-120*	0			
Surr: 4-Terphenyl-d14	*82.93*	5.0	*100*	0	*82.9*	*51-135*	0			
Surr: Nitrobenzene-d5	*75.98*	5.0	*100*	0	*76*	*41-120*	0			
Surr: Phenol-d6	*72.52*	5.0	*100*	0	*72.5*	*20-120*	0			

LCS Sample ID: **SLCST1-080801-31154** Units: **µg/L** Analysis Date: **8/4/2008 01:28 PM**

Client ID: Run ID: **SV-5_080804B** SeqNo: **1459567** Prep Date: **8/1/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	73.77	5.0	100	0	73.8	52-115	0			
2,4,6-Trichlorophenol	73.41	5.0	100	0	73.4	53-115	0			
2,4-Dinitrotoluene	39.4	5.0	50	0	78.8	56-115	0			
Cresols, Total	188.8	15	250	0	75.5	35-115	0			
Hexachlorobenzene	34.26	5.0	50	0	68.5	54-115	0			
Hexachlorobutadiene	32.13	5.0	50	0	64.3	51-115	0			
Hexachloroethane	39.67	5.0	50	0	79.3	54-115	0			
Nitrobenzene	38.46	5.0	50	0	76.9	40-124	0			
Pentachlorophenol	64.6	5.0	100	0	64.6	45-125	0			
Pyridine	36.18	5.0	50	0	72.4	34-115	0			
Surr: 2,4,6-Tribromophenol	*60.57*	5.0	*100*	0	*60.6*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*76.52*	5.0	*100*	0	*76.5*	*48-120*	0			
Surr: 2-Fluorophenol	*72.08*	5.0	*100*	0	*72.1*	*20-120*	0			
Surr: 4-Terphenyl-d14	*75.02*	5.0	*100*	0	*75*	*51-135*	0			
Surr: Nitrobenzene-d5	*76.04*	5.0	*100*	0	*76*	*41-120*	0			
Surr: Phenol-d6	*75.55*	5.0	*100*	0	*75.5*	*20-120*	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0807664
Project: T-1227 Disposal

QC BATCH REPORT

Batch ID: **31154** Instrument ID **SV-5** Method: **SW1311/8270**

LCSD Sample ID: **SLCSDT1-080801-31154** Units: **µg/L** Analysis Date: **8/4/2008 01:56 PM**
Client ID: Run ID: **SV-5_080804B** SeqNo: **1459568** Prep Date: **8/1/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	73.83	5.0	100	0	73.8	52-115	73.77	0.0884	25	
2,4,6-Trichlorophenol	71.9	5.0	100	0	71.9	53-115	73.41	2.08	25	
2,4-Dinitrotoluene	38.66	5.0	50	0	77.3	56-115	39.4	1.91	25	
Cresols, Total	190.9	15	250	0	76.4	35-115	188.8	1.13	25	
Hexachlorobenzene	32.24	5.0	50	0	64.5	54-115	34.26	6.09	25	
Hexachlorobutadiene	32.35	5.0	50	0	64.7	51-115	32.13	0.669	25	
Hexachloroethane	36.7	5.0	50	0	73.4	54-115	39.67	7.8	25	
Nitrobenzene	37.66	5.0	50	0	75.3	40-124	38.46	2.12	25	
Pentachlorophenol	72.5	5.0	100	0	72.5	45-125	64.6	11.5	25	
Pyridine	32.74	5.0	50	0	65.5	34-115	36.18	9.99	25	
Surr: 2,4,6-Tribromophenol	*62.65*	5.0	*100*	0	*62.6*	*42-124*	60.57	*3.37*	*25*	
Surr: 2-Fluorobiphenyl	*75.66*	5.0	*100*	0	*75.7*	*48-120*	76.52	*1.12*	*25*	
Surr: 2-Fluorophenol	*72.87*	5.0	*100*	0	*72.9*	*20-120*	72.08	*1.09*	*25*	
Surr: 4-Terphenyl-d14	*76.58*	5.0	*100*	0	*76.6*	*51-135*	75.02	*2.05*	*25*	
Surr: Nitrobenzene-d5	*76.31*	5.0	*100*	0	*76.3*	*41-120*	76.04	*0.347*	*25*	
Surr: Phenol-d6	*76.35*	5.0	*100*	0	*76.4*	*20-120*	75.55	*1.06*	*25*	

The following samples were analyzed in this batch: 0807664-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0807664
Project: T-1227 Disposal

QC BATCH REPORT

Batch ID: **R66219** Instrument ID **VOA2** Method: **SW1311/8260**

MBLK Sample ID: **VBLKW-080408-R66219** Units: **µg/L** Analysis Date: **8/4/2008 11:56 AM**

Client ID: Run ID: **VOA2_080804A** SeqNo: **1458097** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2-Butanone	ND	10								
Benzene	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroform	ND	5.0								
Tetrachloroethene	ND	5.0								
Trichloroethene	ND	5.0								
Vinyl chloride	ND	5.0								
Surr: 1,2-Dichloroethane-d4	*52.99*	5.0	*50*	0	*106*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*42.46*	5.0	*50*	0	*84.9*	*72.4-125*	0			
Surr: Dibromofluoromethane	*49.79*	5.0	*50*	0	*99.6*	*71.2-125*	0			
Surr: Toluene-d8	*46.99*	5.0	*50*	0	*94*	*75-125*	0			

MBLK Sample ID: **MBLKV1-080108-R66219** Units: **µg/L** Analysis Date: **8/4/2008 12:20 PM**

Client ID: Run ID: **VOA2_080804A** SeqNo: **1458098** Prep Date: **8/1/2008** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	100								
1,2-Dichloroethane	ND	100								
1,4-Dichlorobenzene	ND	100								
2-Butanone	ND	200								
Benzene	ND	100								
Carbon tetrachloride	ND	100								
Chlorobenzene	ND	100								
Chloroform	ND	100								
Tetrachloroethene	ND	100								
Trichloroethene	ND	100								
Vinyl chloride	ND	100								
Surr: 1,2-Dichloroethane-d4	*1178*	100	*1000*	0	*118*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*874.6*	100	*1000*	0	*87.5*	*72.4-125*	0			
Surr: Dibromofluoromethane	*1109*	100	*1000*	0	*111*	*71.2-125*	0			
Surr: Toluene-d8	*997.8*	100	*1000*	0	*99.8*	*75-125*	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0807664
Project: T-1227 Disposal

QC BATCH REPORT

Batch ID: **R66219** Instrument ID **VOA2** Method: **SW1311/8260**

LCS Sample ID: **VLCSW-080408-R66219** Units: **µg/L** Analysis Date: **8/4/2008 10:43 AM**

Client ID: Run ID: **VOA2_080804A** SeqNo: **1458096** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	48.76	5.0	50	0	97.5	73-124	0			
1,2-Dichloroethane	50.56	5.0	50	0	101	76-120	0			
1,4-Dichlorobenzene	49.56	5.0	50	0	99.1	70-130	0			
2-Butanone	118.1	10	100	0	118	70-130	0			
Benzene	51.66	5.0	50	0	103	70-128	0			
Carbon tetrachloride	53.21	5.0	50	0	106	70-130	0			
Chlorobenzene	49.45	5.0	50	0	98.9	72-127	0			
Chloroform	50.79	5.0	50	0	102	70-130	0			
Tetrachloroethene	50.12	5.0	50	0	100	70-130	0			
Trichloroethene	51.7	5.0	50	0	103	72-129	0			
Vinyl chloride	47.48	5.0	50	0	95	70-130	0			
Surr: 1,2-Dichloroethane-d4	*53.2*	5.0	*50*	0	*106*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*49.73*	5.0	*50*	0	*99.5*	*72-125*	0			
Surr: Dibromofluoromethane	*52.5*	5.0	*50*	0	*105*	*71-125*	0			
Surr: Toluene-d8	*51.22*	5.0	*50*	0	*102*	*75-125*	0			

MS Sample ID: **0807678-14AMS** Units: **µg/L** Analysis Date: **8/4/2008 03:11 PM**

Client ID: Run ID: **VOA2_080804A** SeqNo: **1458104** Prep Date: **8/1/2008** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	837.8	100	1000	0	83.8	73-124	0			
1,2-Dichloroethane	922.7	100	1000	0	92.3	76-120	0			
1,4-Dichlorobenzene	883.1	100	1000	0	88.3	70-130	0			
2-Butanone	1924	200	2000	0	96.2	70-130	0			
Benzene	904.9	100	1000	0	90.5	70-128	0			
Carbon tetrachloride	838.1	100	1000	0	83.8	70-130	0			
Chlorobenzene	882.9	100	1000	0	88.3	72-127	0			
Chloroform	889.7	100	1000	0	89	70-130	0			
Tetrachloroethene	839	100	1000	0	83.9	70-130	0			
Trichloroethene	866.1	100	1000	0	86.6	72-129	0			
Vinyl chloride	812.1	100	1000	0	81.2	70-130	0			
Surr: 1,2-Dichloroethane-d4	*999.9*	100	*1000*	0	*100*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*915.1*	100	*1000*	0	*91.5*	*72-125*	0			
Surr: Dibromofluoromethane	*950.4*	100	*1000*	0	*95*	*71-125*	0			
Surr: Toluene-d8	*937*	100	*1000*	0	*93.7*	*75-125*	0			

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J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0807664
Project: T-1227 Disposal

QC BATCH REPORT

Batch ID: **R66219** Instrument ID **VOA2** Method: **SW1311/8260**

MSD Sample ID: **0807678-14AMSD** Units: **µg/L** Analysis Date: **8/4/2008 03:36 PM**

Client ID: Run ID: **VOA2_080804A** SeqNo: **1458105** Prep Date: **8/1/2008** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	958.2	100	1000	0	95.8	73-124	837.8	13.4	20	
1,2-Dichloroethane	1081	100	1000	0	108	76-120	922.7	15.8	20	
1,4-Dichlorobenzene	980.2	100	1000	0	98	70-130	883.1	10.4	20	
2-Butanone	2333	200	2000	0	117	70-130	1924	19.3	20	
Benzene	1025	100	1000	0	103	70-128	904.9	12.5	20	
Carbon tetrachloride	931.1	100	1000	0	93.1	70-130	838.1	10.5	20	
Chlorobenzene	985.5	100	1000	0	98.6	72-127	882.9	11	20	
Chloroform	1056	100	1000	0	106	70-130	889.7	17.1	20	
Tetrachloroethene	925.1	100	1000	0	92.5	70-130	839	9.77	20	
Trichloroethene	978.4	100	1000	0	97.8	72-129	866.1	12.2	20	
Vinyl chloride	910.7	100	1000	0	91.1	70-130	812.1	11.4	20	
Surr: 1,2-Dichloroethane-d4	*1165*	100	*1000*	0	*116*	*70-125*	999.9	*15.2*	*20*	
Surr: 4-Bromofluorobenzene	*1041*	100	*1000*	0	*104*	*72-125*	915.1	*12.9*	*20*	
Surr: Dibromofluoromethane	*1146*	100	*1000*	0	*115*	*71-125*	950.4	*18.6*	*20*	
Surr: Toluene-d8	*1074*	100	*1000*	0	*107*	*75-125*	937	*13.6*	*20*	

