

45



Dhawan, Neelam, NMENV

From: Horowitz, Ruth, NMENV
Sent: Tuesday, September 23, 2014 11:28 AM
To: Cobrain, Dave, NMENV; Dhawan, Neelam, NMENV
Cc: Kieling, John, NMENV
Subject: FW: Test Results from Los Alamos
Attachments: Second sample lab report (2).pdf; Terracon Grab sample results.pdf; 2012 LANL Certificates of Completion for former TA-45.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

In the Terracon Grab sample MRO at 4900 mg/Kg is within SSL (5000 mg/Kg). The DRO is a little high, Industrial SSL is 1800 and the result is 2400 mg/Kg. I checked with Hall Environmental and the 0 recovery on the DRO surrogate is normal for a diluted sample.

Do you want me to handle this or, because it's a former SWMU have it handled by the permitting section?

If I handle it, are there any additional constituents I should ask them to sample for?

Ruth

Environmental Notification Tracking System

View Notification

[Back to list](#)

Notification Id	11221
Notification Type	Soil (pollution on or of the ground)
Notification Date	9/23/2014 10:38:15 AM
Notification Priority	
EJ Issue	
Status	
Assigned Bureau	
Assigned Staff	
Status Date	
Description	Los Alamos county found evidence of an historic release. The site site was formerly designated as a



SWMU as part of TA-45. A certificate of completion was issued on February 22, 2013 designating the site as a No Further Action. While performing a geotechnical investigation for a new building on the site the county discovered soils with high TPH, at 6 feet. The TPH breakdown shows that it is diesel and motor oil.

Location 2600 Canyon Rd, LA
Nearest City Los Alamos
County Los Alamos
District
Field Office
Suspected Violator Los Alamos County
Violator Address1
Violator Address2
Violator City
Violator State New Mexico
Violator Zip
Violator Phone
Reporter Name Steve Hubbner/ LA County
Reporter Address1
Reporter Address2
Reporter City
Reporter State New Mexico
Reporter Zip
Reporter Phone 505-663-1758
Reporter Email
Created By ruth.horowitz
Date Created 9/23/2014 10:48:10 AM

From: Huebner, Steven [<mailto:steven.huebner@lacnm.us>]
Sent: Tuesday, September 23, 2014 11:04 AM
To: Horowitz, Ruth, NMENV
Subject: Test Results from Los Alamos

Ruth,

Attached are the lab results provided by Terracon for 2600 Canyon Rd. here in Los Alamos. Also attached is the Certificate of Completion.

Please let me know if you need anything else from me. I am currently working with Terracon to test for the extent of the contamination and clean up.

Thanks,

Steven Huebner - Project Manager
Los Alamos County
505.663.1758 Desk
505.690.4278 Mobil New!
steven.huebner@lacnm.us



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 16, 2014

Mark Hillier

Terracon

4905 Hawkins, NE

Albuquerque, NM 87109

TEL: (505) 715-0375

FAX (505) 797-4288

RE: Los Alamos County

OrderNo.: 1406428

Dear Mark Hillier:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/10/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order **1406428**

Date Reported: **6/16/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Terracon

Client Sample ID: B7 (5')

