



# CMU #67

## CLOSURE REPORT

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API No. 30-025-32731

Release Date: October 17th, 2017

Unit Letter I, Section 19, Township 17 South, Range 33 East

### October 17, 2017

**Prepared by:**

Michael Burton, C&M Services

P.O Box 3470

Hobbs, NM 88240

Phone: (575)499-5306

[Marineburton@gmail.com](mailto:Marineburton@gmail.com)

Olivia Yu  
Environmental Specialist  
NM Oil Conservation District-Division 2  
1625 N. French  
Hobbs, NM 88240

RE: **Linn Energy, CMU #67– Closure Report**  
UL/I, Section 19, T17S, R33E  
API No. 30-025-32731

Ms. Yu,

Linn Energy (Linn) has retained C&M Service, to address environmental issues for the site detailed herein.

### **Site Assessment, Delineation and Site Activities**

On October 17, 2017 C&M personnel responded to the release site conducted a site assessment. C&M then scraped up the affected area to minimize the environmental impact. C&M personnel then sampled the affected area to obtain vertical delineation. Three sample points were taken, no more than 50' from one another. The samples were tested for chloride levels as well as BTEX. The BTEX samples were performed using a Mini Rae Photo ionization Detector (PID). Clean samples were attained on all of the 3 samples and sent to a lab for confirmation.

During the excavation sidewall samples were taken to ensure horizontal contamination was removed. Four of these sidewall samples were also taken to a lab for confirmation. All contaminated soil was taken to a New Mexico approved disposal landfill. New caliche was hauled in and the location was compacted to grade.

C&M has conducted a groundwater study of the area and has determined that according to the New Mexico Office of the State Engineer the average depth to groundwater for this area is 100 foot below ground surface. A surface water search was performed. The closest water well is approx 2500' to the west. The closest navigable waterway is 5033' east. Therefore, no eminent danger of groundwater impact, surface water or threat to life is anticipated.

## **SLO Requirements**

Due to the fact that this release was contained on location, no reseeding was performed.

## **Conclusion**

Due to the completion of this corrective action, C&M, on behalf of Linn Energy, submits the final C-141, and respectfully requests the closure of the regulatory file for this site.

Please feel free to contact me with any questions concerning this site activities/ closure request.

Sincerely,

A handwritten signature in cursive script that reads "Michael Burton".

Michael Burton  
Environmental Superintendent  
C&M Service.  
P.O Box 3470  
Hobbs, NM 88241  
Mobile: (575)499-5306  
Email: marineburton@gmail.com

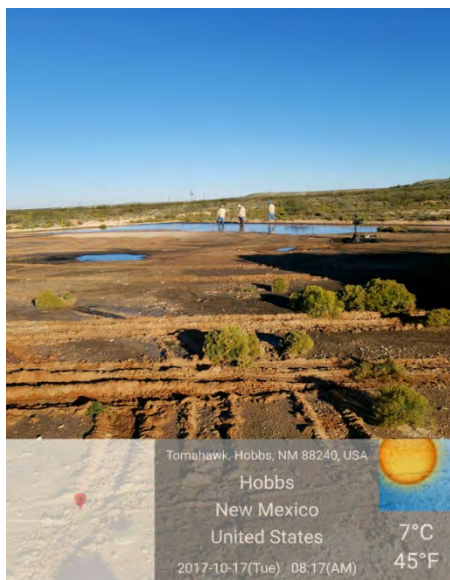
Attachments: Final Form C-141  
Site/Sample Map  
Water map  
Sample Data  
GPS coordinates per sample point