The following samples were analyzed in this batch: 0807664-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
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E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0807664
Project: T-1227 Disposal

QC BATCH REPORT

Batch ID: **R66202** Instrument ID **WetChem** Method: **SW846, Chpt.**

DUP Sample ID: **0808043-01DDUP** Units: Analysis Date: **8/4/2008 01:15 PM**

Client ID: Run ID: **WETCHEM_080804D** SeqNo: **1457866** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Burns vigorously and persistently	ND	0	0	0	0	0-0	0	0	0	
Ignites spontaneously	ND	0	0	0	0	0-0	0	0	0	
Ignites through friction	ND	0	0	0	0	0-0	0	0	0	
Ignites under std. temp and pressur	ND	0	0	0	0	0-0	0	0	0	
Ignites with moisture	ND	0	0	0	0	0-0	0	0	0	

The following samples were analyzed in this batch: 0807664-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0807664
Project: T-1227 Disposal

QC BATCH REPORT

Batch ID: **R66225** Instrument ID **WetChem** Method: **SW9045B**

LCS Sample ID: **WLCSS1-080408-R66225** Units: **pH Units** Analysis Date: **8/4/2008 04:30 PM**
Client ID: Run ID: **WETCHEM_080804E** SeqNo: **1458195** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	5.98	0.10	6	0	99.7	90-110	0			

DUP Sample ID: **0807665-05ADUP** Units: **pH Units** Analysis Date: **8/4/2008 04:30 PM**
Client ID: Run ID: **WETCHEM_080804E** SeqNo: **1458230** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.3	0.10	0	0	0	0-0	8.24	0.726	20	

DUP Sample ID: **0808015-02ADUP** Units: **pH Units** Analysis Date: **8/4/2008 04:30 PM**
Client ID: Run ID: **WETCHEM_080804E** SeqNo: **1458237** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.79	0.10	0	0	0	0-0	6.77	0.295	20	

The following samples were analyzed in this batch: 0807664-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

e-Lab Analytical
QUALITY • INTEGRITY • SERVICE

☐ e-Lab Analytical, Inc.
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 1

The Chain of Custody is a Legal Document. All information must be completed accurately.

☐ e-Lab Analytical, Inc.
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

e-Lab Project Manager:

e-Lab Work Order #: 58766

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	T-1227 Disposal	A	TCLP VOAs
Work Order		Project Number		B	TCLP semi VOAs
Company Name	Navajo Refining Co	Bill To Company		C	TCLP Metals
Send Report To	Aaron Strange	Invoice Attn		D	RCI
Address	P.O. Box 159	Address		E	
				F	
City/State/Zip	Artesia NM 88211	City/State/Zip		G	
Phone	575-748-3311	Phone		H	
Fax	575-746-5421	Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	T-1227 Excavation	7/29/08	1440	S	Y	1	X	X	X	X							
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☐ Other ☑ STD. 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by: Aaron Strange — Date: 7/29/08 — Time: 1615

Received by:

Relinquished by: — Date: 7/30/8 — Time: 8.55

Received by (Laboratory): Ken Lyle

Notes:

Logged by (Laboratory): — Date: — Time:

Checked by (Laboratory):

e-Lab Analytical Cooler ID:

Trip Blank Number:

QC Package: (Check One Box Below)

☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other _____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to e-Lab Analytical, Inc.

2. Unless otherwise agreed in a formal contract, services provided by e-Lab Analytical, Inc. are expressly limited to the terms and conditions stated on the reverse.

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ALS Group USA, Corp.

Sample Receipt Checklist

Client Name: NAVAJO REFINING

Date/Time Received: 7/30/2008 08:55

Work Order Number 0807664

Received by: ADM

Checklist completed by [signature] 7/30/08 (Signature / Date)

Reviewed by [initials] 7/31/08 (Initials / Date)

Matrix: S

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.7c	002	
Cooler(s)/Kit(s):	2350		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Adjusted? Checked by

Login Notes:

Client contacted: Date contacted: Person contacted

Contacted by: Regarding:

Comments:

Corrective Action

W.O.# 0507641

ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5856
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 7/29/08 Time: 1615
Name: Aaron Strange
Company: Navajo Refining Co.

Seal Broken By:
Date:

ALS Laboratory Group

Date: 07-Aug-08

Client: ALS Laboratory Group
Project: 0807664
Work Order: **0808009**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0808009-01	0807664-01B	Solid		7/29/2008 14:40	8/1/2008 09:50	☐

ALS Laboratory Group

Date: *07-Aug-08*

Client: ALS Laboratory Group
Project: 0807664
Sample ID: 0807664-01B
Collection Date: 7/29/2008 02:40 PM

Work Order: 0808009
Lab ID: 0808009-01
Matrix: SOLID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**EPA 7.3.3.2**			Analyst: **DB**
Cyanide, Reactive	ND		40.0	mg/Kg	1	8/4/2008
SULFIDE, REACTIVE			**EPA 7.3.4.2**			Analyst: **DB**
Sulfide, Reactive	ND		40.0	mg/Kg	1	8/4/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

ALS Laboratory Group

Client: ALS Laboratory Group
Work Order: 0808009
Project: 0807664

Date: *07-Aug-08*

QC BATCH REPORT

Batch ID: **R60776** Instrument ID **WETCHEM** Method: **EPA 7.3.3.2**

MBLK Sample ID: **WBLKS1-080408** Units: **mg/Kg** Analysis Date: **8/4/2008**
Client ID: Run ID: **WETCHEM_080804I** SeqNo: **1009922** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	ND	40								

LCS Sample ID: **WLCSS1-080408** Units: **mg/Kg** Analysis Date: **8/4/2008**
Client ID: Run ID: **WETCHEM_080804I** SeqNo: **1009923** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	220.2	40	250	0	88.1	75-125	0			

LCSD Sample ID: **WLCSDS1-080408** Units: **mg/Kg** Analysis Date: **8/4/2008**
Client ID: Run ID: **WETCHEM_080804I** SeqNo: **1009930** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	220.2	40	250	0	88.1	75-125	220.2	0	35	

MS Sample ID: **0807531-01A MS** Units: **mg/Kg** Analysis Date: **8/4/2008**
Client ID: Run ID: **WETCHEM_080804I** SeqNo: **1009925** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	249.6	40	250	0	99.8	50-150	0			

MSD Sample ID: **0807531-01A MSD** Units: **mg/Kg** Analysis Date: **8/4/2008**
Client ID: Run ID: **WETCHEM_080804I** SeqNo: **1009926** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	249.6	40	250	0	99.8	50-150	249.6	0	35	

The following samples were analyzed in this batch: 0808009-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: ALS Laboratory Group
Work Order: 0808009
Project: 0807664

QC BATCH REPORT

Batch ID: **R60777** Instrument ID **WETCHEM** Method: **EPA 7.3.4.2**

MBLK Sample ID: **WBLKS1-080408** Units: **mg/Kg** Analysis Date: **8/4/2008**

Client ID: Run ID: **WETCHEM_080804J** SeqNo: **1009931** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide, Reactive	ND	40								

The following samples were analyzed in this batch: 0808009-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

0808009

Subcontractor:
ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424
TEL: (616) 399-6070
FAX: (616) 399-6185
Acct #:

CHAIN-OF-CUSTODY RECORD

Date: 30-Jul-08
COC ID: 6563
Due Date 11-Aug-08

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order	10-2114426	Project Name	0807664	A Cyanide, Reactive (SW-846)
Work Order		Project Number		B Sulfide, Reactive (SW-846)
Company Name	ALS Group USA, Corp.	Bill To Company	ALS Group USA, Corp.	C
Send Report To	Jeffrey L Croston	Inv Attn	Accounts Payable	D
Address	10450 Stancliff Rd, Suite 210	Address	10450 Stancliff Rd, Suite 210	E
				F
City/State/Zip	Houston, Texas 77099-4338	City/State/Zip	Houston, Texas 77099-4338	G
Phone	(281) 530-5656	Phone	(281) 530-5656	H
Fax	(281) 530-5887	Fax	(281) 530-5887	I
eMail Address	jeff.croston@alsenviro.com	eMail CC	glenda.ramos@alsenviro.com	J

	Sample ID	Matrix	Collection Date 24hr	Bottle	A	B	C	D	E	F	G	H	I	J
1	0807664-01B (T-1227 Excavation)	Solid	7/29/2008 14:40	(1) 2OZGNEAT	X	X								

Comments:

Please analyze for Reactive Cyanide and Reactive Sulfide. Report is due on 8/11/08. Please send report to Jeff Croston, jeff.croston@alsenviro.com, and CC: results to Glenda Ramos, glenda.ramos@alsenviro.com

Relinquished by:	Date/Time	Received by:	Date/Time	Cooler IDs	Report/QC Level
Relinquished by:	7/30/08 UPS Date/Time	Received by:	8/1/08 950 Date/Time		STD

ALS USA MI, CORP

Sample Receipt Checklist

Client Name ELAB-HOU

Date/Time Received: 8/1/2008 09:50

Work Order Number 0808009

Received by: AJK

Checklist completed by _____ 8/1/08 (Signature / Date)

Reviewed by _____ 8/1/08 (Initials / Date)

Matrix: Solid

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.6°C		
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Adjusted? _____ Checked by _____

Login Notes:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

0808009

ORIGIN ID: JGQA (281) 530-5656
SHIPPING
ALS LABORATORY GROUP
10450 STANCLIFF
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

Ship Date: 31JUL08
ActWgt: 29.8 LB
System#: 300130/CAFE2356
Account: S *********

TO RECEIVING
E-LAB ANALYTICAL, INC.
3352 128TH AVE.

HOLLAND, MI 49424

(616) 399-6070

FedEx Express

CLS3501107/22/23

Dept: sub

Delivery Address Barcode

BILL SENDER

PRIORITY OVERNIGHT

FRI
Deliver By:
01AUG08

TRK# 6749 3960 4174 Form 0201

GRR AA

49424 -MI-US

NL HLMA

CUSTODY SEAL

Seal Broken By: AB
Date: 8/1/08

Date: 7.31.08
Time: 1430
Name: [illegible]
Company: ALS

ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

FedEx PRIORITY OVERNIGHT

FRI
Deliver By:
01AUG08

Emp# 433555 01:58 01AUG08

TRK# 6749 3960 4174 FORM 0201

GRR

49424 -MI-US

NL HLMA

9.50
0.6c
x4

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

29-May-08

Jeff Byrd
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (505) 746-5468
Fax: (505) 746-5421

Re: Disposal - SRU Hyd

Work Order : **0805461**

Dear Jeff,

e-Lab Analytical, Inc. received 1 sample on 5/21/2008 09:15 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by e-Lab Analytical, Inc. and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by e-Lab Analytical, Inc. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 25.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Jeffrey L Croston

Electronically approved by: Glenda H. Ramos

Jeffrey L Croston
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

Certificate No: T104704231-08-TX

e-Lab Analytical, Inc.