Project: Los Alamos County

Collection Date: 6/10/2014 9:35:00 AM

Lab ID: 1406428-001

Matrix: SOIL

Received Date: 6/10/2014 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	2400	100		mg/Kg	10	6/11/2014 7:10:46 PM	13606
Motor Oil Range Organics (MRO)	4900	500		mg/Kg	10	6/11/2014 7:10:46 PM	13606
Surr: DNOP	0	57.9-140	S	%REC	10	6/11/2014 7:10:46 PM	13606
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/11/2014 5:17:15 PM	13607
Surr: BFB	92.7	80-120		%REC	1	6/11/2014 5:17:15 PM	13607
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Toluene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Ethylbenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Methyl tert-butyl ether (MTBE)	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,2,4-Trimethylbenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,3,5-Trimethylbenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,2-Dichloroethane (EDC)	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,2-Dibromoethane (EDB)	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Naphthalene	0.94	0.097		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1-Methylnaphthalene	0.42	0.19		mg/Kg	1	6/11/2014 7:14:56 PM	13607
2-Methylnaphthalene	0.46	0.19		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Acetone	ND	0.73		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Bromobenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Bromodichloromethane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Bromoform	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Bromomethane	ND	0.15		mg/Kg	1	6/11/2014 7:14:56 PM	13607
2-Butanone	ND	0.48		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Carbon disulfide	ND	0.48		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Carbon tetrachloride	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Chlorobenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Chloroethane	ND	0.097		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Chloroform	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Chloromethane	ND	0.15		mg/Kg	1	6/11/2014 7:14:56 PM	13607
2-Chlorotoluene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
4-Chlorotoluene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
cis-1,2-DCE	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
cis-1,3-Dichloropropene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,2-Dibromo-3-chloropropane	ND	0.097		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Dibromochloromethane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Dibromomethane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,2-Dichlorobenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Terracon

Client Sample ID: B7 (5')

Project: Los Alamos County

Collection Date: 6/10/2014 9:35:00 AM

Lab ID: 1406428-001

Matrix: SOIL

Received Date: 6/10/2014 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,3-Dichlorobenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,4-Dichlorobenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Dichlorodifluoromethane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,1-Dichloroethane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,1-Dichloroethene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,2-Dichloropropane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,3-Dichloropropane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
2,2-Dichloropropane	ND	0.097		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,1-Dichloropropene	ND	0.097		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Hexachlorobutadiene	ND	0.097		mg/Kg	1	6/11/2014 7:14:56 PM	13607
2-Hexanone	ND	0.48		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Isopropylbenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
4-Isopropyltoluene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
4-Methyl-2-pentanone	ND	0.48		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Methylene chloride	ND	0.15		mg/Kg	1	6/11/2014 7:14:56 PM	13607
n-Butylbenzene	ND	0.15		mg/Kg	1	6/11/2014 7:14:56 PM	13607
n-Propylbenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
sec-Butylbenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Styrene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
tert-Butylbenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,1,1,2-Tetrachloroethane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,1,2,2-Tetrachloroethane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Tetrachloroethene (PCE)	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
trans-1,2-DCE	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
trans-1,3-Dichloropropene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,2,3-Trichlorobenzene	ND	0.097		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,2,4-Trichlorobenzene	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,1,1-Trichloroethane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,1,2-Trichloroethane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Trichloroethene (TCE)	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Trichlorofluoromethane	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
1,2,3-Trichloropropane	ND	0.097		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Vinyl chloride	ND	0.048		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Xylenes, Total	ND	0.097		mg/Kg	1	6/11/2014 7:14:56 PM	13607
Surr: Dibromofluoromethane	116	70-130		%REC	1	6/11/2014 7:14:56 PM	13607
Surr: 1,2-Dichloroethane-d4	99.9	70-130		%REC	1	6/11/2014 7:14:56 PM	13607
Surr: Toluene-d8	85.1	70-130		%REC	1	6/11/2014 7:14:56 PM	13607
Surr: 4-Bromofluorobenzene	83.5	70-130		%REC	1	6/11/2014 7:14:56 PM	13607

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406428

16-Jun-14

Client: Terracon
 Project: Los Alamos County

Sample ID	MB-13606	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	13606	RunNo:	19186					
Prep Date:	6/10/2014	Analysis Date:	6/11/2014	SeqNo:	554751	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		104	57.9	140			

Sample ID	LCS-13606	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	13606	RunNo:	19186					
Prep Date:	6/10/2014	Analysis Date:	6/11/2014	SeqNo:	554756	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	118	60.8	145			
Surr: DNOP	5.2		5.000		105	57.9	140			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406428

16-Jun-14

Client: Terracon
Project: Los Alamos County

Sample ID MB-13607	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 13607	RunNo: 19201								
Prep Date: 6/10/2014	Analysis Date: 6/11/2014	SeqNo: 555180	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.9	80	120			

Sample ID LCS-13607	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 13607	RunNo: 19201								
Prep Date: 6/10/2014	Analysis Date: 6/11/2014	SeqNo: 555181	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.1	71.7	134			
Surr: BFB	940		1000		94.1	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Ball Environmental Analysis Laboratory, Inc.

