Souder, Miller & Associates♦201 S. Halagueno St.♦Carlsbad, NM 88220
(575) 689-8801

February 7, 2019

#5E26816 BG22

NMOCD District 2
Mr. Robert Hamlet
811 S. First Street
Artesia, New Mexico 88210

SUBJECT: Remediation Closure Report for the Anne Com 15 S 28E RB #221H Illegal Dump Release (2RP-5107), Eddy County, New Mexico

Dear Mr. Hamlet

On behalf of Matador Resources, Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes the remediation of a release of liquids related to oil and gas production activities at the Anne Com 15 S 28E RB #221H site. The site is in Unit D, Section 15, Township 24S, Range 28E, Eddy County, New Mexico, on private land. Figure 1 illustrates the vicinity and site location on an USGS 7.5-minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

Table 1: Release Information and Closure Criteria			
Name	Anne Com 15 S 28E RB #221H	Company	Matador Resources
API Number	30-015-43899	Location	32.223115 -104.080859
Incident Number	2RP-5107		
Estimated Date of Release	Date Discovered: 11/26/2018	Date Reported to NMOCD	12/6/2018
Land Owner	Private (Huber, Art & Carolyn Jr)	Reported To	District II
Source of Release	Illegal Dump		
Released Volume	Approximately 6.5 bbls	Released Material	Produced Water
Recovered Volume	N/A	Net Release	Approximately 6.5 bbls
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	11/26/2018, 1/04/2018, 1/22/2019		

1.0 Background

On November 26, 2018, a release was discovered at the Anne Com 15 S 28E RB #221H Illegal Dump site due to an illegal dump. Unfortunately, because the release wasn't found immediately after the release, no free liquid was onsite to recover nor, could a containment device be used. Figures 1 and 2 illustrate the vicinity and site location, Figure 3 illustrates the release location. The C-141 forms are included in Appendix A.

2.0 Site Information and Closure Criteria

The Anne Com 15 S 28E RB #221H is located approximately half a mile west of Malaga, New Mexico on privately-owned land at an elevation of approximately 3022 feet above mean sea level (amsl).

Based upon the New Mexico Office of the State Engineer (NMOSE) online water well database (Appendix B), depth to groundwater in the area is estimated to be 15 to 22 feet below grade surface (bgs). There are six known water sources within ½-mile of the location, according to the NMOSE online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 1/21/2019). The nearest significant watercourse is the Willow Creek Ditch, located approximately 42 feet to the west of the dump site. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of less than 50 feet bgs. The site has been restored to meet the locations background chloride levels to the standards of Table I of 19.15.29.12 NMAC.

Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

3.0 Release Characterization and Remediation Activities

On November 26, 2018, SMA personnel arrived on site in response to the release associated with Anne Com 15 S 28E RB #221H Illegal Dump. SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly stained area.

A total of 2 sample locations (L1 and L2) were investigated using a hand-auger, to depths up to 2.5 feet bgs as well as 4 background sample locations (BG1-BG4). Backgrounds 1 and 2 were taken from the lease road and backgrounds 3 and 4 were taken from the pasture. A total of 10 samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D.

As summarized in Table 3, results indicated that an area approximately 1880 square feet had been impacted. Background samples 1, 2 and 4 yielded results of elevated chloride concentrations of 920, 2000 and 820 mg/kg, respectfully. As a majority of the release is located in the lease road, SMA proposes the closure criteria for chlorides be 2000 mg/kg.

On 1/22/2019, SMA returned to the site to guide and oversee the excavation of contaminated soil to. SMA guided the excavation activities until the walls and base indicated that the background Closure Criteria would be met. The required photo of the open excavation is located in Appendix E. NMOCD was notified on January 20, 2019 that closure samples were expected to be collected in two (2) business days.

1.0 Background

On January 22, 2019, SMA conducted confirmation sampling of the walls and base of the excavation. The area around L1 and L2 was excavated to a depth of 3 feet bgs. The confirmation samples were collected from within the excavation in accordance with a systematic sampling approach as defined by SW846 using Gilbert, 1987 equation 5.2.3 for Stratified Random Sampling which is detailed in Appendix C. This systematic method meets the EPAs data quality assessment standards (DQA) for composite sampling as defined by (Myers 1997). Confirmation samples were comprised of five-point composites of the base (BH1-BH4) and walls (SW1-SW4).

A total of 8 samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix D).

Figure 3 shows the extent of the excavation and sample locations. Laboratory results are summarized in Table 3. Laboratory reports are included in Appendix D.

Contaminated soils were removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil was transported and disposed of at name of landfill, near, NM, an NMOCD permitted disposal facility.

4.0 Scope and Limitations

The scope of our services included: assessment sampling; verifying release stabilization; regulatory liaison; remediation; and preparing this closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-8801 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Lucas Middleton
Staff Scientist

J. Austin Weyant
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map
Figure 2: Surface Water Radius Map
Figure 3A: Site and Sample Location Map
Figure 3B: Closure Sample & Excavation Map

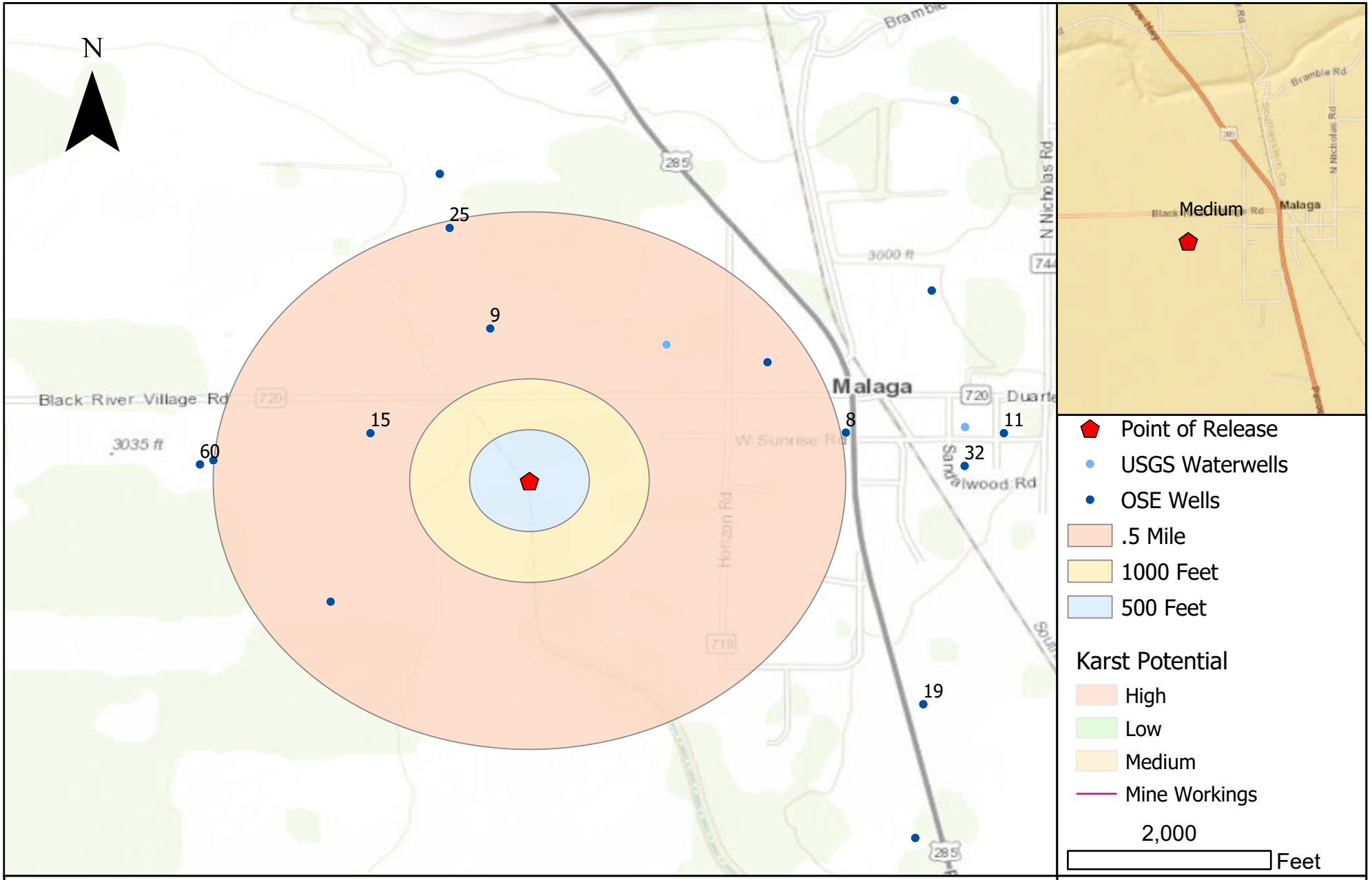
Tables:

Table 2: NMOCD Closure Criteria Justification
Table 3: Summary of Sample Results

Appendices:

Appendix A: Form C141
Appendix B: NMOSE Wells Report
Appendix C: Sampling Method
Appendix D: Laboratory Analytical Reports
Appendix E: Excavation Photo

FIGURES



Regional Vicinity & Wellhead Protection Map
Anne Com 15 S 28E RB #221H Illegal Dump - Matador Resources
Sec 15 T24S R28E Eddy County , NM

Figure 1

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Date Saved: 1/21/2019

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Drawn	MRS
Date	1/21/2019
Checked	
Approved	

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
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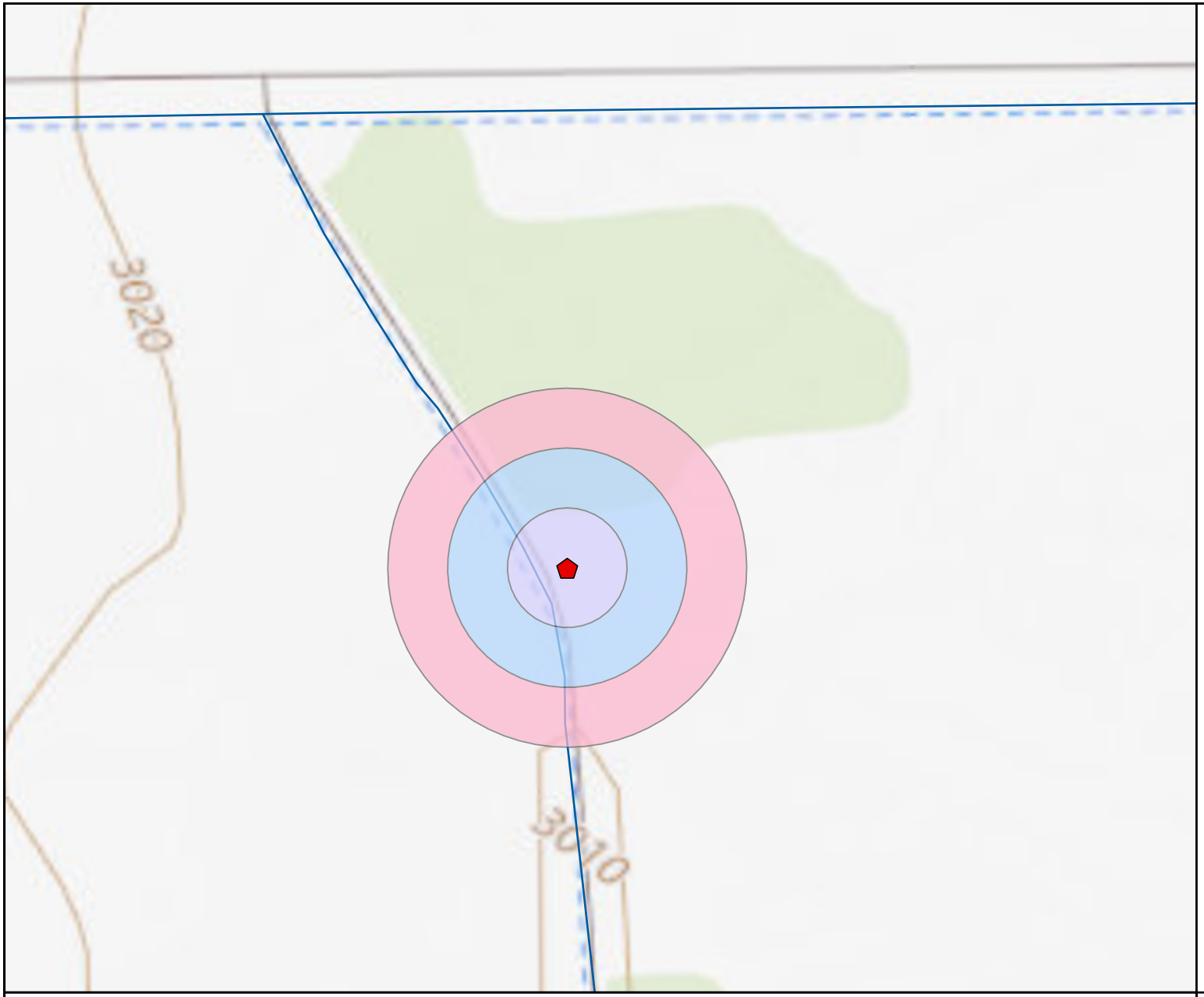

Point of Release
Springs Seeps
Streams Canals
Rivers
NM Wetlands
Lakes Playas
FEMA Flood Zones 2011

Buffer Distance
100 Feet
200 Feet
300 Feet

N

380
Feet

Regional Vicinity & Wellhead Protection Map
Anne Com 15 S 28E RB #221H Illegal Dump - Matador Resources
Sec 15 T24S R28E Eddy County , NM

Figure 2

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Date 1/21/2019
Checked
Approved

SMA

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Carlsbad, New Mexico 88221
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Site and Sample Location Map
Anne Com #221H - Illegal Dump - Matador Resources
S: 15 T24S R28E, Eddy County New Mexico

Figure 3A

Revisions
By: Date: Descr:
By: Date: Descr:

Drawn Lucas Middleton
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
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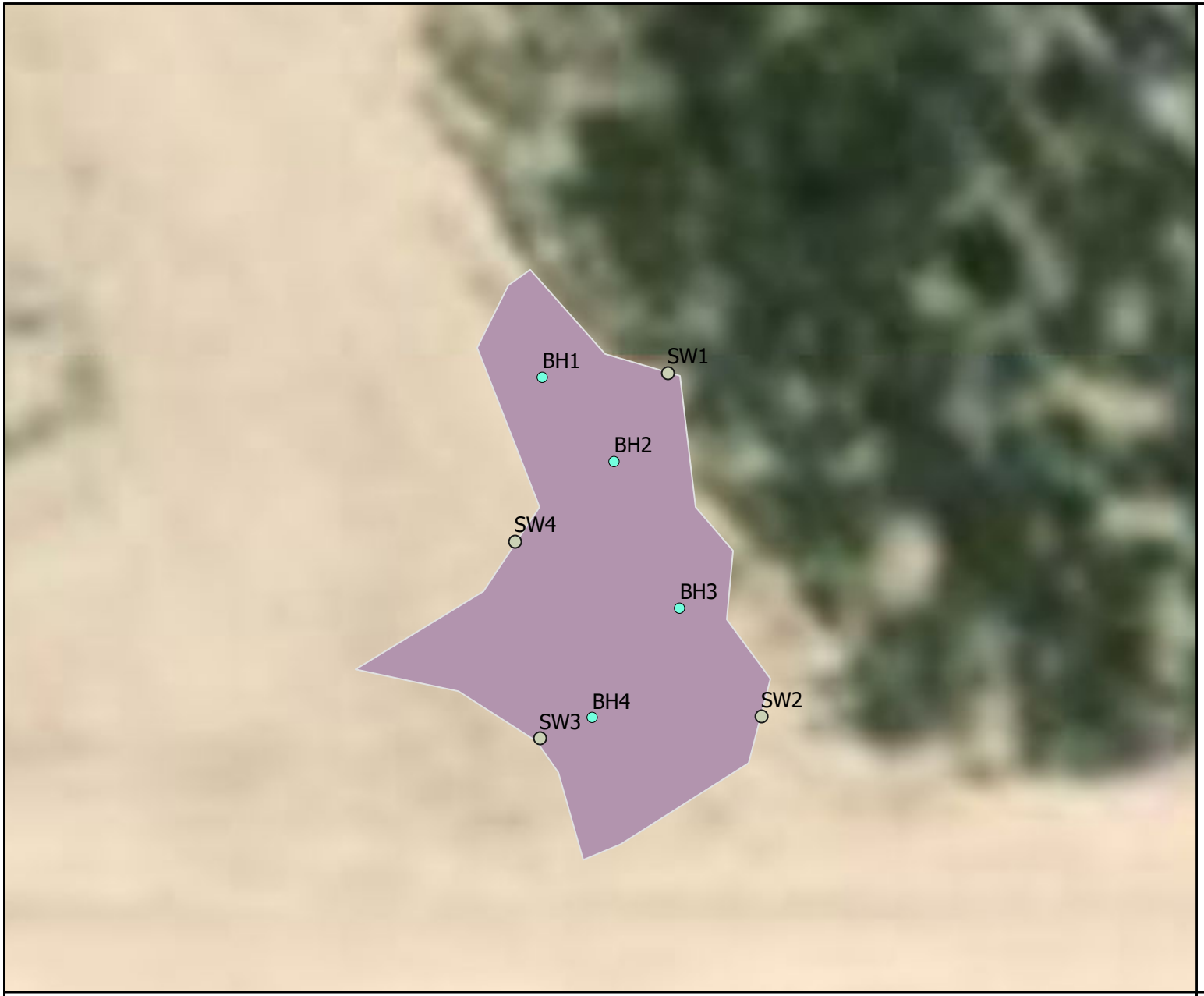
www.soudermiller.com
Serving the Southwest & Rocky Mountains