Date: 29-May-08

Client: Navajo Refining Company
Project: Disposal - SRU Hyd
Work Order: **0805461**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0805461-01	SRU Hyd.	Solid		5/20/2008 12:50	5/21/2008 09:15	☐

e-Lab Analytical, Inc.

Date: 29-May-08

Client:	Navajo Refining Company
Project:	Disposal - SRU Hyd
Work Order:	0805461

Case Narrative

Batch R63691 Volatiles MS/MSD was an unrelated sample.

e-Lab Analytical, Inc.

Date: *29-May-08*

Client: Navajo Refining Company
Project: Disposal - SRU Hyd
Work Order: 0805461
Sample ID: SRU Hyd.
Lab ID: 0805461-01
Collection Date: 5/20/2008 12:50 PM
Matrix: SOLID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY			**SW7470**		Prep Date: **5/28/2008**	Analyst: **JMC**
Mercury	ND		0.000200	mg/L	1	5/28/2008 04:11 PM
TCLP METALS, ICP			**SW1311/6020**		Prep Date: **5/22/2008**	Analyst: **ALR**
Arsenic	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
Barium	**1.48**		**0.0500**	**mg/L**	10	5/23/2008 01:34 AM
Cadmium	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
Chromium	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
Lead	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
Selenium	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
Silver	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
TCLP SEMIVOLATILES			**SW1311/8270**		Prep Date: **5/22/2008**	Analyst: **ACN**
2,4,5-Trichlorophenol	ND		5.0	µg/L	1	5/22/2008 06:31 PM
2,4,6-Trichlorophenol	ND		5.0	µg/L	1	5/22/2008 06:31 PM
2,4-Dinitrotoluene	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Cresols, Total	ND		15	µg/L	1	5/22/2008 06:31 PM
Hexachlorobenzene	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Hexachlorobutadiene	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Hexachloroethane	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Nitrobenzene	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Pentachlorophenol	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Pyridine	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Surr: 2,4,6-Tribromophenol	*74.7*		*42-124*	*%REC*	1	5/22/2008 06:31 PM
Surr: 2-Fluorobiphenyl	*84.9*		*48-120*	*%REC*	1	5/22/2008 06:31 PM
Surr: 2-Fluorophenol	*69.1*		*20-120*	*%REC*	1	5/22/2008 06:31 PM
Surr: 4-Terphenyl-d14	*91.1*		*51-135*	*%REC*	1	5/22/2008 06:31 PM
Surr: Nitrobenzene-d5	*77.3*		*41-120*	*%REC*	1	5/22/2008 06:31 PM
Surr: Phenol-d6	*74.9*		*20-120*	*%REC*	1	5/22/2008 06:31 PM
TCLP VOLATILES			**SW1311/8260B**		Prep Date: **5/21/2008**	Analyst: **PC**
1,1-Dichloroethene	ND		100	µg/L	20	5/23/2008 04:55 PM
1,2-Dichloroethane	ND		100	µg/L	20	5/23/2008 04:55 PM
1,4-Dichlorobenzene	ND		100	µg/L	20	5/23/2008 04:55 PM
2-Butanone	ND		200	µg/L	20	5/23/2008 04:55 PM
Benzene	ND		100	µg/L	20	5/23/2008 04:55 PM
Carbon tetrachloride	ND		100	µg/L	20	5/23/2008 04:55 PM
Chlorobenzene	ND		100	µg/L	20	5/23/2008 04:55 PM
Chloroform	ND		100	µg/L	20	5/23/2008 04:55 PM
Tetrachloroethene	ND		100	µg/L	20	5/23/2008 04:55 PM
Trichloroethene	ND		100	µg/L	20	5/23/2008 04:55 PM
Vinyl chloride	ND		100	µg/L	20	5/23/2008 04:55 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc.

Date: *29-May-08*

Client: Navajo Refining Company
Project: Disposal - SRU Hyd
Sample ID: SRU Hyd.
Collection Date: 5/20/2008 12:50 PM

Work Order: 0805461
Lab ID: 0805461-01
Matrix: SOLID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 1,2-Dichloroethane-d4	*103*		*70-125*	*%REC*	20	5/23/2008 04:55 PM
Surr: 4-Bromofluorobenzene	*95.4*		*72-125*	*%REC*	20	5/23/2008 04:55 PM
Surr: Dibromofluoromethane	*119*		*71-125*	*%REC*	20	5/23/2008 04:55 PM
Surr: Toluene-d8	*97.1*		*75-125*	*%REC*	20	5/23/2008 04:55 PM
CYANIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Cyanide	ND		40.0	mg/Kg	1	5/23/2008
SULFIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Sulfide	ND		40.0	mg/Kg	1	5/23/2008
IGNITABILITY FOR SOLIDS			**SW846, CHPT. 7.1.2**			Analyst: **MAM**
Burns vigorously and persistently	**No**				1	5/21/2008 11:00 AM
Ignites spontaneously	**No**				1	5/21/2008 11:00 AM
Ignites through friction	**No**				1	5/21/2008 11:00 AM
Ignites under std. temp and pressure	**No**				1	5/21/2008 11:00 AM
Ignites with moisture	**No**				1	5/21/2008 11:00 AM
PH IN SOLID			**SW9045B**			Analyst: **MAM**
pH	**9.23**		**0.100**	**pH Units**	1	5/21/2008 07:15 PM

Qualifiers:

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E - Value above quantitation range
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e-Lab Analytical, Inc.

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

Date: *29-May-08*

QC BATCH REPORT

Batch ID: **29869** Instrument ID **ICPMS02** Method: **SW1311/6020**

MBLK Sample ID: **MBLKW1-052208** Units: **mg/L** Analysis Date: **5/22/2008 05:03 PM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401133** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

MBLK Sample ID: **MBLKT1-052108** Units: **mg/L** Analysis Date: **5/23/2008 01:46 AM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401603** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

LCS Sample ID: **MLCSW1-052208** Units: **mg/L** Analysis Date: **5/22/2008 05:09 PM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401135** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1915	0.050	0.2	0	95.8	80-120	0			
Barium	0.1955	0.050	0.2	0	97.8	80-120	0			
Cadmium	0.1931	0.050	0.2	0	96.6	80-120	0			
Chromium	0.1854	0.050	0.2	0	92.7	80-120	0			
Lead	0.1981	0.050	0.2	0	99	80-120	0			
Selenium	0.1921	0.050	0.2	0	96	80-120	0			
Silver	0.1917	0.050	0.2	0	95.8	80-120	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **29869** Instrument ID **ICPMS02** Method: **SW1311/6020**

MS Sample ID: **0805460-01CMS** Units: **mg/L** Analysis Date: **5/22/2008 05:41 PM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401194** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.184	0.050	0.2	0.003175	90.4	75-125	0			
Barium	0.3385	0.050	0.2	0.1716	83.4	75-125	0			
Cadmium	0.1794	0.050	0.2	0.001084	89.2	75-125	0			
Chromium	0.1685	0.050	0.2	0.002932	82.8	75-125	0			
Lead	0.1947	0.050	0.2	0.01414	90.3	75-125	0			
Selenium	0.18	0.050	0.2	0.01884	80.6	75-125	0			
Silver	0.1699	0.050	0.2	-0.00228	86.1	75-125	0			

MSD Sample ID: **0805460-01CMSD** Units: **mg/L** Analysis Date: **5/22/2008 05:47 PM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401201** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2048	0.050	0.2	0.003175	101	75-125	0.184	10.7	25	
Barium	0.3466	0.050	0.2	0.1716	87.5	75-125	0.3385	2.36	25	
Cadmium	0.1816	0.050	0.2	0.001084	90.3	75-125	0.1794	1.22	25	
Chromium	0.1825	0.050	0.2	0.002932	89.8	75-125	0.1685	7.98	25	
Lead	0.2	0.050	0.2	0.01414	92.9	75-125	0.1947	2.69	25	
Selenium	0.2094	0.050	0.2	0.01884	95.3	75-125	0.18	15.1	25	
Silver	0.1726	0.050	0.2	-0.00228	87.4	75-125	0.1699	1.58	25	

DUP Sample ID: **0805460-01CDUP** Units: **mg/L** Analysis Date: **5/22/2008 05:28 PM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401192** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050	0	0	0	0-0	0.003175	0	25	
Barium	0.1719	0.050	0	0	0	0-0	0.1716	0.175	25	
Cadmium	ND	0.050	0	0	0	0-0	0.001084	0	25	
Chromium	ND	0.050	0	0	0	0-0	0.002932	0	25	
Lead	0.0149	0.050	0	0	0	0-0	0.01414	0	25	J
Selenium	ND	0.050	0	0	0	0-0	0.01884	0	25	
Silver	ND	0.050	0	0	0	0-0	-0.00228	0	25	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **29947** Instrument ID **Mercury** Method: **SW7470**

MBLK Sample ID: **GBLKW1-052808** Units: **mg/L** Analysis Date: **5/28/2008 03:41 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405177** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

MBLK Sample ID: **GBLKT1-052708** Units: **mg/L** Analysis Date: **5/28/2008 03:59 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405186** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS Sample ID: **GLCSW1-052808** Units: **mg/L** Analysis Date: **5/28/2008 03:43 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405178** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00486	0.00020	0.005	0	97.2	80-120	0			

LCSD Sample ID: **GLCSDW1-052808** Units: **mg/L** Analysis Date: **5/28/2008 03:45 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405179** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00485	0.00020	0.005	0	97	80-120	0.00486	0.206	25	

MS Sample ID: **0805581-07AMS** Units: **mg/L** Analysis Date: **5/28/2008 03:51 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405182** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00519	0.00020	0.005	-0.000023	104	75-125	0			

MSD Sample ID: **0805581-07AMSD** Units: **mg/L** Analysis Date: **5/28/2008 03:53 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405183** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00515	0.00020	0.005	-0.000023	103	75-125	0.00519	0.774	20	

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **29947** Instrument ID **Mercury** Method: **SW7470**

DUP Sample ID: **0805581-07ADUP** Units: **mg/L** Analysis Date: **5/28/2008 03:49 PM**

Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405181** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	-0.000023	0	20	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **29861** Instrument ID **SV-3** Method: **SW1311/8270**