WO#: 1406428

16-Jun-14

Client: Terracon
 Project: Los Alamos County

Sample ID: MB-13607	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles
Client ID: PBS	Batch ID: 13607	RunNo: 19204
Prep Date: 6/10/2014	Analysis Date: 6/11/2014	SeqNo: 555366 Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
benzene	ND	0.050								
toluene	ND	0.050								
ethylbenzene	ND	0.050								
ethyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
naphthalene	ND	0.10								
Methylnaphthalene	ND	0.20								
Methylnaphthalene	ND	0.20								
acetone	ND	0.75								
toluene	ND	0.050								
1,1-dichloromethane	ND	0.050								
1,1,1-trichloroethane	ND	0.050								
1,1,2-trichloroethane	ND	0.15								
2-butanone	ND	0.50								
carbon disulfide	ND	0.50								
carbon tetrachloride	ND	0.050								
1-chlorobenzene	ND	0.050								
1,1-dichloroethane	ND	0.10								
1,1,1-trichloroethane	ND	0.050								
1,1,2-trichloroethane	ND	0.15								
1-chlorotoluene	ND	0.050								
1,2-dichlorotoluene	ND	0.050								
1,1,2-trichloroethane	ND	0.050								
1,1,3-trichloropropane	ND	0.050								
1,2-dibromo-3-chloropropane	ND	0.10								
1-bromochloromethane	ND	0.050								
1-bromomethane	ND	0.050								
1,2-dichlorobenzene	ND	0.050								
1,3-dichlorobenzene	ND	0.050								
1,4-dichlorobenzene	ND	0.050								
1,1,1-trichloroethane	ND	0.050								
1,1-dichloroethane	ND	0.050								
1,1-dichloroethene	ND	0.050								
1,2-dichloropropane	ND	0.050								
1,3-dichloropropane	ND	0.050								
1,2-dichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E Value above quantitation range	H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit	P Sample pH greater than 2.
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S Spike Recovery outside accepted recovery limits	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406428

16-Jun-14

Client: Terracon
Project: Los Alamos County

Sample ID: MB-13607	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles
Client ID: PBS	Batch ID: 13607	RunNo: 19204
Prep Date: 6/10/2014	Analysis Date: 6/11/2014	SeqNo: 555366 Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.57		0.5000		114	70	130			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.6	70	130			
Surr: Toluene-d8	0.41		0.5000		82.9	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		83.3	70	130			

Sample ID: LCS-13607	SampType: LCS	TestCode: EPA Method 8260B: Volatiles
Client ID: LCSS	Batch ID: 13607	RunNo: 19204
Prep Date: 6/10/2014	Analysis Date: 6/11/2014	SeqNo: 555367 Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	107	70	130			
Toluene	0.90	0.050	1.000	0	89.7	60.1	120			
Chlorobenzene	0.99	0.050	1.000	0	99.1	70	130			

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Environmental Analysis Laboratory, Inc.

WO#: 1406428

16-Jun-14

Client: Terracon
Project: Los Alamos County

Sample ID: LCS-13607 SampType: LCS TestCode: EPA Method 8260B: Volatiles
Client ID: LCSS Batch ID: 13607 RunNo: 19204
Prep Date: 6/10/2014 Analysis Date: 6/11/2014 SeqNo: 555367 Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Dichloroethene	1.4	0.050	1.000	0	136	78.2	162			
1,1-Dichloroethene (TCE)	1.3	0.050	1.000	0	131	70	130			S
Surr: Dibromofluoromethane	0.59		0.5000		119	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		101	70	130			
Surr: Toluene-d8	0.42		0.5000		84.1	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		84.9	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
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- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: TER-Alb