CMU #67

## CLOSURE PHOTO PAGE

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Spill area



Start of excavation



Excavation



Start of backfill



Finish cleanup



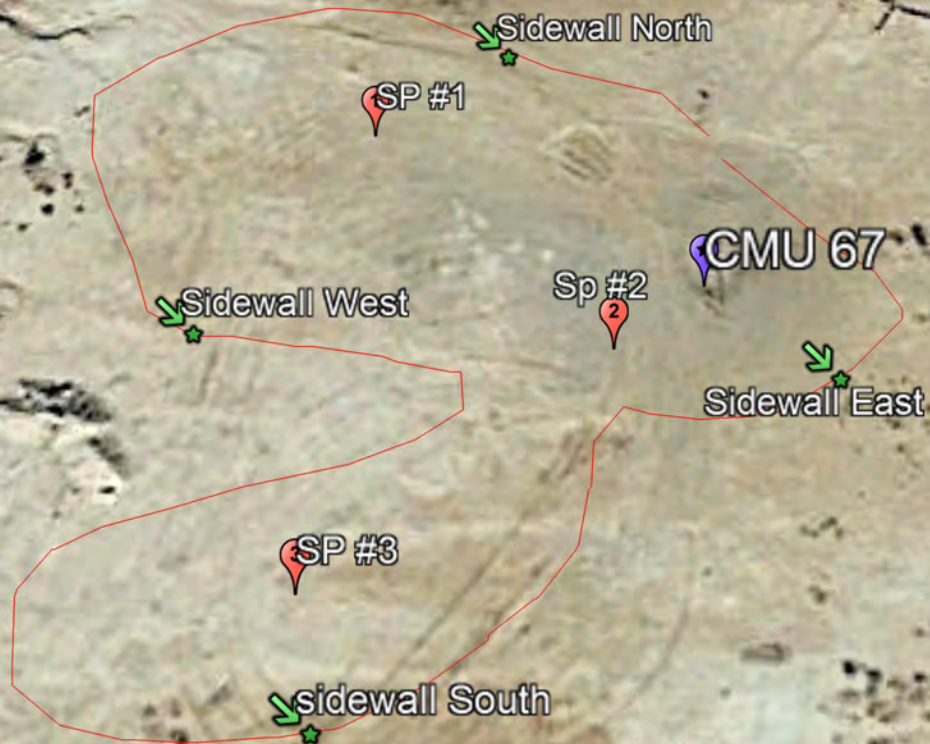
Backfill completed

# CMU 67

Sample points and sidewalls

## Legend

- CMU 67
- CMU 67 spill path
- SP #1
- Sp #2
- SP #3



Google Earth

© 2017 Google



70 ft

# CMU 67 Surface water

5033' to surface water

Legend

CMU 67



122

Tomahawk

125

Sutton Rd

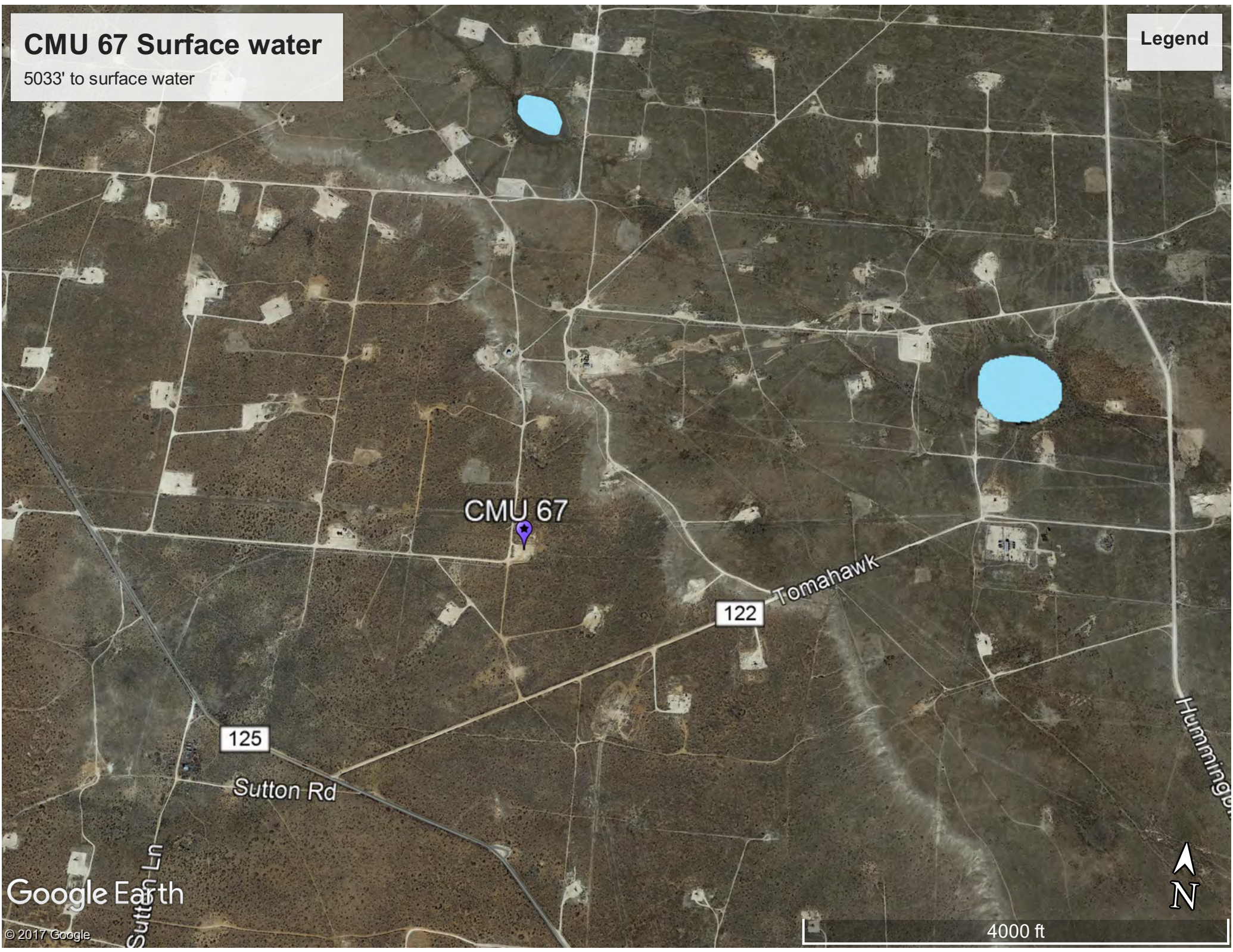
Hummingbird

Google Earth

© 2017 Google



4000 ft

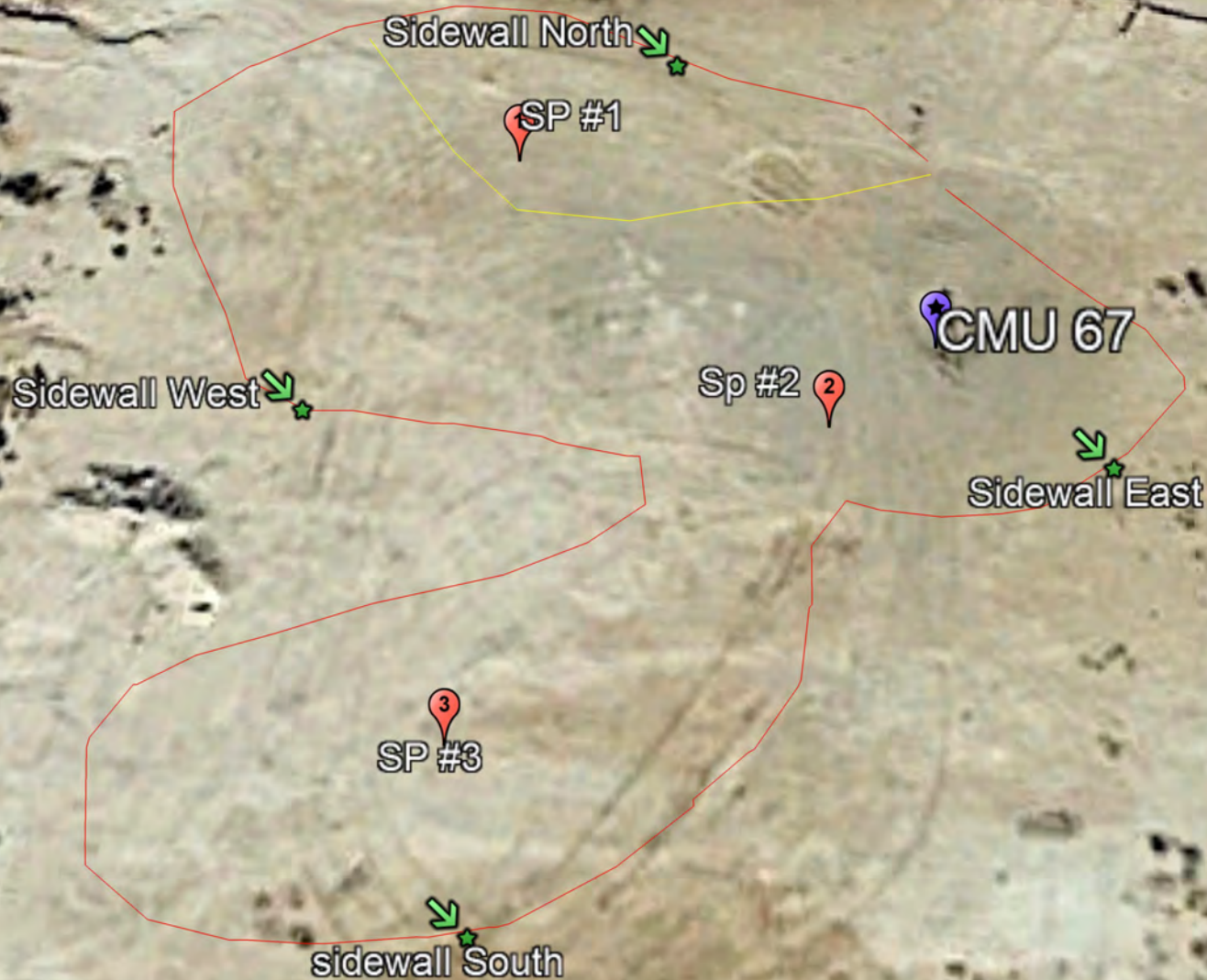


# CMU 67

Area of SP 1. 1.5' BGS  
SP 2 and SP 3. 1' BGS

## Legend

- CMU 67
- CMU 67 spill path
- Sidewall
- 1 SP #1
- 2 Sp #2
- 3 SP #3
- SP 1



**Company Name:** Linn Energy  
**Location Name:** CMU #67

SP Date: 10/17/2017  