MBLK Sample ID: **SBLKT1-080522** Units: **µg/L** Analysis Date: **5/22/2008 02:58 PM**

Client ID: Run ID: **SV-3_080522A** SeqNo: **1401265** Prep Date: **5/22/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Cresols, Total	ND	15								
Hexachlorobenzene	ND	5.0								
Hexachlorobutadiene	ND	5.0								
Hexachloroethane	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Pyridine	ND	5.0								
Surr: 2,4,6-Tribromophenol	*66.52*	5.0	*100*	0	*66.5*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*80.35*	5.0	*100*	0	*80.3*	*48-120*	0			
Surr: 2-Fluorophenol	*65.77*	5.0	*100*	0	*65.8*	*20-120*	0			
Surr: 4-Terphenyl-d14	*84.59*	5.0	*100*	0	*84.6*	*51-135*	0			
Surr: Nitrobenzene-d5	*67.68*	5.0	*100*	0	*67.7*	*41-120*	0			
Surr: Phenol-d6	*65.18*	5.0	*100*	0	*65.2*	*20-120*	0			

LCS Sample ID: **SLCST1-080522** Units: **µg/L** Analysis Date: **5/22/2008 03:51 PM**

Client ID: Run ID: **SV-3_080522A** SeqNo: **1401266** Prep Date: **5/22/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	72.17	5.0	100	0	72.2	52-115	0			
2,4,6-Trichlorophenol	79.31	5.0	100	0	79.3	53-115	0			
2,4-Dinitrotoluene	39.32	5.0	50	0	78.6	56-115	0			
Cresols, Total	181.8	15	250	0	72.7	35-115	0			
Hexachlorobenzene	36.73	5.0	50	0	73.5	54-115	0			
Hexachlorobutadiene	39.91	5.0	50	0	79.8	51-115	0			
Hexachloroethane	36.6	5.0	50	0	73.2	54-115	0			
Nitrobenzene	36.67	5.0	50	0	73.3	40-124	0			
Pentachlorophenol	78.07	5.0	100	0	78.1	45-125	0			
Pyridine	32.68	5.0	50	0	65.4	34-115	0			
Surr: 2,4,6-Tribromophenol	*70.13*	5.0	*100*	0	*70.1*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*76.24*	5.0	*100*	0	*76.2*	*48-120*	0			
Surr: 2-Fluorophenol	*67.3*	5.0	*100*	0	*67.3*	*20-120*	0			
Surr: 4-Terphenyl-d14	*76.06*	5.0	*100*	0	*76.1*	*51-135*	0			
Surr: Nitrobenzene-d5	*69.17*	5.0	*100*	0	*69.2*	*41-120*	0			
Surr: Phenol-d6	*69.69*	5.0	*100*	0	*69.7*	*20-120*	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **29861** Instrument ID **SV-3** Method: **SW1311/8270**

LCSD Sample ID: **SLCSDT1-080522** Units: **µg/L** Analysis Date: **5/22/2008 04:18 PM**

Client ID: Run ID: **SV-3_080522A** SeqNo: **1401267** Prep Date: **5/22/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	68.04	5.0	100	0	68	52-115	72.17	5.89	25	
2,4,6-Trichlorophenol	73.83	5.0	100	0	73.8	53-115	79.31	7.16	25	
2,4-Dinitrotoluene	39.58	5.0	50	0	79.2	56-115	39.32	0.653	25	
Cresols, Total	171.3	15	250	0	68.5	35-115	181.8	5.94	25	
Hexachlorobenzene	38.03	5.0	50	0	76.1	54-115	36.73	3.48	25	
Hexachlorobutadiene	38.3	5.0	50	0	76.6	51-115	39.91	4.13	25	
Hexachloroethane	37.59	5.0	50	0	75.2	54-115	36.6	2.67	25	
Nitrobenzene	38	5.0	50	0	76	40-124	36.67	3.57	25	
Pentachlorophenol	77.59	5.0	100	0	77.6	45-125	78.07	0.618	25	
Pyridine	34.61	5.0	50	0	69.2	34-115	32.68	5.73	25	
Surr: 2,4,6-Tribromophenol	*66.68*	5.0	*100*	0	*66.7*	*42-124*	70.13	*5.05*	*25*	
Surr: 2-Fluorobiphenyl	*74.12*	5.0	*100*	0	*74.1*	*48-120*	76.24	*2.83*	*25*	
Surr: 2-Fluorophenol	*69.18*	5.0	*100*	0	*69.2*	*20-120*	67.3	*2.75*	*25*	
Surr: 4-Terphenyl-d14	*78.95*	5.0	*100*	0	*78.9*	*51-135*	76.06	*3.72*	*25*	
Surr: Nitrobenzene-d5	*69.55*	5.0	*100*	0	*69.5*	*41-120*	69.17	*0.542*	*25*	
Surr: Phenol-d6	*67.05*	5.0	*100*	0	*67*	*20-120*	69.69	*3.86*	*25*	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **R63691** Instrument ID **VOA1** Method: **SW1311/8260**

MBLK Sample ID: **VBLKW-052308** Units: **µg/L** Analysis Date: **5/23/2008 11:44 AM**

Client ID: Run ID: **VOA1_080523C** SeqNo: **1403182** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2-Butanone	ND	10								
Benzene	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroform	ND	5.0								
Tetrachloroethene	ND	5.0								
Trichloroethene	ND	5.0								
Vinyl chloride	ND	5.0								
Surr: 1,2-Dichloroethane-d4	*48.09*	5.0	*50*	0	*96.2*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*47.64*	5.0	*50*	0	*95.3*	*72.4-125*	0			
Surr: Dibromofluoromethane	*55.31*	5.0	*50*	0	*111*	*71.2-125*	0			
Surr: Toluene-d8	*49.19*	5.0	*50*	0	*98.4*	*75-125*	0			

LCS Sample ID: **VLCSW-052308** Units: **µg/L** Analysis Date: **5/23/2008 10:53 AM**

Client ID: Run ID: **VOA1_080523C** SeqNo: **1403181** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	39.69	5.0	50	0	79.4	73-124	0			
1,2-Dichloroethane	48.7	5.0	50	0	97.4	76-120	0			
1,4-Dichlorobenzene	48.75	5.0	50	0	97.5	70-130	0			
2-Butanone	116.4	10	100	0	116	70-130	0			
Benzene	49.18	5.0	50	0	98.4	70-128	0			
Carbon tetrachloride	50.37	5.0	50	0	101	70-130	0			
Chlorobenzene	46.26	5.0	50	0	92.5	72-127	0			
Chloroform	49.86	5.0	50	0	99.7	70-130	0			
Tetrachloroethene	47.62	5.0	50	0	95.2	70-130	0			
Trichloroethene	48.02	5.0	50	0	96	72-129	0			
Vinyl chloride	46.37	5.0	50	0	92.7	70-130	0			
Surr: 1,2-Dichloroethane-d4	*50.97*	5.0	*50*	0	*102*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*48.67*	5.0	*50*	0	*97.3*	*72-125*	0			
Surr: Dibromofluoromethane	*57.24*	5.0	*50*	0	*114*	*71-125*	0			
Surr: Toluene-d8	*48.36*	5.0	*50*	0	*96.7*	*75-125*	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **R63691** Instrument ID **VOA1** Method: **SW1311/8260**

MS Sample ID: **0805486-08AMS** Units: **µg/L** Analysis Date: **5/23/2008 04:03 PM**
Client ID: Run ID: **VOA1_080523C** SeqNo: **1403186** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	33.31	5.0	50	0	66.6	73-124	0			S
1,2-Dichloroethane	47.96	5.0	50	0	95.9	76-120	0			
1,4-Dichlorobenzene	44.56	5.0	50	0	89.1	70-130	0			
2-Butanone	99.29	10	100	0	99.3	70-130	0			
Benzene	48.38	5.0	50	0.7944	95.2	70-128	0			
Carbon tetrachloride	42.3	5.0	50	0	84.6	70-130	0			
Chlorobenzene	46.88	5.0	50	0	93.8	72-127	0			
Chloroform	47.05	5.0	50	0	94.1	70-130	0			
Tetrachloroethene	39.71	5.0	50	0	79.4	70-130	0			
Trichloroethene	44.23	5.0	50	0	88.5	72-129	0			
Vinyl chloride	37.97	5.0	50	0	75.9	70-130	0			
Surr: 1,2-Dichloroethane-d4	*51.47*	5.0	*50*	0	*103*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*48.91*	5.0	*50*	0	*97.8*	*72-125*	0			
Surr: Dibromofluoromethane	*54.41*	5.0	*50*	0	*109*	*71-125*	0			
Surr: Toluene-d8	*48.87*	5.0	*50*	0	*97.7*	*75-125*	0			

MSD Sample ID: **0805486-08AMSD** Units: **µg/L** Analysis Date: **5/23/2008 04:29 PM**
Client ID: Run ID: **VOA1_080523C** SeqNo: **1403187** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	34.1	5.0	50	0	68.2	73-124	33.31	2.36	20	S
1,2-Dichloroethane	48.86	5.0	50	0	97.7	76-120	47.96	1.86	20	
1,4-Dichlorobenzene	47.64	5.0	50	0	95.3	70-130	44.56	6.67	20	
2-Butanone	105.4	10	100	0	105	70-130	99.29	5.99	20	
Benzene	47.5	5.0	50	0.7944	93.4	70-128	48.38	1.84	20	
Carbon tetrachloride	44.44	5.0	50	0	88.9	70-130	42.3	4.95	20	
Chlorobenzene	45.37	5.0	50	0	90.7	72-127	46.88	3.29	20	
Chloroform	45.72	5.0	50	0	91.4	70-130	47.05	2.87	20	
Tetrachloroethene	41.94	5.0	50	0	83.9	70-130	39.71	5.46	20	
Trichloroethene	46.62	5.0	50	0	93.2	72-129	44.23	5.24	20	
Vinyl chloride	39.71	5.0	50	0	79.4	70-130	37.97	4.48	20	
Surr: 1,2-Dichloroethane-d4	*48.61*	5.0	*50*	0	*97.2*	*70-125*	51.47	*5.72*	*20*	
Surr: 4-Bromofluorobenzene	*48.24*	5.0	*50*	0	*96.5*	*72-125*	48.91	*1.37*	*20*	
Surr: Dibromofluoromethane	*53.69*	5.0	*50*	0	*107*	*71-125*	54.41	*1.32*	*20*	
Surr: Toluene-d8	*49.72*	5.0	*50*	0	*99.4*	*75-125*	48.87	*1.72*	*20*	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **R63444** Instrument ID **WetChem** Method: **SW846, Chpt.**