Work Order Number: 1406428

RcptNo: 1

Received by/date: AG 06/10/14

Logged By: **Lindsay Mangin** 6/10/2014 11:50:00 AM *[Signature]*

Completed By: **Lindsay Mangin** 6/10/2014 12:13:54 PM *[Signature]*

Reviewed By: *[Signature]* 06/10/14

Chain of Custody

- 1. Custody seals intact on sample bottles? Yes No Not Present
- 2. Is Chain of Custody complete? Yes No Not Present
- 3. How was the sample delivered? Client

Log In

- 4. Was an attempt made to cool the samples? Yes No NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 6. Sample(s) in proper container(s)? Yes No
- 7. Sufficient sample volume for indicated test(s)? Yes No
- 8. Are samples (except VOA and ONG) properly preserved? Yes No
- 9. Was preservative added to bottles? Yes No NA
- 10. VOA vials have zero headspace? Yes No No VOA Vials
- 11. Were any sample containers received broken? Yes No
- 12. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: _____

Special Handling (if applicable)

- 16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Not Present			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 14, 2014

Mark Hillier

Terracon

4905 Hawkins, NE

Albuquerque, NM 87109

TEL: (505) 715-0375

FAX (505) 797-4288

RE: LA Nature Center

OrderNo.: 1408226

Dear Mark Hillier:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/5/2014 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued August 08, 2014.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Terracon

Client Sample ID: B-7b(5')

Project: LA Nature Center

Collection Date: 8/5/2014 10:30:00 AM

Lab ID: 1408226-001

Matrix: SOIL

Received Date: 8/5/2014 4:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S							Analyst: SCC
Aroclor 1016	ND	0.20		mg/Kg	1	8/12/2014 6:53:37 PM	14700
Aroclor 1221	ND	0.20		mg/Kg	1	8/12/2014 6:53:37 PM	14700
Aroclor 1232	ND	0.20		mg/Kg	1	8/12/2014 6:53:37 PM	14700
Aroclor 1242	ND	0.20		mg/Kg	1	8/12/2014 6:53:37 PM	14700
Aroclor 1248	ND	0.20		mg/Kg	1	8/12/2014 6:53:37 PM	14700
Aroclor 1254	ND	0.20		mg/Kg	1	8/12/2014 6:53:37 PM	14700
Aroclor 1260	ND	0.20		mg/Kg	1	8/12/2014 6:53:37 PM	14700
Surr: Decachlorobiphenyl	0	37.2-143	S	%REC	1	8/12/2014 6:53:37 PM	14700
Surr: Tetrachloro-m-xylene	0	35.6-141	S	%REC	1	8/12/2014 6:53:37 PM	14700
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	110	10		mg/Kg	1	8/6/2014 3:34:09 PM	14626
Motor Oil Range Organics (MRO)	240	50		mg/Kg	1	8/6/2014 3:34:09 PM	14626
Surr: DNOP	98.5	57.9-140		%REC	1	8/6/2014 3:34:09 PM	14626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/7/2014 11:57:07 AM	14630
Surr: BFB	91.1	80-120		%REC	1	8/7/2014 11:57:07 AM	14630
EPA METHOD 8310: PAHS							Analyst: SCC
Naphthalene	13	2.5		mg/Kg	1	8/12/2014 2:06:42 PM	14699
1-Methylnaphthalene	3.3	2.5		mg/Kg	1	8/12/2014 2:06:42 PM	14699
2-Methylnaphthalene	5.4	2.5		mg/Kg	1	8/12/2014 2:06:42 PM	14699
Acenaphthylene	ND	2.5		mg/Kg	1	8/12/2014 2:06:42 PM	14699
Acenaphthene	ND	2.5		mg/Kg	1	8/12/2014 2:06:42 PM	14699
Fluorene	5.0	3.0		mg/Kg	10	8/13/2014 12:40:12 PM	14699
Phenanthrene	19	3.0		mg/Kg	20	8/13/2014 1:09:35 PM	14699
Anthracene	4.7	1.5		mg/Kg	10	8/13/2014 12:40:12 PM	14699
Fluoranthene	15	2.0		mg/Kg	10	8/13/2014 12:40:12 PM	14699
Pyrene	15	2.5		mg/Kg	10	8/13/2014 12:40:12 PM	14699
Benz(a)anthracene	4.9	2.0		mg/Kg	20	8/13/2014 1:09:35 PM	14699
Chrysene	5.5	1.0		mg/Kg	10	8/13/2014 12:40:12 PM	14699
Benzo(b)fluoranthene	5.1	2.0		mg/Kg	20	8/13/2014 1:09:35 PM	14699
Benzo(k)fluoranthene	4.1	4.0		mg/Kg	40	8/13/2014 1:57:28 PM	14699
Benzo(a)pyrene	8.6	8.0		mg/Kg	80	8/13/2014 2:32:03 PM	14699
Dibenz(a,h)anthracene	4.4	2.0		mg/Kg	20	8/13/2014 1:09:35 PM	14699
Benzo(g,h,i)perylene	4.5	2.0		mg/Kg	20	8/13/2014 1:09:35 PM	14699
Indeno(1,2,3-cd)pyrene	3.0	2.0		mg/Kg	20	8/13/2014 1:09:35 PM	14699
Surr: Benzo(e)pyrene	0	44-142	S	%REC	1	8/12/2014 2:06:42 PM	14699