Date Saved: 12/18/2018

Document: C:\Users\lcm\Documents\GIS DATA\MAPS\Anne Com 202H-ILL Figure 3.mxd



Closure Sample & Excavation Map
Illegal Dump at the Anne Com - Matador Resources

Figure 3B

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Date 2/7/2019
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SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
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TABLES

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	15-22	OSE; USGS
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	--	1566, 1471, 2030, 2320, 2655 **OSE** 1730 **USGS** (Appendix B)
Hortizontal Distance to Nearest Significant Watercourse (ft)	42	Willow Creek Ditch

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Depth to Groundwater		**Closure Criteria (units in mg/kg)**				
		Chloride *numerical limit or background, whichever is greater	**TPH**	**GRO + DRO**	**BTEX**	**Benzene**
< 50' BGS	x	600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'		20000	2500	1000	50	10
Surface Water	**yes or no**	**if yes, then**				
<300' from continuously flowing watercourse or other significant watercourse?	yes	600	100		50	10
<200' from lakebed, sinkhole or playa lake?	no					
Water Well or Water Source						
<500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	no					
<1000' from fresh water well or spring?	no					
Human and Other Areas						
<300' from an occupied permanent residence, school, hospital, institution or church?	no					
within incorporated municipal boundaries or within a defined municipal fresh water well field?	no					
<100' from wetland?	no					
within area overlying a subsurface mine	no					
within an unstable area?	no					
within a 100-year floodplain?	no					

Table 3:
Summary of Sample Results

Matador Resources
Anne Com 15 S 28E RB #221H Illegal Dump

Sample ID	Sample Date	Depth (feet bgs)	Action Taken	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10	1000			100	600
L1	11/26/2018	Surface	Excavated	--	--	--	--	--	--	4200
	11/26/2018	1'	Excavated	12.088	0.048	240	2300	540	3080	190
	11/26/2018	2'	Excavated	0.422	<0.024	29	500	180	709	75
	11/26/2018	2.5	Excavated	--	--	--	--	--	--	--
	01/04/2018	3.0	In-situ	--	--	<5.0	<10	<50	<50	31
L2	11/26/2018	Surface	Excavated	--	--	--	--	--	--	--
	11/26/2018	1'	Excavated	<0.024	<0.098	<4.9	58	<46	58	680
	11/26/2018	2'	Excavated	<0.024	<0.096	<4.8	<9.6	<48	<48	890
BG1	11/26/2018	0-1'	Sample	--	--	--	--	--	--	920
BG2	11/26/2018	1'	Sample	--	--	--	--	--	--	2000
BG3	11/26/2018	1'	Sample	--	--	--	--	--	--	<30
BG4	11/26/2018	0	Sample	--	--	--	--	--	--	--
	11/26/2018	1'	Sample	--	--	--	--	--	--	820
BH1	01/22/2019	3	Closure	<0.21	<0.023	<4.7	<10	<50	<64.7	260
BH2	01/22/2019	3	Closure	<0.225	<0.025	<5.0	<9.7	<48	<62.7	100
BH3	01/22/2019	3	Closure	<0.22	<0.024	<4.9	12	<48	12	620
BH4	01/22/2019	3	Closure	<0.22	<0.024	<4.9	<9.6	<48	<62.5	320
SW1	01/22/2019	sidewall	Closure	<0.225	<0.025	<5.0	<9.8	<49	<63.8	190
SW2	01/22/2019	sidewall	Closure	<0.216	<0.024	<4.8	18	<50	18	50
SW3	01/22/2019	sidewall	Closure	<0.216	<0.024	<4.8	<9.6	<48	<62.4	390
SW4	01/22/2019	sidewall	Closure	<0.216	<0.024	<4.8	<9.7	<49	<63.5	76

"--" = Not Analyzed
* = per Reclamation Standard (19.15.29.13.D(1) NMAC)

APPENDIX A
FORMS C141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Matador Resources Company	OGRID 228937
Contact Name John Hurt	Contact Telephone 972-371-5200
Contact email JHurt@matadorresources.com	Incident # *(assigned by OCD)*
Contact mailing address 5400 LBJ Freeway, Suite 1500 Dallas,TX 75240	

Location of Release Source

Latitude 32.223115° Longitude -104.080859°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name ANNE COM 15 24S 28E RB #221H	Site Type Gas Well
Date Release Discovered 11-26-18	API# *(if applicable)* 30-015-43899

Unit Letter	Section	Township	Range	County
D	15	24	28E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (HUBER, ART & CAROLYN JR)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls) 0
☒ Produced Water	Volume Released (bbls) 6.5	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No unknow
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release Illegal Dump North of well pad.		

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.

☐ The impacted area has been secured to protect human health and the environment.

☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:
Due to the illegal dump that occurred no free liquid was onsite to recover. Nor containment device could be use.

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: John Hurt Title: RES Specialist

Signature: Date: 12/6/18

email: JHurt@matadorresources.com Telephone: 972-371-5200

OCD Only

Received by: Date:

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAB1834851697
District RP	2RP-5107
Facility ID	
Application ID	pAB1834851381

Release Notification

Responsible Party

Responsible Party Matador Resources Company	OGRID 228937
Contact Name John Hurt	Contact Telephone 972-371-5200
Contact email JHurt@matadorresources.com	Incident # NAB1834851697
Contact mailing address 5400 LBJ Freeway, Suite 1500 Dallas,TX 75240	

Location of Release Source

Latitude 32.223115° Longitude -104.080859°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name ANNE COM 15 24S 28E RB #221H	Site Type Gas Well
Date Release Discovered 11-26-18	API# *(if applicable)* 30-015-43899

Unit Letter	Section	Township	Range	County
D	15	24	28E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (HUBER, ART & CAROLYN JR)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls) 0
☒ Produced Water	Volume Released (bbls) 6.5	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No unknow
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
Illegal Dump North of well pad.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.

☐ The impacted area has been secured to protect human health and the environment.

☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:
Due to the illegal dump that occurred no free liquid was onsite to recover. Nor containment device could be use.