DUP Sample ID: **0805460-01CDUP** Units: Analysis Date: **5/21/2008 11:00 AM**

Client ID: Run ID: **WETCHEM_080521A** SeqNo: **1399421** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Burns vigorously and persistently	ND	0	0	0	0	0-0	0	0	0	
Ignites spontaneously	ND	0	0	0	0	0-0	0	0	0	
Ignites through friction	ND	0	0	0	0	0-0	0	0	0	
Ignites under std. temp and pressur	ND	0	0	0	0	0-0	0	0	0	
Ignites with moisture	ND	0	0	0	0	0-0	0	0	0	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **R63468** Instrument ID **WetChem** Method: **SW9045B**

LCS Sample ID: **WLCSS1-052108** Units: **pH Units** Analysis Date: **5/21/2008 07:15 PM**

Client ID: Run ID: **WETCHEM_080521F** SeqNo: **1399863** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.06	0.10	6	0	101	90-110	0			

DUP Sample ID: **0805461-01ADUP** Units: **pH Units** Analysis Date: **5/21/2008 07:15 PM**

Client ID: **SRU Hyd.** Run ID: **WETCHEM_080521F** SeqNo: **1399866** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	9.22	0.10	0	0	0	0-0	9.22	0	20	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

e-Lab Analytical, Inc.
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 1

e-Lab Analytical, Inc.
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

QUALITY • INTEGRITY • SERVICE

Project Manager: | Work Order #: 8054H5

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Disposal - SRU Hyd	A	TCLP VOA's
Work Order		Project Number		B	TCLP Semi VOA's
Company Name	Navajo Refining Company	Bill To Company	Navajo Refining Company	C	TCLP Metals
Send Report To		Invoice Attn		D	RCI
Address	P.O. Box 159	Address	P.O. Box 159	E	
				F	
City/State/Zip	Artesia, NM 88211	City/State/Zip	Artesia, NM 88211	G	
Phone	(505) 748-3311	Phone	(505) 748-3311	H	
Fax	(505) 746-5421	Fax	(505) 746-5421	I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SRU Hyd.	5/20/08	1250	S	4	1	X	X	X	X							
2																	
3																	
4																	
5																	
6																	

se Print & Sign: [signature] [signature]

Shipment Method: FedEx

Required Turnaround Time: (Check Box) — Std 10 WK Days | 5 WK Days | 2 WK Days | 24 Hour | Other

Results Due Date:

Date: 5/20/08 Time: 1615 Received by:

Date: Time: Received by (Laboratory): 5/21/08 09:15

Date: Time: Checked by (Laboratory):

Notes:

Cooler ID: | Cooler Temp:

QC Package: (Check One Box Below)
- ☐ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other
- ☐ TRRP CheckList
- ☐ TRRP Level IV

2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-NaHSO 7-Other 8-4°C 9-5035

e made in writing once samples and COC Form have been submitted to e-Lab Analytical, Inc.
d in a formal contract, services provided by e-Lab Analytical, Inc. are expressly limited to the terms and conditions stated on the reverse.

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Sample Receipt Checklist

Client Name: NAVAJO REFINING | Date/Time Received: 5/21/2008 09:15

Work Order Number 0805461 | Received by: RNG

Checklist completed by [signature] Signature 5/21/08 Date | Reviewed by [initials] Initials 5/22/08 Date

Matrix: S | Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.7c	002	
Cooler(s)/Kit(s):	1807		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Adjusted? Checked by

Login Notes:

Client contacted: Date contacted: Person contacted

Contacted by: Regarding:

Comments:

Corrective Action

W.O# 080

STANDARD OVERNIGHT WED

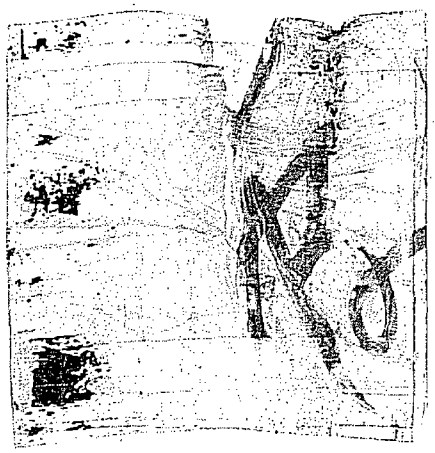
Emp# 515149 00:55 21MAY08

Trk# 9391 8021 6628 FORM 0201

Deliver By: 21MAY08

77099 TX-US IAH

AB JGQA



ALS Laboratory Group

Date: 26-May-08

Client: ALS Laboratory Group
Project: 0805461
Work Order: **0805440**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0805440-01	0805461-01B	Solid		5/20/2008 12:50	5/22/2008 10:00	☐

ALS Laboratory Group

Date: *26-May-08*

Client: ALS Laboratory Group
Project: 0805461
Work Order: 0805440
Sample ID: 0805461-01B
Lab ID: 0805440-01
Collection Date: 5/20/2008 12:50 PM
Matrix: SOLID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**EPA 7.3.3.2**			Analyst: **DB**
Cyanide, Reactive	ND		40.0	mg/Kg	1	5/23/2008
SULFIDE, REACTIVE			**EPA 7.3.4.2**			Analyst: **DB**
Sulfide, Reactive	ND		40.0	mg/Kg	1	5/23/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

ALS Laboratory Group

Client: ALS Laboratory Group
Work Order: 0805440
Project: 0805461

Date: *26-May-08*

QC BATCH REPORT

Batch ID: **R58878** Instrument ID **WETCHEM** Method: **EPA 7.3.3.2**

MBLK Sample ID: **WBLKS1-052308** Units: **mg/Kg** Analysis Date: **5/23/2008**
Client ID: Run ID: **WETCHEM_080523C** SeqNo: **974789** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	ND	40								

LCS Sample ID: **WLCSS1-052308** Units: **mg/Kg** Analysis Date: **5/23/2008**
Client ID: Run ID: **WETCHEM_080523C** SeqNo: **974790** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	220.2	40	250	0	88.1	75-125	0			

LCSD Sample ID: **WLCSDS1-052308** Units: **mg/Kg** Analysis Date: **5/23/2008**
Client ID: Run ID: **WETCHEM_080523C** SeqNo: **974796** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	220.2	40	250	0	88.1	75-125	220.2	0	35	

MS Sample ID: **0805439-01A MS** Units: **mg/Kg** Analysis Date: **5/23/2008**
Client ID: Run ID: **WETCHEM_080523C** SeqNo: **974797** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	264.2	40	250	0	106	50-150	0			

MSD Sample ID: **0805439-01A MSD** Units: **mg/Kg** Analysis Date: **5/23/2008**
Client ID: Run ID: **WETCHEM_080523C** SeqNo: **974798** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	264.2	40	250	0	106	50-150	264.2	0	35	

The following samples were analyzed in this batch: 0805440-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: ALS Laboratory Group
Work Order: 0805440
Project: 0805461

QC BATCH REPORT

Batch ID: **R58879** Instrument ID **WETCHEM** Method: **EPA 7.3.4.2**

MBLK Sample ID: **WBLKS1-052308** Units: **mg/Kg** Analysis Date: **5/23/2008**

Client ID: Run ID: **WETCHEM_080523D** SeqNo: **974799** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide, Reactive	ND	40								

The following samples were analyzed in this batch: 0805440-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

0805440

Subcontractor:
e-Lab Analytical, Inc.
3352 128th Ave.
Holland, MI 49424

TEL: (616) 399-6070
FAX: (616) 399-6185
Acct #:

CHAIN-OF-CUSTODY RECORD

Date: 21-May-08
COC ID: 6377
Due Date 27-May-08

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order	2114068	Project Name	0805461	A Cyanide, Reactive (SW-846)
Work Order		Project Number		B Sulfide, Reactive (SW-846)
Company Name	e-Lab Analytical, Inc.	Bill To Company	e-Lab Analytical, Inc.	C
Send Report To	Jeffrey L Croston	Inv Attn	Accounts Payable	D
Address	10450 Stancliff Rd, Suite 210	Address	10450 Stancliff Rd, Suite 210	E
				F
City/State/Zip	Houston, Texas 77099-4338	City/State/Zip	Houston, Texas 77099-4338	G
Phone	(281) 530-5656	Phone	(281) 530-5656	H
Fax	(281) 530-5887	Fax	(281) 530-5887	I
eMail Address	jeff.croston@alsenviro.com	eMail CC	glenda.ramos@alsenviro.com	J

Sample ID	Matrix	Collection Date 24hr	Bottle	A	B	C	D	E	F	G	H	I	J
0805461-01B (SRV Hyd.)	Solid	5/20/2008 12:50	(1) 2OZGNEAT	X	X								

Comments:

Please analyze for Reactive Cyanide and Reactive Sulfide. Report is due on 5/27/08. Please send report to Jeff Croston, jeff.croston@alsenviro.com, and CC: results to Glenda Ramos, glenda.ramos@alsenviro.com

Relinquished by:	Date/Time	Received by:	Date/Time	Cooler IDs	Report/QC Level
Relinquished by:	5/21/08 UPS Date/Time	Received by:	5/22/08 1000 Date/Time		SKI

ALS Laboratory Group

Sample Receipt Checklist

Client Name ELAB-HOU

Date/Time Received: 5/22/2008 10:00

Work Order Number 0805440

Received by: AJK

Checklist completed by _____ 5/22/08
Signature | Date

Reviewed by _____ 5/23/08
Initials | Date

Matrix: Solid

Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.4°C		
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Adjusted? _____ Checked by _____

Login Notes:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Next Day Air Saver

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REFERENCE NUMBER

SUB CONTRACT

RICHARD SANCHEZ

TELEPHONE 281-530-5656

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TX 77099

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RY GROUP

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HOLLAND MI 49424

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M220-RDL

1500

1Z 698 174 23 1005 3929

1256391 SS2004 US 04950 May 22 08:07:20 2006 XIP 7.0.1 INT4420

e-Lab

QUALITY · INTEGRITY · SERVICE

e-Lab Analytical, Inc.
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. 281.530.5656
Fax. 218.530.5887

CUSTODY SEAL

Date: 5-21-08 Time: 1430

Name: RICHARD SANCHEZ

Company: ACS

0805440

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

29-May-08

Jeff Byrd
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (505) 746-5468
Fax: (505) 746-5421

Re: Disposal - SRU Hyd

Work Order : **0805461**

Dear Jeff,

e-Lab Analytical, Inc. received 1 sample on 5/21/2008 09:15 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by e-Lab Analytical, Inc. and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by e-Lab Analytical, Inc. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 25.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Jeffrey L Croston

Electronically approved by: Glenda H. Ramos

Jeffrey L Croston
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

Certificate No: T104704231-08-TX

e-Lab Analytical, Inc.

Date: 29-May-08

Client: Navajo Refining Company
Project: Disposal - SRU Hyd
Work Order: **0805461**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0805461-01	SRU Hyd.	Solid		5/20/2008 12:50	5/21/2008 09:15	☐

e-Lab Analytical, Inc.