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1408226

14-Aug-14

Client: Terracon
Project: LA Nature Center

Sample ID MB-14626	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: PBS	Batch ID: 14626	RunNo: 20396								
Prep Date: 8/6/2014	Analysis Date: 8/6/2014	SeqNo: 593213			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		90.3	57.9	140			

Sample ID LCS-14626	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 14626	RunNo: 20396								
Prep Date: 8/6/2014	Analysis Date: 8/6/2014	SeqNo: 593214			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.5	68.6	130			
Surr: DNOP	4.5		5.000		89.9	57.9	140			

Sample ID MB-14603	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: PBS	Batch ID: 14603	RunNo: 20400								
Prep Date: 8/5/2014	Analysis Date: 8/6/2014	SeqNo: 593310			Units: %REC					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		98.2	57.9	140			

Sample ID LCS-14603	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 14603	RunNo: 20400								
Prep Date: 8/5/2014	Analysis Date: 8/6/2014	SeqNo: 593311			Units: %REC					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.1		5.000		103	57.9	140			

Sample ID MB-14665	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: PBS	Batch ID: 14665	RunNo: 20455								
Prep Date: 8/8/2014	Analysis Date: 8/8/2014	SeqNo: 595005			Units: %REC					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.4		10.00		94.1	57.9	140			

Sample ID LCS-14665	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 14665	RunNo: 20455								
Prep Date: 8/8/2014	Analysis Date: 8/8/2014	SeqNo: 595061			Units: %REC					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		95.5	57.9	140			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1408226

14-Aug-14

Client: Terracon
 Project: LA Nature Center

Sample ID	MB-14630	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	14630	RunNo:	20426					
Prep Date:	8/6/2014	Analysis Date:	8/7/2014	SeqNo:	594583	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.6	80	120			

Sample ID	LCS-14630	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	14630	RunNo:	20426					
Prep Date:	8/6/2014	Analysis Date:	8/7/2014	SeqNo:	594585	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	114	65.8	139			
Surr: BFB	970		1000		97.2	80	120			

Sample ID	1408226-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	B-7b(5')	Batch ID:	14630	RunNo:	20426					
Prep Date:	8/6/2014	Analysis Date:	8/7/2014	SeqNo:	594589	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.7	23.72	0	118	71.8	132			
Surr: BFB	950		948.8		99.8	80	120			

Sample ID	1408226-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	B-7b(5')	Batch ID:	14630	RunNo:	20426					
Prep Date:	8/6/2014	Analysis Date:	8/7/2014	SeqNo:	594590	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.7	23.74	0	108	71.8	132	8.40	20	
Surr: BFB	950		949.7		99.7	80	120	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E Value above quantitation range	H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit	P Sample pH greater than 2.
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S Spike Recovery outside accepted recovery limits	

QC SUMMARY REPORT

WO#: 1408226

Hall Environmental Analysis Laboratory, Inc.