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: John Hurt Title: RES Specialist

Signature: Date: 12/6/18

email: JHurt@matadorresources.com Telephone: 972-371-5200

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	15-22 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☒ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: John Hurt Title: RES Specialist

Signature: Date:

email: JHurt@matadorresources.com Telephone: 972-371-5200

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: John Hurt Title: RES Specialist

Signature: Date:

email: JHurt@matadorresources.com Telephone: 972-371-5200

OCD Only

Received by: Date:

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Date:

Printed Name: Title:

APPENDIX B
NMOSE WELLS REPORT

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02836	C	ED	2	2	2	16	24S	28E	586203	3565676*	428		15	
C 00962	C	ED		3	3	10	24S	28E	586505	3565992*	466	63	9	54
C 00890	CUB	ED	3	3	4	10	24S	28E	587211	3565897*	701	50		
C 00764	CUB	ED	3	1	3	10	24S	28E	586399	3566292*	783	118	25	93
C 00488	C	ED	2	1	2	15	24S	28E	587412	3565688*	817	64	8	56
C 03824 POD1	CUB	ED	4	1	2	16	24S	28E	585770	3565578	839	290	60	230
C 00346	C	ED		2	2	15	24S	28E	587715	3565591*	1107	90	32	58
C 03132	C	ED	1	2	4	15	24S	28E	587616	3564877*	1204	90	19	71
C 02524 POD2	C	ED	2	2	2	15	24S	28E	587814	3565690*	1215	90	11	79
C 00570	CUB	ED		1	1	10	24S	28E	586490	3567195*	1662	100	28	72
C 02244	C	LE	3	1	2	22	24S	28E	587224	3563865*	1781	260		
C 01442	C	ED		1	2	10	24S	28E	587298	3567199*	1799	100		
C 01237	C	ED	1	1	2	10	24S	28E	587197	3567298*	1856	123		

Average Depth to Water: **23 feet**

Minimum Depth: **8 feet**

Maximum Depth: **60 feet**

Record Count: 13

UTMNAD83 Radius Search (in meters):

Easting (X): 586608.5 **Northing (Y):** 3565537.2 **Radius:** 2000

***UTM location was derived from PLSS - see Help**

APPENDIX C

VSP CLOSURE SAMPLING PROCEDURE

VSP Sample Design Report for Using Stratified Sampling to Estimate the Population Proportion

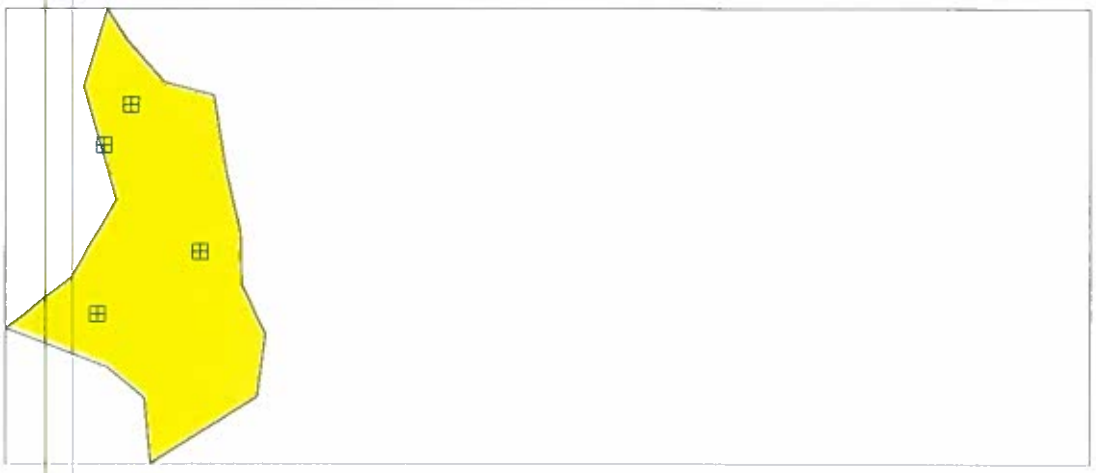
Summary

This report summarizes the stratified sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan. It is important to note that the decision for sample size calculation is determined for the combined strata, rather than any individual strata.

The following table summarizes the proportion stratified sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Estimate the population proportion of all strata combined
Criteria for Determining Total Number of Samples	Achieve pre-specified precision of the estimated proportion for specified stratum costs, but no restriction on total costs
Sample Placement (Location) in the Field	Random sampling within grids within each stratum
Formula for calculating number of sampling locations	From Gilbert (1987, page 51)
Method for calculating number of sampling locations in each stratum	Optimal Allocation
Calculated total number of samples	4
Stratum 1	4
Total area of all strata	174.76 m^2

[a] Including measurement analyses and fixed overhead costs. See the Cost of Sampling section for an explanation of the costs presented here.



Area: Area 1						
X Coord	Y Coord	Label	Value	Type	Historical	Sample Area
586596.1776	3565539.1667			Random in Grid		
586601.9524	3565542.6835			Random in Grid		

586596.5259	3565548.7757			Random in Grid	
586598.0688	3565551.0557			Random in Grid	

Primary Sampling Objective
The primary purpose of sampling at this site is to estimate the proportion for the entire site, i.e., for all strata combined, such that the estimated proportion has the minimum possible standard deviation under the condition that the sampling and measurement costs cannot exceed a specified amount. Preexisting information was used to divide the site into 1 non-overlapping strata that were expected to be more homogeneous internally than for the entire site (all strata combined). The expected variability of values within each stratum was estimated or approximated, and the stratum weights, W_h, were determined so that the total number of samples could be allocated appropriately among the strata.

Number of Total Samples: Calculation Equation and Inputs
The total number of samples is computed to achieve the pre-specified precision of the estimated population proportion for specified stratum costs, but no restriction on total costs. *Note that the calculation is for the total number of samples, i.e., for combined strata, rather than individual strata.*

The formula used to calculate the total number of samples is:

$$n = \frac{\left(\sum_{h=1}^{L} W_h \sqrt{P_h(1-P_h)}\sqrt{c_h}\right)\sum_{h=1}^{L} \frac{W_h\sqrt{P_h(1-P_h)}}{\sqrt{c_h}}}{V + {}^{1}\!/_{N}\sum_{h=1}^{L} W_h P_h(1-P_h)}$$

where
L is the number of strata, $h=1,2,...,L$,
P_h is the estimated proportion of measurements in stratum h,
$W_h = N_h / N$ is the weight associated with stratum h,
N_h is the total number of possible sampling locations (units) in stratum h,
N is the total number of possible units in all strata combined, $N = \sum_{h=1}^{L} N_h$
V is the pre-specified variance or precision, and
c_h is the cost of collecting and measuring a sample in stratum h.

The values of these inputs that result in the calculated number of sampling locations are:

Parameter	Stratum
	1
P_h	0.2
C_h	
W_h	174.761

Parameter	Input Value
V	1

Allocation of Samples to Strata
The total number of samples is allocated to the individual strata on an optimal basis using the formula:

$$n_h = n\frac{N_h\sqrt{P_h(1-P_h)}/\sqrt{c_h}}{\sum_{h=1}^{L} N_h\sqrt{P_h(1-P_h)}/\sqrt{c_h}}$$

where

n_h is the number of samples allocated to stratum h,
L is the number of strata,
N_h is the total number of units in stratum h,
P_h is the proportion in stratum h,
c_h is the cost per population unit in stratum h.

n is the total number of units sampled in all strata, $n = \sum_{h=1}^{L} n_h$

Using this formula, the number of samples allocated to each stratum is:

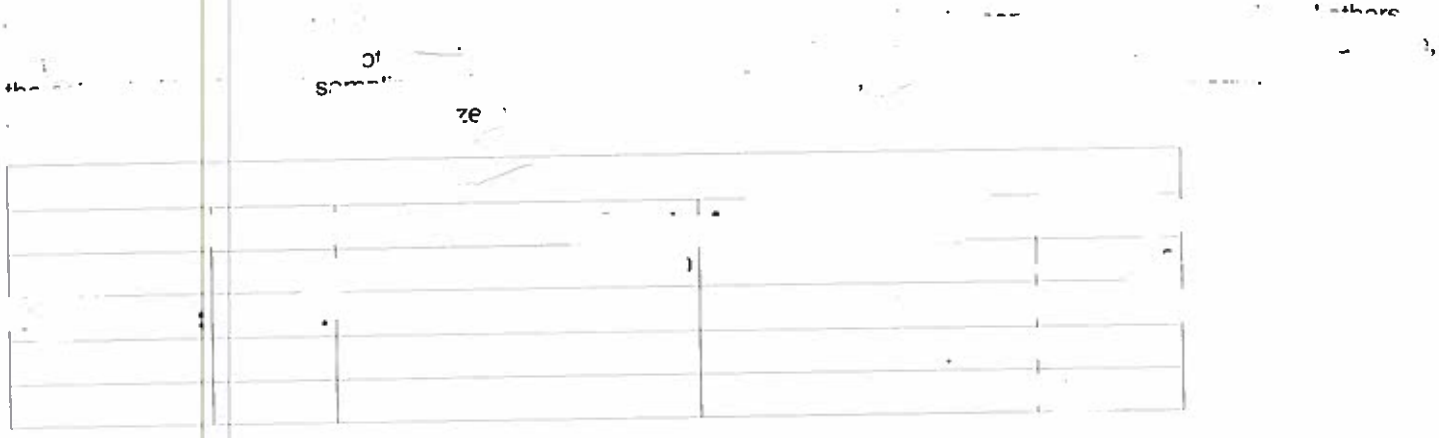
Stratum	Number of Samples
1	4
Total Samples	4

Method for Determining Sampling Locations
Five methods for determining sample locations are provided in VSP: 1) simple random sampling, 2) random sampling within grids, 3) systematic sampling with a random start, 4) systematic sampling with a fixed start and 5) adaptive grid sampling. One may use a different method for each stratum, based on the conceptual site model and decision to be made for a given stratum. For this site, sample locations were chosen using random sampling within grids in each stratum.

Locating the sample points using a random sampling within grids method combines appealing aspects of both the random and the systematic grid methods. It provides data that are separated by many distances, providing information about the spatial structure of the potential contamination. It also ensures good coverage of the entire site, although not as completely as if systematic grid sampling were performed.

Statistical Assumptions
The assumptions associated with the formulas for computing the number of samples are:
1. The estimated stratum proportions, P_h, are reasonable and representative of the stratum populations being sampled.
2. The sampling locations are selected using simple random sampling.
3. The stratum costs, C_h, and the fixed cost C_0, are accurate.

The first and third assumptions will be assessed in a post data collection analysis. The second assumption, although not strictly valid for strata where systematic grid sampling was used rather than simple random sampling, is not expected to significantly affect conclusions of the study because (1) the gridded sample locations were selected based on a random start and (2) any patterns of contamination in the field that may exist are not expected to coincide with the regularity of the grid sampling pattern.



Recommended Data Analysis Activities
Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000).

The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Estimates for the proportion of the population values will be calculated using the formulas appropriate for stratified sampling; these formulas are found in EPA QA/G-5S (EPA, 2001). Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

APPENDIX D

LABORATORY ANALYTICAL REPORTS

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

December 04, 2018

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: Ann Com ILL OrderNo.: 1811D30

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 9 sample(s) on 11/28/2018 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 #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1811D30**
Date Reported: **12/4/2018**

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-1
Project: Ann Com ILL
Collection Date: 11/26/2018 2:20:00 PM
Lab ID: 1811D30-001 **Matrix:** SOIL **Received Date:** 11/28/2018 12:08:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	190	30		mg/Kg	20	11/30/2018 2:56:35 PM	41815
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	2300	97		mg/Kg	10	12/3/2018 11:12:53 PM	41788
Motor Oil Range Organics (MRO)	540	490		mg/Kg	10	12/3/2018 11:12:53 PM	41788
Surr: DNOP	0	50.6-138	S	%Rec	10	12/3/2018 11:12:53 PM	41788
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	240	4.9		mg/Kg	1	11/29/2018 5:46:43 PM	41774
Surr: BFB	1230	73.8-119	S	%Rec	1	11/29/2018 5:46:43 PM	41774
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	0.048	0.025		mg/Kg	1	11/29/2018 5:46:43 PM	41774
Toluene	1.1	0.049		mg/Kg	1	11/29/2018 5:46:43 PM	41774
Ethylbenzene	0.94	0.049		mg/Kg	1	11/29/2018 5:46:43 PM	41774
Xylenes, Total	10	0.099		mg/Kg	1	11/29/2018 5:46:43 PM	41774
Surr: 4-Bromofluorobenzene	191	80-120	S	%Rec	1	11/29/2018 5:46:43 PM	41774

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-2
Project: Ann Com ILL
Collection Date: 11/26/2018 2:25:00 PM
Lab ID: 1811D30-002 **Matrix:** SOIL **Received Date:** 11/28/2018 12:08:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	75	30		mg/Kg	20	11/30/2018 3:08:59 PM	41815
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	500	9.8		mg/Kg	1	12/2/2018 2:09:02 AM	41788
Motor Oil Range Organics (MRO)	180	49		mg/Kg	1	12/2/2018 2:09:02 AM	41788
Surr: DNOP	111	50.6-138		%Rec	1	12/2/2018 2:09:02 AM	41788
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	29	4.8		mg/Kg	1	11/29/2018 6:10:24 PM	41774
Surr: BFB	316	73.8-119	S	%Rec	1	11/29/2018 6:10:24 PM	41774
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	11/29/2018 6:10:24 PM	41774
Toluene	ND	0.048		mg/Kg	1	11/29/2018 6:10:24 PM	41774
Ethylbenzene	0.072	0.048		mg/Kg	1	11/29/2018 6:10:24 PM	41774
Xylenes, Total	0.35	0.097		mg/Kg	1	11/29/2018 6:10:24 PM	41774
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/29/2018 6:10:24 PM	41774

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-1
Project: Ann Com ILL
Collection Date: 11/26/2018 2:30:00 PM
Lab ID: 1811D30-003 **Matrix:** SOIL **Received Date:** 11/28/2018 12:08:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	680	30		mg/Kg	20	11/30/2018 3:21:24 PM	41815
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	58	9.3		mg/Kg	1	12/2/2018 2:31:00 AM	41788
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/2/2018 2:31:00 AM	41788
Surr: DNOP	138	50.6-138		%Rec	1	12/2/2018 2:31:00 AM	41788
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/29/2018 6:34:03 PM	41774
Surr: BFB	93.2	73.8-119		%Rec	1	11/29/2018 6:34:03 PM	41774
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/29/2018 6:34:03 PM	41774
Toluene	ND	0.049		mg/Kg	1	11/29/2018 6:34:03 PM	41774
Ethylbenzene	ND	0.049		mg/Kg	1	11/29/2018 6:34:03 PM	41774
Xylenes, Total	ND	0.098		mg/Kg	1	11/29/2018 6:34:03 PM	41774
Surr: 4-Bromofluorobenzene	91.2	80-120		%Rec	1	11/29/2018 6:34:03 PM	41774

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-2
Project: Ann Com ILL
Collection Date: 11/26/2018 2:35:00 PM
Lab ID: 1811D30-004 **Matrix:** SOIL **Received Date:** 11/28/2018 12:08:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	890	30		mg/Kg	20	11/30/2018 3:33:49 PM	41815
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/2/2018 2:52:58 AM	41788
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/2/2018 2:52:58 AM	41788
Surr: DNOP	146	50.6-138	S	%Rec	1	12/2/2018 2:52:58 AM	41788
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/29/2018 6:57:44 PM	41774
Surr: BFB	87.4	73.8-119		%Rec	1	11/29/2018 6:57:44 PM	41774
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/29/2018 6:57:44 PM	41774
Toluene	ND	0.048		mg/Kg	1	11/29/2018 6:57:44 PM	41774
Ethylbenzene	ND	0.048		mg/Kg	1	11/29/2018 6:57:44 PM	41774
Xylenes, Total	ND	0.096		mg/Kg	1	11/29/2018 6:57:44 PM	41774
Surr: 4-Bromofluorobenzene	91.1	80-120		%Rec	1	11/29/2018 6:57:44 PM	41774

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: BG1
Project: Ann Com ILL
Collection Date: 11/26/2018 2:05:00 PM
Lab ID: 1811D30-005 **Matrix:** SOIL **Received Date:** 11/28/2018 12:08:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	920	30		mg/Kg	20	11/30/2018 3:46:14 PM	41815