Date: 29-May-08

Client: Navajo Refining Company
Project: Disposal - SRU Hyd
Work Order: 0805461

Case Narrative

Batch R63691 Volatiles MS/MSD was an unrelated sample.

e-Lab Analytical, Inc.

Date: *29-May-08*

Client: Navajo Refining Company
Project: Disposal - SRU Hyd
Work Order: 0805461
Sample ID: SRU Hyd.
Lab ID: 0805461-01
Collection Date: 5/20/2008 12:50 PM
Matrix: SOLID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP MERCURY			**SW7470**		Prep Date: **5/28/2008**	Analyst: **JMC**
Mercury	ND		0.000200	mg/L	1	5/28/2008 04:11 PM
TCLP METALS, ICP			**SW1311/6020**		Prep Date: **5/22/2008**	Analyst: **ALR**
Arsenic	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
Barium	**1.48**		**0.0500**	**mg/L**	10	5/23/2008 01:34 AM
Cadmium	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
Chromium	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
Lead	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
Selenium	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
Silver	ND		0.0500	mg/L	10	5/23/2008 01:34 AM
TCLP SEMIVOLATILES			**SW1311/8270**		Prep Date: **5/22/2008**	Analyst: **ACN**
2,4,5-Trichlorophenol	ND		5.0	µg/L	1	5/22/2008 06:31 PM
2,4,6-Trichlorophenol	ND		5.0	µg/L	1	5/22/2008 06:31 PM
2,4-Dinitrotoluene	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Cresols, Total	ND		15	µg/L	1	5/22/2008 06:31 PM
Hexachlorobenzene	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Hexachlorobutadiene	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Hexachloroethane	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Nitrobenzene	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Pentachlorophenol	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Pyridine	ND		5.0	µg/L	1	5/22/2008 06:31 PM
Surr: 2,4,6-Tribromophenol	*74.7*		*42-124*	*%REC*	1	5/22/2008 06:31 PM
Surr: 2-Fluorobiphenyl	*84.9*		*48-120*	*%REC*	1	5/22/2008 06:31 PM
Surr: 2-Fluorophenol	*69.1*		*20-120*	*%REC*	1	5/22/2008 06:31 PM
Surr: 4-Terphenyl-d14	*91.1*		*51-135*	*%REC*	1	5/22/2008 06:31 PM
Surr: Nitrobenzene-d5	*77.3*		*41-120*	*%REC*	1	5/22/2008 06:31 PM
Surr: Phenol-d6	*74.9*		*20-120*	*%REC*	1	5/22/2008 06:31 PM
TCLP VOLATILES			**SW1311/8260B**		Prep Date: **5/21/2008**	Analyst: **PC**
1,1-Dichloroethene	ND		100	µg/L	20	5/23/2008 04:55 PM
1,2-Dichloroethane	ND		100	µg/L	20	5/23/2008 04:55 PM
1,4-Dichlorobenzene	ND		100	µg/L	20	5/23/2008 04:55 PM
2-Butanone	ND		200	µg/L	20	5/23/2008 04:55 PM
Benzene	ND		100	µg/L	20	5/23/2008 04:55 PM
Carbon tetrachloride	ND		100	µg/L	20	5/23/2008 04:55 PM
Chlorobenzene	ND		100	µg/L	20	5/23/2008 04:55 PM
Chloroform	ND		100	µg/L	20	5/23/2008 04:55 PM
Tetrachloroethene	ND		100	µg/L	20	5/23/2008 04:55 PM
Trichloroethene	ND		100	µg/L	20	5/23/2008 04:55 PM
Vinyl chloride	ND		100	µg/L	20	5/23/2008 04:55 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc.

Date: *29-May-08*

Client: Navajo Refining Company
Project: Disposal - SRU Hyd
Sample ID: SRU Hyd.
Collection Date: 5/20/2008 12:50 PM

Work Order: 0805461
Lab ID: 0805461-01
Matrix: SOLID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 1,2-Dichloroethane-d4	*103*		*70-125*	*%REC*	20	5/23/2008 04:55 PM
Surr: 4-Bromofluorobenzene	*95.4*		*72-125*	*%REC*	20	5/23/2008 04:55 PM
Surr: Dibromofluoromethane	*119*		*71-125*	*%REC*	20	5/23/2008 04:55 PM
Surr: Toluene-d8	*97.1*		*75-125*	*%REC*	20	5/23/2008 04:55 PM
CYANIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Cyanide	ND		40.0	mg/Kg	1	5/23/2008
SULFIDE, REACTIVE			**SW-846**			Analyst: **MAG**
Reactive Sulfide	ND		40.0	mg/Kg	1	5/23/2008
IGNITABILITY FOR SOLIDS			**SW846, CHPT. 7.1.2**			Analyst: **MAM**
Burns vigorously and persistently	**No**				1	5/21/2008 11:00 AM
Ignites spontaneously	**No**				1	5/21/2008 11:00 AM
Ignites through friction	**No**				1	5/21/2008 11:00 AM
Ignites under std. temp and pressure	**No**				1	5/21/2008 11:00 AM
Ignites with moisture	**No**				1	5/21/2008 11:00 AM
PH IN SOLID			**SW9045B**			Analyst: **MAM**
pH	**9.23**		**0.100**	**pH Units**	1	5/21/2008 07:15 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

e-Lab Analytical, Inc.

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

Date: *29-May-08*

QC BATCH REPORT

Batch ID: **29869** Instrument ID **ICPMS02** Method: **SW1311/6020**

MBLK Sample ID: **MBLKW1-052208** Units: **mg/L** Analysis Date: **5/22/2008 05:03 PM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401133** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

MBLK Sample ID: **MBLKT1-052108** Units: **mg/L** Analysis Date: **5/23/2008 01:46 AM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401603** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050								
Barium	ND	0.050								
Cadmium	ND	0.050								
Chromium	ND	0.050								
Lead	ND	0.050								
Selenium	ND	0.050								
Silver	ND	0.050								

LCS Sample ID: **MLCSW1-052208** Units: **mg/L** Analysis Date: **5/22/2008 05:09 PM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401135** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1915	0.050	0.2	0	95.8	80-120	0			
Barium	0.1955	0.050	0.2	0	97.8	80-120	0			
Cadmium	0.1931	0.050	0.2	0	96.6	80-120	0			
Chromium	0.1854	0.050	0.2	0	92.7	80-120	0			
Lead	0.1981	0.050	0.2	0	99	80-120	0			
Selenium	0.1921	0.050	0.2	0	96	80-120	0			
Silver	0.1917	0.050	0.2	0	95.8	80-120	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **29869** Instrument ID **ICPMS02** Method: **SW1311/6020**

MS Sample ID: **0805460-01CMS** Units: **mg/L** Analysis Date: **5/22/2008 05:41 PM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401194** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.184	0.050	0.2	0.003175	90.4	75-125	0			
Barium	0.3385	0.050	0.2	0.1716	83.4	75-125	0			
Cadmium	0.1794	0.050	0.2	0.001084	89.2	75-125	0			
Chromium	0.1685	0.050	0.2	0.002932	82.8	75-125	0			
Lead	0.1947	0.050	0.2	0.01414	90.3	75-125	0			
Selenium	0.18	0.050	0.2	0.01884	80.6	75-125	0			
Silver	0.1699	0.050	0.2	-0.00228	86.1	75-125	0			

MSD Sample ID: **0805460-01CMSD** Units: **mg/L** Analysis Date: **5/22/2008 05:47 PM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401201** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2048	0.050	0.2	0.003175	101	75-125	0.184	10.7	25	
Barium	0.3466	0.050	0.2	0.1716	87.5	75-125	0.3385	2.36	25	
Cadmium	0.1816	0.050	0.2	0.001084	90.3	75-125	0.1794	1.22	25	
Chromium	0.1825	0.050	0.2	0.002932	89.8	75-125	0.1685	7.98	25	
Lead	0.2	0.050	0.2	0.01414	92.9	75-125	0.1947	2.69	25	
Selenium	0.2094	0.050	0.2	0.01884	95.3	75-125	0.18	15.1	25	
Silver	0.1726	0.050	0.2	-0.00228	87.4	75-125	0.1699	1.58	25	

DUP Sample ID: **0805460-01CDUP** Units: **mg/L** Analysis Date: **5/22/2008 05:28 PM**
Client ID: Run ID: **ICPMS02_080522A** SeqNo: **1401192** Prep Date: **5/22/2008** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.050	0	0	0	0-0	0.003175	0	25	
Barium	0.1719	0.050	0	0	0	0-0	0.1716	0.175	25	
Cadmium	ND	0.050	0	0	0	0-0	0.001084	0	25	
Chromium	ND	0.050	0	0	0	0-0	0.002932	0	25	
Lead	0.0149	0.050	0	0	0	0-0	0.01414	0	25	J
Selenium	ND	0.050	0	0	0	0-0	0.01884	0	25	
Silver	ND	0.050	0	0	0	0-0	-0.00228	0	25	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **29947** Instrument ID **Mercury** Method: **SW7470**

MBLK Sample ID: **GBLKW1-052808** Units: **mg/L** Analysis Date: **5/28/2008 03:41 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405177** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

MBLK Sample ID: **GBLKT1-052708** Units: **mg/L** Analysis Date: **5/28/2008 03:59 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405186** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS Sample ID: **GLCSW1-052808** Units: **mg/L** Analysis Date: **5/28/2008 03:43 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405178** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00486	0.00020	0.005	0	97.2	80-120	0			

LCSD Sample ID: **GLCSDW1-052808** Units: **mg/L** Analysis Date: **5/28/2008 03:45 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405179** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00485	0.00020	0.005	0	97	80-120	0.00486	0.206	25	

MS Sample ID: **0805581-07AMS** Units: **mg/L** Analysis Date: **5/28/2008 03:51 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405182** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00519	0.00020	0.005	-0.000023	104	75-125	0			

MSD Sample ID: **0805581-07AMSD** Units: **mg/L** Analysis Date: **5/28/2008 03:53 PM**
Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405183** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00515	0.00020	0.005	-0.000023	103	75-125	0.00519	0.774	20	

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O - Referenced analyte value is > 4 times amount spiked
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R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **29947** Instrument ID **Mercury** Method: **SW7470**

DUP Sample ID: **0805581-07ADUP** Units: **mg/L** Analysis Date: **5/28/2008 03:49 PM**

Client ID: Run ID: **MERCURY_080528A** SeqNo: **1405181** Prep Date: **5/28/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	-0.000023	0	20	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **29861** Instrument ID **SV-3** Method: **SW1311/8270**