14-Aug-14

Client: Terracon
Project: LA Nature Center

Sample ID MB-14681	SampType: MBLK	TestCode: EPA Method 8082: PCB's								
Client ID: PBS	Batch ID: 14681	RunNo: 20508								
Prep Date: 8/9/2014	Analysis Date: 8/12/2014	SeqNo: 596141 Units: %REC								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Decachlorobiphenyl	0.038		0.06250		61.2	37.2	143			
Surr: Tetrachloro-m-xylene	0.062		0.06250		99.2	35.6	141			

Sample ID LCS-14681	SampType: LCS	TestCode: EPA Method 8082: PCB's								
Client ID: LCSS	Batch ID: 14681	RunNo: 20508								
Prep Date: 8/9/2014	Analysis Date: 8/12/2014	SeqNo: 596142 Units: %REC								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Decachlorobiphenyl	0.044		0.06250		69.6	37.2	143			
Surr: Tetrachloro-m-xylene	0.066		0.06250		105	35.6	141			

Sample ID MB-14700	SampType: MBLK	TestCode: EPA Method 8082: PCB's								
Client ID: PBS	Batch ID: 14700	RunNo: 20508								
Prep Date: 8/11/2014	Analysis Date: 8/12/2014	SeqNo: 596333 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.040		0.06250		63.6	37.2	143			
Surr: Tetrachloro-m-xylene	0.056		0.06250		89.2	35.6	141			

Sample ID LCS-14700	SampType: LCS	TestCode: EPA Method 8082: PCB's								
Client ID: LCSS	Batch ID: 14700	RunNo: 20508								
Prep Date: 8/11/2014	Analysis Date: 8/12/2014	SeqNo: 596350 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.11	0.020	0.1250	0	88.6	34.7	146			
Aroclor 1260	0.10	0.020	0.1250	0	80.4	36.3	153			
Surr: Decachlorobiphenyl	0.046		0.06250		73.2	37.2	143			
Surr: Tetrachloro-m-xylene	0.064		0.06250		102	35.6	141			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Ball Environmental Analysis Laboratory, Inc.

WO#: 1408226

14-Aug-14

Client: Terracon
 Project: LA Nature Center

Sample ID	MB-14699	SampType:	MBLK	TestCode:	EPA Method 8310: PAHs					
Client ID:	PBS	Batch ID:	14699	RunNo:	20506					
Prep Date:	8/11/2014	Analysis Date:	8/12/2014	SeqNo:	596331	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
naphthalene	ND	0.25								
Methylnaphthalene	ND	0.25								
Methylnaphthalene	ND	0.25								
acenaphthylene	ND	0.25								
acenaphthene	ND	0.25								
fluorene	ND	0.030								
phenanthrene	ND	0.015								
anthracene	ND	0.015								
fluoranthene	ND	0.020								
pyrene	ND	0.025								
benz(a)anthracene	ND	0.010								
chrysene	ND	0.010								
benzo(b)fluoranthene	ND	0.010								
benzo(k)fluoranthene	ND	0.010								
benzo(a)pyrene	ND	0.010								
benz(a,h)anthracene	ND	0.010								
benzo(g,h,i)perylene	ND	0.010								
benzo(1,2,3-cd)pyrene	ND	0.010								
Surr: Benzo(e)pyrene	0.58		0.5000		115	44	142			