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: BG2
Project: Ann Com ILL
Collection Date: 11/26/2018 2:10:00 PM
Lab ID: 1811D30-006 **Matrix:** SOIL **Received Date:** 11/28/2018 12:08:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	2000	75		mg/Kg	50	12/3/2018 4:24:00 PM	41838

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: BG3
Project: Ann Com ILL
Collection Date: 11/26/2018 3:00:00 PM
Lab ID: 1811D30-007 **Matrix:** SOIL **Received Date:** 11/28/2018 12:08:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	30		mg/Kg	20	12/1/2018 11:21:26 AM	41838

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: BG4-1
Project: Ann Com ILL
Collection Date: 11/26/2018 3:30:00 PM
Lab ID: 1811D30-008 **Matrix:** SOIL **Received Date:** 11/28/2018 12:08:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	820	30		mg/Kg	20	12/1/2018 11:58:41 AM	41838

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-SUR
Project: Ann Com ILL
Collection Date: 11/26/2018 2:15:00 PM
Lab ID: 1811D30-009
Matrix: SOIL
Received Date: 11/28/2018 12:08:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	4200	150		mg/Kg	100	12/3/2018 4:36:25 PM	41838

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
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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811D30**

04-Dec-18

Client: Souder, Miller & Associates

Project: Ann Com ILL

Sample ID	**MB-41815**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**41815**	RunNo:	**55980**					
Prep Date:	**11/30/2018**	Analysis Date:	**11/30/2018**	SeqNo:	**1869800**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-41815**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**41815**	RunNo:	**55980**					
Prep Date:	**11/30/2018**	Analysis Date:	**11/30/2018**	SeqNo:	**1869801**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.4	90	110			

Sample ID	**MB-41838**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**41838**	RunNo:	**56022**					
Prep Date:	**12/1/2018**	Analysis Date:	**12/1/2018**	SeqNo:	**1870101**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-41838**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**41838**	RunNo:	**56022**					
Prep Date:	**12/1/2018**	Analysis Date:	**12/1/2018**	SeqNo:	**1870102**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.3	90	110			

Qualifiers:

*	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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811D30**

04-Dec-18

Client: Souder, Miller & Associates

Project: Ann Com ILL

Sample ID	**MB-41788**	SampType:	**MBLK**			TestCode:	**EPA Method 8015M/D: Diesel Range Organics**			
Client ID:	**PBS**	Batch ID:	**41788**			RunNo:	**55975**			
Prep Date:	**11/29/2018**	Analysis Date:	**11/30/2018**			SeqNo:	**1868990**	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	9.4		10.00		94.3	50.6	138			

Sample ID	**LCS-41788**	SampType:	**LCS**			TestCode:	**EPA Method 8015M/D: Diesel Range Organics**			
Client ID:	**LCSS**	Batch ID:	**41788**			RunNo:	**55975**			
Prep Date:	**11/29/2018**	Analysis Date:	**11/30/2018**			SeqNo:	**1868991**	Units:	**mg/Kg**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.3	70	130			
Surr: DNOP	4.5		5.000		90.5	50.6	138			

Sample ID	**1811D30-004AMS**	SampType:	**MS**			TestCode:	**EPA Method 8015M/D: Diesel Range Organics**			
Client ID:	**L2-2**	Batch ID:	**41788**			RunNo:	**55920**			
Prep Date:	**11/29/2018**	Analysis Date:	**12/2/2018**			SeqNo:	**1870085**	Units:	**mg/Kg**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	9.8	49.02	5.222	99.8	53.5	126			
Surr: DNOP	4.8		4.902		97.4	50.6	138			

Sample ID	**1811D30-004AMSD**	SampType:	**MSD**			TestCode:	**EPA Method 8015M/D: Diesel Range Organics**			
Client ID:	**L2-2**	Batch ID:	**41788**			RunNo:	**55920**			
Prep Date:	**11/29/2018**	Analysis Date:	**12/2/2018**			SeqNo:	**1870086**	Units:	**mg/Kg**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.6	47.76	5.222	93.3	53.5	126	8.40	21.7	
Surr: DNOP	4.2		4.776		87.0	50.6	138	0	0	

Sample ID	**LCS-41844**	SampType:	**LCS**			TestCode:	**EPA Method 8015M/D: Diesel Range Organics**			
Client ID:	**LCSS**	Batch ID:	**41844**			RunNo:	**56031**			
Prep Date:	**12/3/2018**	Analysis Date:	**12/3/2018**			SeqNo:	**1870407**	Units:	**%Rec**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		87.4	50.6	138			

Sample ID	**MB-41844**	SampType:	**MBLK**			TestCode:	**EPA Method 8015M/D: Diesel Range Organics**			
Client ID:	**PBS**	Batch ID:	**41844**			RunNo:	**56031**			
Prep Date:	**12/3/2018**	Analysis Date:	**12/3/2018**			SeqNo:	**1870408**	Units:	**%Rec**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811D30**

04-Dec-18

Client: Souder, Miller & Associates

Project: Ann Com ILL

Sample ID	**MB-41844**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**41844**		RunNo:	**56031**				
Prep Date:	**12/3/2018**	Analysis Date:	**12/3/2018**		SeqNo:	**1870408**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.2		10.00		82.4	50.6	138			

Sample ID	**LCS-41790**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**41790**		RunNo:	**56031**				
Prep Date:	**11/29/2018**	Analysis Date:	**12/4/2018**		SeqNo:	**1871902**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		89.0	50.6	138			

Sample ID	**MB-41790**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**41790**		RunNo:	**56031**				
Prep Date:	**11/29/2018**	Analysis Date:	**12/4/2018**		SeqNo:	**1871903**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.7		10.00		97.4	50.6	138			

Qualifiers:

*	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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811D30**

04-Dec-18

Client: Souder, Miller & Associates

Project: Ann Com ILL

Sample ID	**MB-41775**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**41775**		RunNo:	**55952**				
Prep Date:	**11/28/2018**	Analysis Date:	**11/29/2018**		SeqNo:	**1868332**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	920		1000		92.0	73.8	119			

Sample ID	**LCS-41775**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**41775**		RunNo:	**55952**				
Prep Date:	**11/28/2018**	Analysis Date:	**11/29/2018**		SeqNo:	**1868333**	Units:	**%Rec**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		105	73.8	119			

Sample ID	**MB-41774**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**41774**		RunNo:	**55953**				
Prep Date:	**11/28/2018**	Analysis Date:	**11/29/2018**		SeqNo:	**1868356**	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	930		1000		93.4	73.8	119			

Sample ID	**LCS-41774**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**41774**		RunNo:	**55953**				
Prep Date:	**11/28/2018**	Analysis Date:	**11/29/2018**		SeqNo:	**1868357**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	80.1	123			
Surr: BFB	1000		1000		102	73.8	119			

Qualifiers:

*	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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811D30**

04-Dec-18

Client: Souder, Miller & Associates

Project: Ann Com ILL

Sample ID	**MB-41775**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**41775**	RunNo:	**55952**					
Prep Date:	**11/28/2018**	Analysis Date:	**11/29/2018**	SeqNo:	**1868345**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.97		1.000		97.1	80	120			

Sample ID	**LCS-41775**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**41775**	RunNo:	**55952**					
Prep Date:	**11/28/2018**	Analysis Date:	**11/29/2018**	SeqNo:	**1868346**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		99.9	80	120			

Sample ID	**MB-41774**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**41774**	RunNo:	**55953**					
Prep Date:	**11/28/2018**	Analysis Date:	**11/29/2018**	SeqNo:	**1868374**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.91		1.000		90.7	80	120			

Sample ID	**LCS-41774**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**41774**	RunNo:	**55953**					
Prep Date:	**11/28/2018**	Analysis Date:	**11/29/2018**	SeqNo:	**1868375**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.2	80	120			
Toluene	0.97	0.050	1.000	0	96.6	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.9	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.4	80	120			
Surr: 4-Bromofluorobenzene	0.90		1.000		90.2	80	120			

Qualifiers:

*	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 Quanitative 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