MBLK Sample ID: **SBLKT1-080522** Units: **µg/L** Analysis Date: **5/22/2008 02:58 PM**
Client ID: Run ID: **SV-3_080522A** SeqNo: **1401265** Prep Date: **5/22/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Cresols, Total	ND	15								
Hexachlorobenzene	ND	5.0								
Hexachlorobutadiene	ND	5.0								
Hexachloroethane	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Pyridine	ND	5.0								
Surr: 2,4,6-Tribromophenol	*66.52*	5.0	*100*	0	*66.5*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*80.35*	5.0	*100*	0	*80.3*	*48-120*	0			
Surr: 2-Fluorophenol	*65.77*	5.0	*100*	0	*65.8*	*20-120*	0			
Surr: 4-Terphenyl-d14	*84.59*	5.0	*100*	0	*84.6*	*51-135*	0			
Surr: Nitrobenzene-d5	*67.68*	5.0	*100*	0	*67.7*	*41-120*	0			
Surr: Phenol-d6	*65.18*	5.0	*100*	0	*65.2*	*20-120*	0			

LCS Sample ID: **SLCST1-080522** Units: **µg/L** Analysis Date: **5/22/2008 03:51 PM**
Client ID: Run ID: **SV-3_080522A** SeqNo: **1401266** Prep Date: **5/22/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	72.17	5.0	100	0	72.2	52-115	0			
2,4,6-Trichlorophenol	79.31	5.0	100	0	79.3	53-115	0			
2,4-Dinitrotoluene	39.32	5.0	50	0	78.6	56-115	0			
Cresols, Total	181.8	15	250	0	72.7	35-115	0			
Hexachlorobenzene	36.73	5.0	50	0	73.5	54-115	0			
Hexachlorobutadiene	39.91	5.0	50	0	79.8	51-115	0			
Hexachloroethane	36.6	5.0	50	0	73.2	54-115	0			
Nitrobenzene	36.67	5.0	50	0	73.3	40-124	0			
Pentachlorophenol	78.07	5.0	100	0	78.1	45-125	0			
Pyridine	32.68	5.0	50	0	65.4	34-115	0			
Surr: 2,4,6-Tribromophenol	*70.13*	5.0	*100*	0	*70.1*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*76.24*	5.0	*100*	0	*76.2*	*48-120*	0			
Surr: 2-Fluorophenol	*67.3*	5.0	*100*	0	*67.3*	*20-120*	0			
Surr: 4-Terphenyl-d14	*76.06*	5.0	*100*	0	*76.1*	*51-135*	0			
Surr: Nitrobenzene-d5	*69.17*	5.0	*100*	0	*69.2*	*41-120*	0			
Surr: Phenol-d6	*69.69*	5.0	*100*	0	*69.7*	*20-120*	0			

ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in assoc. Method Blank
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
U - Analyzed for but not detected
O - Referenced analyte value is > 4 times amount spiked
P - Dual Column results percent difference > 40%
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **29861** Instrument ID **SV-3** Method: **SW1311/8270**

LCSD Sample ID: **SLCSDT1-080522** Units: **µg/L** Analysis Date: **5/22/2008 04:18 PM**

Client ID: Run ID: **SV-3_080522A** SeqNo: **1401267** Prep Date: **5/22/2008** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	68.04	5.0	100	0	68	52-115	72.17	5.89	25	
2,4,6-Trichlorophenol	73.83	5.0	100	0	73.8	53-115	79.31	7.16	25	
2,4-Dinitrotoluene	39.58	5.0	50	0	79.2	56-115	39.32	0.653	25	
Cresols, Total	171.3	15	250	0	68.5	35-115	181.8	5.94	25	
Hexachlorobenzene	38.03	5.0	50	0	76.1	54-115	36.73	3.48	25	
Hexachlorobutadiene	38.3	5.0	50	0	76.6	51-115	39.91	4.13	25	
Hexachloroethane	37.59	5.0	50	0	75.2	54-115	36.6	2.67	25	
Nitrobenzene	38	5.0	50	0	76	40-124	36.67	3.57	25	
Pentachlorophenol	77.59	5.0	100	0	77.6	45-125	78.07	0.618	25	
Pyridine	34.61	5.0	50	0	69.2	34-115	32.68	5.73	25	
Surr: 2,4,6-Tribromophenol	*66.68*	5.0	*100*	0	*66.7*	*42-124*	70.13	*5.05*	*25*	
Surr: 2-Fluorobiphenyl	*74.12*	5.0	*100*	0	*74.1*	*48-120*	76.24	*2.83*	*25*	
Surr: 2-Fluorophenol	*69.18*	5.0	*100*	0	*69.2*	*20-120*	67.3	*2.75*	*25*	
Surr: 4-Terphenyl-d14	*78.95*	5.0	*100*	0	*78.9*	*51-135*	76.06	*3.72*	*25*	
Surr: Nitrobenzene-d5	*69.55*	5.0	*100*	0	*69.5*	*41-120*	69.17	*0.542*	*25*	
Surr: Phenol-d6	*67.05*	5.0	*100*	0	*67*	*20-120*	69.69	*3.86*	*25*	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
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U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **R63691** Instrument ID **VOA1** Method: **SW1311/8260**

MBLK Sample ID: **VBLKW-052308** Units: **µg/L** Analysis Date: **5/23/2008 11:44 AM**

Client ID: Run ID: **VOA1_080523C** SeqNo: **1403182** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2-Butanone	ND	10								
Benzene	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroform	ND	5.0								
Tetrachloroethene	ND	5.0								
Trichloroethene	ND	5.0								
Vinyl chloride	ND	5.0								
Surr: 1,2-Dichloroethane-d4	*48.09*	5.0	*50*	0	*96.2*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*47.64*	5.0	*50*	0	*95.3*	*72.4-125*	0			
Surr: Dibromofluoromethane	*55.31*	5.0	*50*	0	*111*	*71.2-125*	0			
Surr: Toluene-d8	*49.19*	5.0	*50*	0	*98.4*	*75-125*	0			

LCS Sample ID: **VLCSW-052308** Units: **µg/L** Analysis Date: **5/23/2008 10:53 AM**

Client ID: Run ID: **VOA1_080523C** SeqNo: **1403181** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	39.69	5.0	50	0	79.4	73-124	0			
1,2-Dichloroethane	48.7	5.0	50	0	97.4	76-120	0			
1,4-Dichlorobenzene	48.75	5.0	50	0	97.5	70-130	0			
2-Butanone	116.4	10	100	0	116	70-130	0			
Benzene	49.18	5.0	50	0	98.4	70-128	0			
Carbon tetrachloride	50.37	5.0	50	0	101	70-130	0			
Chlorobenzene	46.26	5.0	50	0	92.5	72-127	0			
Chloroform	49.86	5.0	50	0	99.7	70-130	0			
Tetrachloroethene	47.62	5.0	50	0	95.2	70-130	0			
Trichloroethene	48.02	5.0	50	0	96	72-129	0			
Vinyl chloride	46.37	5.0	50	0	92.7	70-130	0			
Surr: 1,2-Dichloroethane-d4	*50.97*	5.0	*50*	0	*102*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*48.67*	5.0	*50*	0	*97.3*	*72-125*	0			
Surr: Dibromofluoromethane	*57.24*	5.0	*50*	0	*114*	*71-125*	0			
Surr: Toluene-d8	*48.36*	5.0	*50*	0	*96.7*	*75-125*	0			

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Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **R63691** Instrument ID **VOA1** Method: **SW1311/8260**

MS Sample ID: **0805486-08AMS** Units: **µg/L** Analysis Date: **5/23/2008 04:03 PM**
Client ID: Run ID: **VOA1_080523C** SeqNo: **1403186** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	33.31	5.0	50	0	66.6	73-124	0			S
1,2-Dichloroethane	47.96	5.0	50	0	95.9	76-120	0			
1,4-Dichlorobenzene	44.56	5.0	50	0	89.1	70-130	0			
2-Butanone	99.29	10	100	0	99.3	70-130	0			
Benzene	48.38	5.0	50	0.7944	95.2	70-128	0			
Carbon tetrachloride	42.3	5.0	50	0	84.6	70-130	0			
Chlorobenzene	46.88	5.0	50	0	93.8	72-127	0			
Chloroform	47.05	5.0	50	0	94.1	70-130	0			
Tetrachloroethene	39.71	5.0	50	0	79.4	70-130	0			
Trichloroethene	44.23	5.0	50	0	88.5	72-129	0			
Vinyl chloride	37.97	5.0	50	0	75.9	70-130	0			
Surr: 1,2-Dichloroethane-d4	*51.47*	5.0	*50*	0	*103*	*70-125*	0			
Surr: 4-Bromofluorobenzene	*48.91*	5.0	*50*	0	*97.8*	*72-125*	0			
Surr: Dibromofluoromethane	*54.41*	5.0	*50*	0	*109*	*71-125*	0			
Surr: Toluene-d8	*48.87*	5.0	*50*	0	*97.7*	*75-125*	0			

MSD Sample ID: **0805486-08AMSD** Units: **µg/L** Analysis Date: **5/23/2008 04:29 PM**
Client ID: Run ID: **VOA1_080523C** SeqNo: **1403187** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	34.1	5.0	50	0	68.2	73-124	33.31	2.36	20	S
1,2-Dichloroethane	48.86	5.0	50	0	97.7	76-120	47.96	1.86	20	
1,4-Dichlorobenzene	47.64	5.0	50	0	95.3	70-130	44.56	6.67	20	
2-Butanone	105.4	10	100	0	105	70-130	99.29	5.99	20	
Benzene	47.5	5.0	50	0.7944	93.4	70-128	48.38	1.84	20	
Carbon tetrachloride	44.44	5.0	50	0	88.9	70-130	42.3	4.95	20	
Chlorobenzene	45.37	5.0	50	0	90.7	72-127	46.88	3.29	20	
Chloroform	45.72	5.0	50	0	91.4	70-130	47.05	2.87	20	
Tetrachloroethene	41.94	5.0	50	0	83.9	70-130	39.71	5.46	20	
Trichloroethene	46.62	5.0	50	0	93.2	72-129	44.23	5.24	20	
Vinyl chloride	39.71	5.0	50	0	79.4	70-130	37.97	4.48	20	
Surr: 1,2-Dichloroethane-d4	*48.61*	5.0	*50*	0	*97.2*	*70-125*	51.47	*5.72*	*20*	
Surr: 4-Bromofluorobenzene	*48.24*	5.0	*50*	0	*96.5*	*72-125*	48.91	*1.37*	*20*	
Surr: Dibromofluoromethane	*53.69*	5.0	*50*	0	*107*	*71-125*	54.41	*1.32*	*20*	
Surr: Toluene-d8	*49.72*	5.0	*50*	0	*99.4*	*75-125*	48.87	*1.72*	*20*	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **R63444** Instrument ID **WetChem** Method: **SW846, Chpt.**