Sample ID	LCS-14699	SampType:	LCS	TestCode:	EPA Method 8310: PAHs					
Client ID:	LCSS	Batch ID:	14699	RunNo:	20506					
Prep Date:	8/11/2014	Analysis Date:	8/12/2014	SeqNo:	596332	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
naphthalene	1.4	0.25	2.000	0	69.6	43.1	105			
Methylnaphthalene	1.1	0.25	2.000	0	57.1	39	98.6			
Methylnaphthalene	1.1	0.25	2.000	0	53.2	33.5	99.5			
acenaphthylene	1.5	0.25	2.000	0	75.4	46.8	109			
acenaphthene	1.2	0.25	2.000	0	61.2	37.8	101			
fluorene	0.12	0.030	0.2000	0	60.5	41.8	98.6			
phenanthrene	0.080	0.015	0.1006	0	80.0	42.3	118			
anthracene	0.073	0.015	0.1006	0	72.6	43.7	107			
fluoranthene	0.14	0.020	0.2006	0	69.7	44.9	114			
pyrene	0.16	0.025	0.2000	0	79.8	37	109			
benz(a)anthracene	0.016	0.010	0.02000	0	78.8	42.2	121			
chrysene	0.076	0.010	0.1006	0	75.8	43.4	104			
benzo(b)fluoranthene	0.019	0.010	0.02500	0	76.0	46.3	128			
benzo(k)fluoranthene	0.010	0.010	0.01250	0	82.0	44.8	128			

- Qualifiers:**
- * Value exceeds Maximum Contaminant Level.
 - E Value above quantitation range
 - J Analyte detected below quantitation limits
 - O RSD is greater than RSDlimit
 - R RPD outside accepted recovery limits
 - S Spike Recovery outside accepted recovery limits
 - B Analyte detected in the associated Method Blank
 - H Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit
 - P Sample pH greater than 2.
 - RL Reporting Detection Limit
- Page 5 of 6

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1408226

14-Aug-14

Client: Terracon
Project: LA Nature Center

Sample ID: LCS-14699	SampType: LCS	TestCode: EPA Method 8310: PAHs								
Client ID: LCSS	Batch ID: 14699	RunNo: 20506								
Prep Date: 8/11/2014	Analysis Date: 8/12/2014	SeqNo: 596332	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.010	0.010	0.01250	0	80.0	38.3	117			
Dibenz(a,h)anthracene	0.020	0.010	0.02500	0	79.0	45.2	114			
Benzo(g,h,i)perylene	0.019	0.010	0.02500	0	74.0	39.5	121			
Indeno(1,2,3-cd)pyrene	0.036	0.010	0.05002	0	71.0	51.7	114			
Surr: Benzo(e)pyrene	0.58		0.5000		116	44	142			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: TER-Alb Work Order Number: 1408226 RcptNo: 1

Received by/date: CS 08/05/14

Logged By: **Celina Sessa** 8/5/2014 4:45:00 PM *Celina Sessa*

Completed By: **Celina Sessa** 8/5/2014 4:49:28 PM *Celina Sessa*

Reviewed By: AT 08/06/14

Chain of Custody

- 1. Custody seals intact on sample bottles? Yes No Not Present
- 2. Is Chain of Custody complete? Yes No Not Present
- 3. How was the sample delivered? Client

Log In

- 4. Was an attempt made to cool the samples? Yes No NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 6. Sample(s) in proper container(s)? Yes No
- 7. Sufficient sample volume for indicated test(s)? Yes No
- 8. Are samples (except VOA and ONG) properly preserved? Yes No
- 9. Was preservative added to bottles? Yes No NA
- 10. VOA vials have zero headspace? Yes No No VOA Vials
- 11. Were any sample containers received broken? Yes No
- 12. Does paperwork match bottle labels? Yes No
- (Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? Yes No
- (If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: _____

Special Handling (If applicable)

- 16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	12.1	Good	Not Present			



SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
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



DAVE MARTIN
Secretary

BUTCH TONGATE
Deputy Secretary

THOMAS SKIBITSKI
Acting Director
Resource Protection Division

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 22, 2013

Pete Maggiore
Assistant Manager
Environmental Projects Office
National Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Road, MS A316
Los Alamos, NM 87544

Jeffrey D. Mousseau
Associate Director
Environmental Programs
Los Alamos National Security, L.L.C.
P.O. Box 1663, MS M991
Los Alamos, NM 87545

**RE: CERTIFICATES OF COMPLETION
FOUR SOLID WASTE MANAGEMENT UNIT AND ONE AREA OF CONCERN
IN THE PUEBLO CANYON AGGREGATE AREA
EPA ID #NM0890010515
HWB-LANL-12-063**

Dear Messrs. Maggiore and Mousseau:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) and the Los Alamos National Security L.L.C.'s (LANS) (collectively, the Permittees) *Request for Certificates of Completion for Four Solid Waste Management Units and One Area of Concern in the Pueblo Canyon Aggregate Area*, dated September 13, 2012 and referenced by EP2012-0202.