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1811D30 RcptNo: 1

Received By: Victoria Zellar 11/28/2018 12:08:00 PM Victoria Zellar

Completed By: Anne Thorne 11/28/2018 1:04:37 PM Anne Thorne

Reviewed By: DAD 11/28/18 11/28/18

Labeled by: JO

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? _____
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: _____

Special Handling (if applicable)

15. 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:			

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.1	Good	Yes			
2	1.6	Good	Yes			

Chain-of-Custody Record

Client: SMA Carlsbad

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 5 day

Project Name: Ann Com ILL

Project #:

Project Manager: A. Weyant

Sampler: LCM

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 5.1, 1.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1811030	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
11:26	2:20	Soil	L1-1	4oz		001	X	X					X			
	2:25		L1-2			002	X	X					X			
	2:30		L2-1			003	X	X					X			
	2:35		L2-2			004	X	X					X			
	2:05		BG1			005							X			
	2:10		BG 2			006							X			
	3:00		BG 3			007							X			
	3:30		BG 4-1			008							X			
↓	2:15	↓	L1-Sur	↓		009							X			

Date	Time	Relinquished by	Received by	Via	Date	Time
11/27	8:00 am	Samantha Watson			11/27/18	1100
11/27/18	1900		Victoria Ballon	Courier	11/28/18	1200

Remarks: Matador

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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

January 30, 2019

Austin Weyant

Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: Ann Com ILL OrderNo.: 1901979

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 8 sample(s) on 1/25/2019 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 #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: Ann Com ILL
Collection Date: 1/22/2019 3:00:00 PM
Lab ID: 1901979-001 **Matrix:** SOIL **Received Date:** 1/25/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	30		mg/Kg	20	1/28/2019 1:38:57 PM	42842
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/29/2019 10:24:39 AM	42830
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/29/2019 10:24:39 AM	42830
Surr: DNOP	69.1	50.6-138		%Rec	1	1/29/2019 10:24:39 AM	42830
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/28/2019 9:22:49 AM	42821
Surr: BFB	92.1	73.8-119		%Rec	1	1/28/2019 9:22:49 AM	42821
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	1/28/2019 9:22:49 AM	42821
Toluene	ND	0.050		mg/Kg	1	1/28/2019 9:22:49 AM	42821
Ethylbenzene	ND	0.050		mg/Kg	1	1/28/2019 9:22:49 AM	42821
Xylenes, Total	ND	0.10		mg/Kg	1	1/28/2019 9:22:49 AM	42821
Surr: 4-Bromofluorobenzene	99.8	80-120		%Rec	1	1/28/2019 9:22:49 AM	42821

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW2
Project: Ann Com ILL
Collection Date: 1/22/2019 3:15:00 PM
Lab ID: 1901979-002 **Matrix:** SOIL **Received Date:** 1/25/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	50	30		mg/Kg	20	1/28/2019 1:51:21 PM	42842
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	18	9.9		mg/Kg	1	1/29/2019 10:48:57 AM	42830
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/29/2019 10:48:57 AM	42830
Surr: DNOP	69.0	50.6-138		%Rec	1	1/29/2019 10:48:57 AM	42830
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/28/2019 10:31:07 AM	42821
Surr: BFB	95.1	73.8-119		%Rec	1	1/28/2019 10:31:07 AM	42821
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/28/2019 10:31:07 AM	42821
Toluene	ND	0.048		mg/Kg	1	1/28/2019 10:31:07 AM	42821
Ethylbenzene	ND	0.048		mg/Kg	1	1/28/2019 10:31:07 AM	42821
Xylenes, Total	ND	0.096		mg/Kg	1	1/28/2019 10:31:07 AM	42821
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	1/28/2019 10:31:07 AM	42821

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW3
Project: Ann Com ILL
Collection Date: 1/22/2019 3:20:00 PM
Lab ID: 1901979-003 **Matrix:** SOIL **Received Date:** 1/25/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	390	30		mg/Kg	20	1/28/2019 2:28:35 PM	42842
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/29/2019 11:13:01 AM	42830
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/29/2019 11:13:01 AM	42830
Surr: DNOP	88.1	50.6-138		%Rec	1	1/29/2019 11:13:01 AM	42830
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/28/2019 11:39:16 AM	42821
Surr: BFB	96.1	73.8-119		%Rec	1	1/28/2019 11:39:16 AM	42821
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/28/2019 11:39:16 AM	42821
Toluene	ND	0.048		mg/Kg	1	1/28/2019 11:39:16 AM	42821
Ethylbenzene	ND	0.048		mg/Kg	1	1/28/2019 11:39:16 AM	42821
Xylenes, Total	ND	0.096		mg/Kg	1	1/28/2019 11:39:16 AM	42821
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	1/28/2019 11:39:16 AM	42821

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW4
Project: Ann Com ILL
Collection Date: 1/22/2019 3:30:00 PM
Lab ID: 1901979-004 **Matrix:** SOIL **Received Date:** 1/25/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	76	30		mg/Kg	20	1/28/2019 2:41:00 PM	42842
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/29/2019 11:37:17 AM	42830
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/29/2019 11:37:17 AM	42830
Surr: DNOP	73.0	50.6-138		%Rec	1	1/29/2019 11:37:17 AM	42830
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/28/2019 12:01:55 PM	42821
Surr: BFB	95.8	73.8-119		%Rec	1	1/28/2019 12:01:55 PM	42821
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	1/28/2019 12:01:55 PM	42821
Toluene	ND	0.048		mg/Kg	1	1/28/2019 12:01:55 PM	42821
Ethylbenzene	ND	0.048		mg/Kg	1	1/28/2019 12:01:55 PM	42821
Xylenes, Total	ND	0.096		mg/Kg	1	1/28/2019 12:01:55 PM	42821
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	1/28/2019 12:01:55 PM	42821

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH1
Project: Ann Com ILL
Collection Date: 1/22/2019 3:40:00 PM
Lab ID: 1901979-005 **Matrix:** SOIL **Received Date:** 1/25/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	260	30		mg/Kg	20	1/28/2019 2:53:24 PM	42842
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/29/2019 12:01:29 PM	42830
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/29/2019 12:01:29 PM	42830
Surr: DNOP	82.9	50.6-138		%Rec	1	1/29/2019 12:01:29 PM	42830
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/28/2019 12:24:39 PM	42821
Surr: BFB	95.7	73.8-119		%Rec	1	1/28/2019 12:24:39 PM	42821
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	1/28/2019 12:24:39 PM	42821
Toluene	ND	0.047		mg/Kg	1	1/28/2019 12:24:39 PM	42821
Ethylbenzene	ND	0.047		mg/Kg	1	1/28/2019 12:24:39 PM	42821
Xylenes, Total	ND	0.093		mg/Kg	1	1/28/2019 12:24:39 PM	42821
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	1/28/2019 12:24:39 PM	42821

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH2
Project: Ann Com ILL
Collection Date: 1/22/2019 3:50:00 PM
Lab ID: 1901979-006 **Matrix:** SOIL **Received Date:** 1/25/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	100	30		mg/Kg	20	1/28/2019 3:05:48 PM	42842
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/29/2019 12:25:51 PM	42830
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/29/2019 12:25:51 PM	42830
Surr: DNOP	71.8	50.6-138		%Rec	1	1/29/2019 12:25:51 PM	42830
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/28/2019 12:47:35 PM	42821
Surr: BFB	95.3	73.8-119		%Rec	1	1/28/2019 12:47:35 PM	42821
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	1/28/2019 12:47:35 PM	42821
Toluene	ND	0.050		mg/Kg	1	1/28/2019 12:47:35 PM	42821
Ethylbenzene	ND	0.050		mg/Kg	1	1/28/2019 12:47:35 PM	42821
Xylenes, Total	ND	0.10		mg/Kg	1	1/28/2019 12:47:35 PM	42821
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	1/28/2019 12:47:35 PM	42821

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH3
Project: Ann Com ILL
Collection Date: 1/22/2019 4:00:00 PM
Lab ID: 1901979-007
Matrix: SOIL
Received Date: 1/25/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	620	30		mg/Kg	20	1/28/2019 3:18:12 PM	42842
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	12	9.7		mg/Kg	1	1/29/2019 12:50:11 PM	42830
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/29/2019 12:50:11 PM	42830
Surr: DNOP	80.3	50.6-138		%Rec	1	1/29/2019 12:50:11 PM	42830
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/28/2019 1:10:29 PM	42821
Surr: BFB	96.5	73.8-119		%Rec	1	1/28/2019 1:10:29 PM	42821
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	1/28/2019 1:10:29 PM	42821
Toluene	ND	0.049		mg/Kg	1	1/28/2019 1:10:29 PM	42821
Ethylbenzene	ND	0.049		mg/Kg	1	1/28/2019 1:10:29 PM	42821
Xylenes, Total	ND	0.098		mg/Kg	1	1/28/2019 1:10:29 PM	42821
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	1/28/2019 1:10:29 PM	42821

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
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 Quanitative 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.