DUP Sample ID: **0805460-01CDUP** Units: Analysis Date: **5/21/2008 11:00 AM**

Client ID: Run ID: **WETCHEM_080521A** SeqNo: **1399421** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Burns vigorously and persistently	ND	0	0	0	0	0-0	0	0	0	
Ignites spontaneously	ND	0	0	0	0	0-0	0	0	0	
Ignites through friction	ND	0	0	0	0	0-0	0	0	0	
Ignites under std. temp and pressur	ND	0	0	0	0	0-0	0	0	0	
Ignites with moisture	ND	0	0	0	0	0-0	0	0	0	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
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O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Navajo Refining Company
Work Order: 0805461
Project: Disposal - SRU Hyd

QC BATCH REPORT

Batch ID: **R63468** Instrument ID **WetChem** Method: **SW9045B**

LCS Sample ID: **WLCSS1-052108** Units: **pH Units** Analysis Date: **5/21/2008 07:15 PM**

Client ID: Run ID: **WETCHEM_080521F** SeqNo: **1399863** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.06	0.10	6	0	101	90-110	0			

DUP Sample ID: **0805461-01ADUP** Units: **pH Units** Analysis Date: **5/21/2008 07:15 PM**

Client ID: **SRU Hyd.** Run ID: **WETCHEM_080521F** SeqNo: **1399866** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	9.22	0.10	0	0	0	0-0	9.22	0	20	

The following samples were analyzed in this batch: 0805461-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

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Chain of Custody Form

Page 1 of 1

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3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

QUALITY • INTEGRITY • SERVICE

Project Manager: | Work Order #: 605484

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order		Project Name	Disposal - SRU Hyd	A TCLP VOA's
Work Order		Project Number		B TCLP Semi VOA's
Company Name	Navajo Refining Company	Bill To Company	Navajo Refining Company	C TCLP Metals
Send Report To		Invoice Attn		D RCI
Address	P.O. Box 159	Address	P.O. Box 159	E
				F
City/State/Zip	Artesia, NM 88211	City/State/Zip	Artesia, NM 88211	G
Phone	(505) 748-3311	Phone	(505) 748-3311	H
Fax	(505) 746-5421	Fax	(505) 746-5421	I
e-Mail Address		e-Mail Address		J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SRU Hyd.	5/20/08	1250	S	4	1	X	X	X	X							
2																	
3																	
4																	
5																	
6																	

Please Print & Sign

Shipment Method: FedEx

Required Turnaround Time: (Check Box) — Std 10 WK Days | 5 WK Days (X) | 2 WK Days | 24 Hour | Other

Results Due Date:

Relinquished by: Date: 5/20/08 Time: 1615

Received by: Date: Time:

Received by (Laboratory): Date: 5/21/08 Time: 09:15

Checked by (Laboratory): Date: Time:

Notes:

Cooler ID | Cooler Temp.

QC Package: (Check One Box Below)
- ☐ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other
- ☐ TRRP CheckList
- ☐ TRRP Level IV

1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

e made in writing once samples and COC Form have been submitted to e-Lab Analytical, Inc.

d in a formal contract, services provided by e-Lab Analytical, Inc. are expressly limited to the terms and conditions stated on the reverse.

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Sample Receipt Checklist

Client Name: NAVAJO REFINING | Date/Time Received: 5/21/2008 09:15

Work Order Number 0805461 | Received by: RNG

Checklist completed by [signature] Signature 5/21/08 Date | Reviewed by [initials] Initials 5/22/08 Date

Matrix: S | Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ✓	No	
Chain of custody agrees with sample labels?	Yes ✓	No	
Samples in proper container/bottle?	Yes ✓	No	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.7c	002	
Cooler(s)/Kit(s):	1807		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No	N/A ✓

Adjusted? Checked by

Login Notes:

Client contacted: Date contacted: Person contacted

Contacted by: Regarding:

Comments:

Corrective Action

W.O# 080

STANDARD OVERNIGHT

WED

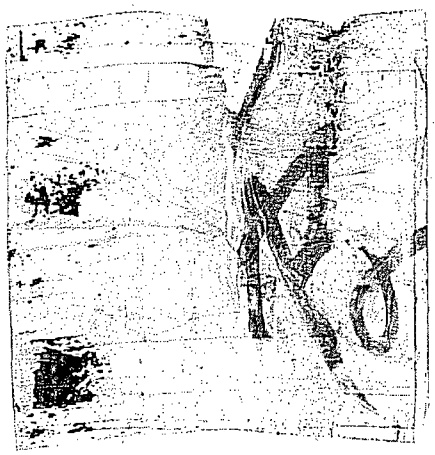
Emp# 515149 08:55 21MAY08

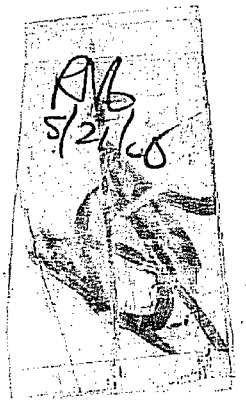
Deliver By:
21MAY08

TRK# 9391 8021 6628 FORM 0201

IAH

77099 TX-US AB JGQA





ALS Laboratory Group

Date: 26-May-08

Client: ALS Laboratory Group
Project: 0805461
Work Order: **0805440**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0805440-01	0805461-01B	Solid		5/20/2008 12:50	5/22/2008 10:00	☐

ALS Laboratory Group

Date: *26-May-08*

Client: ALS Laboratory Group
Project: 0805461
Work Order: 0805440
Sample ID: 0805461-01B
Lab ID: 0805440-01
Collection Date: 5/20/2008 12:50 PM
Matrix: SOLID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**EPA 7.3.3.2**			Analyst: **DB**
Cyanide, Reactive	ND		40.0	mg/Kg	1	5/23/2008
SULFIDE, REACTIVE			**EPA 7.3.4.2**			Analyst: **DB**
Sulfide, Reactive	ND		40.0	mg/Kg	1	5/23/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

ALS Laboratory Group

Client: ALS Laboratory Group
Work Order: 0805440
Project: 0805461

Date: *26-May-08*

QC BATCH REPORT

Batch ID: **R58878** Instrument ID **WETCHEM** Method: **EPA 7.3.3.2**

MBLK Sample ID: **WBLKS1-052308** Units: **mg/Kg** Analysis Date: **5/23/2008**
Client ID: Run ID: **WETCHEM_080523C** SeqNo: **974789** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	ND	40								

LCS Sample ID: **WLCSS1-052308** Units: **mg/Kg** Analysis Date: **5/23/2008**
Client ID: Run ID: **WETCHEM_080523C** SeqNo: **974790** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	220.2	40	250	0	88.1	75-125	0			

LCSD Sample ID: **WLCSDS1-052308** Units: **mg/Kg** Analysis Date: **5/23/2008**
Client ID: Run ID: **WETCHEM_080523C** SeqNo: **974796** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	220.2	40	250	0	88.1	75-125	220.2	0	35	

MS Sample ID: **0805439-01A MS** Units: **mg/Kg** Analysis Date: **5/23/2008**
Client ID: Run ID: **WETCHEM_080523C** SeqNo: **974797** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	264.2	40	250	0	106	50-150	0			

MSD Sample ID: **0805439-01A MSD** Units: **mg/Kg** Analysis Date: **5/23/2008**
Client ID: Run ID: **WETCHEM_080523C** SeqNo: **974798** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	264.2	40	250	0	106	50-150	264.2	0	35	

The following samples were analyzed in this batch: 0805440-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: ALS Laboratory Group
Work Order: 0805440
Project: 0805461

QC BATCH REPORT

Batch ID: **R58879** Instrument ID **WETCHEM** Method: **EPA 7.3.4.2**

MBLK Sample ID: **WBLKS1-052308** Units: **mg/Kg** Analysis Date: **5/23/2008**

Client ID: Run ID: **WETCHEM_080523D** SeqNo: **974799** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide, Reactive	ND	40								

The following samples were analyzed in this batch: 0805440-01A

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

0805440

Subcontractor:
e-Lab Analytical, Inc.
3352 128th Ave.
Holland, MI 49424

TEL: (616) 399-6070
FAX: (616) 399-6185
Acct #:

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Date: 21-May-08
COC ID: 6377
Due Date 27-May-08

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order	2114068	Project Name	0805461	A Cyanide, Reactive (SW-846)
Work Order		Project Number		B Sulfide, Reactive (SW-846)
Company Name	e-Lab Analytical, Inc.	Bill To Company	e-Lab Analytical, Inc.	C
Send Report To	Jeffrey L Croston	Inv Attn	Accounts Payable	D
Address	10450 Stancliff Rd, Suite 210	Address	10450 Stancliff Rd, Suite 210	E
				F
City/State/Zip	Houston, Texas 77099-4338	City/State/Zip	Houston, Texas 77099-4338	G
Phone	(281) 530-5656	Phone	(281) 530-5656	H
Fax	(281) 530-5887	Fax	(281) 530-5887	I
eMail Address	jeff.croston@alsenviro.com	eMail CC	glenda.ramos@alsenviro.com	J

Sample ID	Matrix	Collection Date 24hr	Bottle	A	B	C	D	E	F	G	H	I	J
0805461-01B (SRV Hyd.)	Solid	5/20/2008 12:50	(1) 2OZGNEAT	X	X								

Comments:

Please analyze for Reactive Cyanide and Reactive Sulfide. Report is due on 5/27/08. Please send report to Jeff Croston, jeff.croston@alsenviro.com, and CC: results to Glenda Ramos, glenda.ramos@alsenviro.com

Relinquished by:

Date/Time 5/21/08 UPS

Relinquished by:

Date/Time

Received by:

Received by:

Date/Time 5/22/08 1000

Date/Time

Cooler IDs

Report/QC Level
Std

ALS Laboratory Group

Sample Receipt Checklist

Client Name ELAB-HOU

Date/Time Received: 5/22/2008 10:00

Work Order Number 0805440

Received by: AJK

Checklist completed by _____ 5/22/08
Signature Date

Reviewed by _____ 5/23/08
Initials Date

Matrix: Solid

Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.4°C		
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Adjusted? _____ *Checked by* _____

Login Notes:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

_____

_____

Corrective Action _____

_____

_____

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REFERENCE NUMBER
SUB CONTRACT

RICHARD SANCHEZ
TELEPHONE 281-530-5656

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TX 77099

MI 495 9-04

UPS Next Day Air Saver® 1P

TELEPHONE
616-399-6970

RY GROUP

MI 49424

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TRACKING NUMBER

SHIPMENT ID NUMBER 6981 747B BCY

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HOLLAND MI 49424

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1Z 698 174 23 1005 3929

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e-Lab Analytical, Inc.
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. 281.530.5656
Fax. 218.530.5887

QUALITY · INTEGRITY · SERVICE

CUSTODY SEAL

Date: 5-21-08 Time: AM

Name: RICHARD SANCHEZ

Company: ACS

Signature

0805440