1. Solid Waste Management Unit (SWMU) 45-001 was a former radioactive liquid waste (RLW) treatment plant and associated outfalls. The treatment plant began operating in 1951 and operated until 1964. The plant initially received RLW only from Technical Area (TA) 1. As laboratory operations expanded, RLW from TA-3, TA-43, and TA-48 was also sent to SWMU 45-001. Decontamination and decommissioning (D&D) of

SWMU 45-001 included the demolition and removal of treatment plant equipment, structures, and waste lines and the excavation of contaminated soil. Portions of the cliff walls of Acid Canyon below the outfalls were also decontaminated.

2. SWMU 45-002 consisted of a former vehicle decontamination facility (former building 45-1) that was used to decontaminate vehicles and large equipment, including filters from the Sigma Building, trash dumpsters, and wing tanks from airplanes. SWMU 45-002 was located approximately 40 feet south of the TA-45 RLW treatment plant (SWMU 45-001). The decontamination facility began operation in 1952. Vehicles and other equipment were decontaminated by steam-cleaning. This facility operated infrequently, approximately once per month. SWMU 45-002 was decommissioned in 1966, along with the other facilities that comprised former TA-45.
3. SWMU 45-003 consisted of the former buried industrial waste line and associated manhole (structure 45-8) located within the boundaries of TA-45. This waste line was used to convey RLW to the TA-45 treatment plant, SWMU 45-001.
4. SWMU 45-004 consisted of a sanitary sewer outfall that was associated with the sanitary sewer system constructed in 1947 to serve the Los Alamos town site. This sewer system included a sanitary sewer lift station (structure 45-3) and sanitary sewer manholes (structures 45-5 and 45-6).
5. Area of Concern (AOC) C-45-001 was the site of an accidental release of plutonium-contaminated sludge that occurred in the parking lot south of building 45-2 (SWMU 45-001) in January 1957. The parking lot was removed as part of the TA-45 D&D activities.

These five sites are components of Consolidated Unit 45-001-00. The July 2008 Investigation Report for Pueblo Canyon Aggregate Area, Revision 1 (IR) presented the results of characterization and remediation activities conducted in 2006 and 2007. The vertical extent of mercury and silver were not fully determined at one sample location within SWMU 45-004. The vertical extent of metals was determined by the Permittees between February and June 2010 and the results were presented in the September 2010 Phase II IR.

Because the footprints of the five sites overlap, the Phase II IR evaluated the risk for all five sites combined. The Phase II IR demonstrated that SWMUs 45-001, 45-002, 45-003, 45-004 and AOC C-45-001 pose no potential unacceptable risks to human health under the residential land use scenario and pose no potential risk to ecological receptors. Accordingly, the sites were recommended for corrective action complete without controls in the Phase II IR. A subsequent September 2012 evaluation of potential vapor intrusion for a residential scenario concluded that vapor intrusion by contaminants did not appreciably alter the risks at any of the five sites.

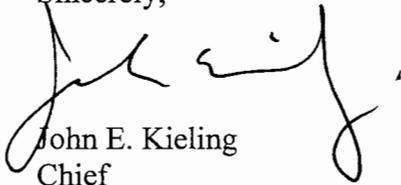
NMED hereby issues Certificates of Completion without controls for SWMUs 45-001, 45-002, 45-003, 45-004 and AOC C-45-001 pursuant to section VII.E.6.b of the Consent Order.

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February 22, 2013
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If, in the future, any additional information becomes available that indicates the sites may pose a risk to human health or the environment, NMED may require the Permittees to conduct additional corrective action at the sites.

Please contact Daniel Comeau at (505) 476-6043, if you have any questions.

Sincerely,



John E. Kieling
Chief
Hazardous Waste Bureau

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