CLIENT: Souder, Miller & Associates
Client Sample ID: BH4
Project: Ann Com ILL
Collection Date: 1/22/2019 4:10:00 PM
Lab ID: 1901979-008 **Matrix:** SOIL **Received Date:** 1/25/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	320	30		mg/Kg	20	1/28/2019 3:30:38 PM	42842
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/29/2019 1:14:28 PM	42830
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/29/2019 1:14:28 PM	42830
Surr: DNOP	79.4	50.6-138		%Rec	1	1/29/2019 1:14:28 PM	42830
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/28/2019 1:33:21 PM	42821
Surr: BFB	95.5	73.8-119		%Rec	1	1/28/2019 1:33:21 PM	42821
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	1/28/2019 1:33:21 PM	42821
Toluene	ND	0.049		mg/Kg	1	1/28/2019 1:33:21 PM	42821
Ethylbenzene	ND	0.049		mg/Kg	1	1/28/2019 1:33:21 PM	42821
Xylenes, Total	ND	0.098		mg/Kg	1	1/28/2019 1:33:21 PM	42821
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	1/28/2019 1:33:21 PM	42821

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
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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901979**

30-Jan-19

Client: Souder, Miller & Associates

Project: Ann Com ILL

Sample ID	**MB-42842**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**42842**	RunNo:	**57302**					
Prep Date:	**1/28/2019**	Analysis Date:	**1/28/2019**	SeqNo:	**1917392**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-42842**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**42842**	RunNo:	**57302**					
Prep Date:	**1/28/2019**	Analysis Date:	**1/28/2019**	SeqNo:	**1917393**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	90	110			

Qualifiers:

*	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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901979**

30-Jan-19

Client: Souder, Miller & Associates

Project: Ann Com ILL

Sample ID	**LCS-42830**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**42830**		RunNo:	**57318**				
Prep Date:	**1/28/2019**	Analysis Date:	**1/29/2019**		SeqNo:	**1917578**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.5	63.9	124			
Surr: DNOP	4.3		5.000		85.4	50.6	138			

Sample ID	**MB-42830**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**42830**		RunNo:	**57318**				
Prep Date:	**1/28/2019**	Analysis Date:	**1/29/2019**		SeqNo:	**1917579**	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	8.5		10.00		85.4	50.6	138			

Sample ID	**1901979-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**SW1**	Batch ID:	**42830**		RunNo:	**57318**				
Prep Date:	**1/28/2019**	Analysis Date:	**1/29/2019**		SeqNo:	**1917922**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.9	49.41	5.703	86.3	53.5	126			
Surr: DNOP	3.9		4.941		79.4	50.6	138			

Sample ID	**1901979-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**SW1**	Batch ID:	**42830**		RunNo:	**57318**				
Prep Date:	**1/28/2019**	Analysis Date:	**1/29/2019**		SeqNo:	**1917923**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.8	48.83	5.703	80.0	53.5	126	7.62	21.7	
Surr: DNOP	3.7		4.883		75.4	50.6	138	0	0	

Qualifiers:

*	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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901979**

30-Jan-19

Client: Souder, Miller & Associates

Project: Ann Com ILL

Sample ID	**MB-42821**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**42821**		RunNo:	**57297**				
Prep Date:	**1/25/2019**	Analysis Date:	**1/28/2019**		SeqNo:	**1917198**	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	910		1000		90.8	73.8	119			

Sample ID	**LCS-42821**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**42821**		RunNo:	**57297**				
Prep Date:	**1/25/2019**	Analysis Date:	**1/28/2019**		SeqNo:	**1917199**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.3	80.1	123			
Surr: BFB	1100		1000		109	73.8	119			

Sample ID	**1901979-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**SW1**	Batch ID:	**42821**		RunNo:	**57297**				
Prep Date:	**1/25/2019**	Analysis Date:	**1/28/2019**		SeqNo:	**1917201**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	69.1	142			
Surr: BFB	1100		1000		105	73.8	119			

Sample ID	**1901979-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**SW1**	Batch ID:	**42821**		RunNo:	**57297**				
Prep Date:	**1/25/2019**	Analysis Date:	**1/28/2019**		SeqNo:	**1917202**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.85	0	102	69.1	142	0.755	20	
Surr: BFB	1100		994.0		108	73.8	119	0	0	

Qualifiers:

*	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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901979**

30-Jan-19

Client: Souder, Miller & Associates

Project: Ann Com ILL

Sample ID	**MB-42821**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**42821**	RunNo:	**57297**					
Prep Date:	**1/25/2019**	Analysis Date:	**1/28/2019**	SeqNo:	**1917225**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID	**LCS-42821**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**42821**	RunNo:	**57297**					
Prep Date:	**1/25/2019**	Analysis Date:	**1/28/2019**	SeqNo:	**1917226**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	85.4	80	120			
Toluene	0.98	0.050	1.000	0	98.1	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID	**1901979-002AMS**	SampType:	**MS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**SW2**	Batch ID:	**42821**	RunNo:	**57297**					
Prep Date:	**1/25/2019**	Analysis Date:	**1/28/2019**	SeqNo:	**1917229**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.025	0.9823	0	81.3	63.9	127			
Toluene	0.93	0.049	0.9823	0.003624	93.8	69.9	131			
Ethylbenzene	0.96	0.049	0.9823	0	97.5	71	132			
Xylenes, Total	2.9	0.098	2.947	0	99.6	71.8	131			
Surr: 4-Bromofluorobenzene	1.1		0.9823		107	80	120			

Sample ID	**1901979-002AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**SW2**	Batch ID:	**42821**	RunNo:	**57297**					
Prep Date:	**1/25/2019**	Analysis Date:	**1/28/2019**	SeqNo:	**1917230**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.024	0.9452	0	87.1	63.9	127	2.94	20	
Toluene	0.94	0.047	0.9452	0.003624	99.3	69.9	131	1.81	20	
Ethylbenzene	0.96	0.047	0.9452	0	102	71	132	0.539	20	
Xylenes, Total	2.9	0.095	2.836	0	103	71.8	131	0.435	20	
Surr: 4-Bromofluorobenzene	1.0		0.9452		107	80	120	0	0	

Qualifiers:

*	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 Quanitative 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

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1901979 RcptNo: 1

Received By: **Desiree Dominguez** 1/25/2019 8:45:00 AM

Completed By: **Erin Melendrez** 1/25/2019 9:15:22 AM

Reviewed By: JO 1/25/19

LB: DAD 1/25/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. 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: DAD 1/25/19

Special Handling (if applicable)

15. 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: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good	Yes			
2	0.5	Good	Yes			

Chain-of-Custody Record

Client: SMA Carlsbad

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 2 day

Project Name: Ann Com ILL

Project #:

Project Manager: Austin Weyl

Sampler: LCM

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 0.1°c 0.5°c

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1901979	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
1-24-19	300	soil	SW1	4oz		-001	X	X					X			
	315		SW2			-002										
	320		SW3			-003										
	330		SW4			-004										
	340		BH1			-005										
	350		BH2			-006										
	400		BH3			-007										
	410		BH4			-008										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
1-24-19	1210				1/24/19	1430
1/24/19	1940			Courier	1/25/19	8:45

Remarks: Matador

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

APPENDIX E
EXCAVATION PHOTO