Rel Date: 10/17/2017

[illegible]

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

C M Services

[illegible]

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1710A53**

Date Reported:

**CLIENT:** CM Services

**Client Sample ID:** Background

**Project:** CMU 67

**Collection Date:** 10/17/2017 11:00:00 AM

**Lab ID:** 1710A53-001

**Matrix:** SOIL

**Received Date:** 10/19/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	10/24/2017 2:57:51 AM	34568

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1710A53**

Date Reported:

**CLIENT:** CM Services

**Client Sample ID:** SP#1 @1.5'

**Project:** CMU 67

**Collection Date:** 10/17/2017 9:00:00 AM

**Lab ID:** 1710A53-002

**Matrix:** SOIL

**Received Date:** 10/19/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	280	30		mg/Kg	20	10/24/2017 3:10:15 AM	34568
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	14	9.3		mg/Kg	1	10/23/2017 1:39:02 PM	34518
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/23/2017 1:39:02 PM	34518
Surr: DNOP	77.9	70-130		%Rec	1	10/23/2017 1:39:02 PM	34518
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/20/2017 1:12:34 PM	34513
Surr: BFB	98.5	15-316		%Rec	1	10/20/2017 1:12:34 PM	34513
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	10/23/2017 5:41:04 PM	34513
Toluene	ND	0.048		mg/Kg	1	10/23/2017 5:41:04 PM	34513
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2017 5:41:04 PM	34513
Xylenes, Total	ND	0.095		mg/Kg	1	10/23/2017 5:41:04 PM	34513
Surr: 4-Bromofluorobenzene	121	80-120	S	%Rec	1	10/23/2017 5:41:04 PM	34513

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1710A53**

Date Reported:

**CLIENT:** CM Services

**Client Sample ID:** SP#2@1'

**Project:** CMU 67

**Collection Date:** 10/17/2017 9:10:00 AM

**Lab ID:** 1710A53-003

**Matrix:** SOIL

**Received Date:** 10/19/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	470	30		mg/Kg	20	10/24/2017 3:47:30 AM	34568

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1710A53**

Date Reported:

**CLIENT:** CM Services

**Client Sample ID:** SP#3@1'

**Project:** CMU 67

**Collection Date:** 10/17/2017 9:20:00 AM

**Lab ID:** 1710A53-004

**Matrix:** SOIL

**Received Date:** 10/19/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	100	75		mg/Kg	50	10/24/2017 10:01:12 AM	34568

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 4 of 0
	D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1710A53**

Date Reported:

**CLIENT:** CM Services

**Client Sample ID:** SW North

**Project:** CMU 67

**Collection Date:** 10/18/2017 10:00:00 AM

**Lab ID:** 1710A53-005

**Matrix:** SOIL

**Received Date:** 10/19/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	100	30		mg/Kg	20	10/24/2017 4:37:09 AM	34568

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1710A53**

Date Reported:

**CLIENT:** CM Services

**Client Sample ID:** SW South

**Project:** CMU 67

**Collection Date:** 10/18/2017 10:10:00 AM

**Lab ID:** 1710A53-006

**Matrix:** SOIL

**Received Date:** 10/19/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	240	30		mg/Kg	20	10/24/2017 4:49:33 AM	34568
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	9.8	9.4		mg/Kg	1	10/23/2017 2:03:33 PM	34518
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/23/2017 2:03:33 PM	34518
Surr: DNOP	75.5	70-130		%Rec	1	10/23/2017 2:03:33 PM	34518
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/20/2017 2:22:49 PM	34513
Surr: BFB	95.0	15-316		%Rec	1	10/20/2017 2:22:49 PM	34513
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	10/23/2017 6:51:40 PM	34513
Toluene	ND	0.048		mg/Kg	1	10/23/2017 6:51:40 PM	34513
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2017 6:51:40 PM	34513
Xylenes, Total	ND	0.096		mg/Kg	1	10/23/2017 6:51:40 PM	34513
Surr: 4-Bromofluorobenzene	122	80-120	S	%Rec	1	10/23/2017 6:51:40 PM	34513

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1710A53**

Date Reported:

**CLIENT:** CM Services

**Client Sample ID:** SW East

**Project:** CMU 67

**Collection Date:** 10/18/2017 10:20:00 AM

**Lab ID:** 1710A53-007

**Matrix:** SOIL

**Received Date:** 10/19/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	150	30		mg/Kg	20	10/24/2017 5:01:57 AM	34568

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1710A53**

Date Reported:

**CLIENT:** CM Services

**Client Sample ID:** SW West

**Project:** CMU 67

**Collection Date:** 10/18/2017 10:30:00 AM

**Lab ID:** 1710A53-008

**Matrix:** SOIL

**Received Date:** 10/19/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	240	30		mg/Kg	20	10/24/2017 5:14:22 AM	34568

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 8 of 0
	D	Sample Diluted Due to Matrix	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	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

## Sample Log-In Check List

 Client Name: **CM SERVICES**

 Work Order Number: **1710A53**

 RcptNo.: **1**

 Received By: **Richie Eriacho**

10/19/2017 9:30:00 AM

 Completed By: **Sophia Campuzano**

10/19/2017 10:08:56 AM

Reviewed By:



10/19/17

### 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? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
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?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.5	Good	Yes			



**Linn Energy**  
**CMU North Injection, CMU #67**  
**Sample point GPS**

**Background            32.817878, -103.695748**

**SP #1 release point   32.818149, -103.696409**

**SP #2                32.818065, -103.696294**

**SP #3                32.817963, -103.696407**

**Sidewall Labs GPS**

**SW North        32.818183, -103.696361**

**SW South        32.817909, -103.696397**

**SW East         32.818054, -103.696205**

**SW West         32.818054, -103.696475**