

April 30, 2019

#5E27961-BG7

NMOCD District 2 811 S. First St. Artesia, NM 88210

SUBJECT: Remediation Closure Report for the Rustler Breaks Tank Battery Release (2RP-5321), Malaga, Eddy County, New Mexico

To Whom it May Concern,

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 Rustler Breaks Tank Battery site. The site is in Unit P, Section 12, Township 24S, Range 27E, 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	Rustler Breaks Tank Battery	Company	Matador Resources		
API Number	N/A	Location	32.2262234 -104.1372621		
Incident Number		2RP-5321			
Estimated Date of Release	3/7/2019	Date Reported to NMOCD	3/8/2019		
Land Owner	Private	Reported To	NMOCD District II		
Source of Release	Equipment Error				
Released Volume	407 bbls	Released Material	Produced Water		
Recovered Volume	400 bbls	Net Release	7 bbls		
NMOCD Closure Criteria	<50 feet to groundwater				
SMA Response Dates	3/7/2019, 3/27/2019 & 4/18/2019				

1.0 Background

On March 7, 2019, a release was discovered at the Rustler Breaks Tank Battery due to equipment failure. Most of the release occurred within lined containment and was recovered; approximately 7 barrels of produced water overflowed onto the pad. Initial response activities were conducted by operator, and included source elimination and site stabilization activities, which recovered approximately 400 barrels of fluid from within the containment, which were hauled to and disposed of at an NMOCD approved facility. Figures 1 and 2 illustrate the vicinity and site location, Figure 3 illustrates the release location. The initial and final C-141 forms are included in Appendix A.

2.0 Site Information and Closure Criteria

The Rustler Breaks Tank Battery is located approximately 3 miles west of Malaga, New Mexico on privately-owned land at an elevation of approximately 3096 feet above mean sea level (amsl).

Based upon to the New Mexico Office of the State Engineer (NMOSE) (Appendix B), depth to groundwater in the area is estimated to be 17 to 21 feet below grade surface (bgs). There are 9 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 3/18/2019). The nearest significant watercourse is the Southern Canal, located approximately 2100 feet to the north. 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 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 March 7 and 27, 2019, SMA personnel performed site delineation activities at the Rustler Breaks Tank Battery release site. Soil samples were field-screened for chloride using an electrical conductivity (EC) meter.

A total of 3 sample locations (L1, L2 and L3) were investigated using a hand-auger, to depths up to 5 feet bgs. A minimum of two samples were collected at each sampling location and field-screened using the method above. A total of 11 samples were collected for laboratory analysis for total chloride using EPA Method 300.0; with two of the 6 samples sent for 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.

On April 18, 2019, SMA returned to the site to guide the excavation of contaminated soil and conduct confirmation sampling of the walls and base of the excavation to meet NMOCD Closure Criteria. The area around sample location L1 was excavated to a depth of 3 feet and the remaining area, represented by sample locations L2 and L3, were excavated to 2 feet bgs. The required photo of the excavation pr to backfill can be found in Appendix E. NMOCD was notified on April 16, 2019 that closure samples were expected to be collected in two (2) business days.

The confirmation samples were collected from within the excavation in accordance with a systematic sampling approach 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 eight confirmation samples were collected for laboratory analysis for total chloride using EPA Method 300.0; BTEX using EPA Method 8021B; and MRO, DRO, and GRO by EPA Method 8015D. Laboratory samples were collected in accordance with the sampling protocol included in Appendix C. 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. All 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 an NMOCD permitted disposal facility.

5.0 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 Melodie R. Sanjari 574-370-9782 or Shawna Chubbuck at 505-325-7535.

Submitted by: SOUDER, MILLER & ASSOCIATES Reviewed by:

M. Janyan

Melodie R. Sanjari Staff Scientist

hours Chubbuck

Shawna Chubbuck Senior Scientist

ATTACHMENTS:

Figures:

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

Tables:

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

Appendices:

Appendix A: Initial & Final C141 Appendix B: NMOSE Wells Report Appendix C: VSP Sampling Protocol Appendix D: Laboratory Analytical Reports Appendix E: Excavation Photo

FIGURES



P:\5-Matador 2019 MSA (5E27961)\GIS\ARCGIS\MATADOR_MIT.aprx



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TABLES

Table 2: NMOCD Closure Criteria

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	17-21	NMOSE
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)		Southern Canal 2100 ft to the North; 9 OSE Wells (App. B)
Hortizontal Distance to Nearest Significant Watercourse (ft)	2100 ft	Southern Canal

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
		Clos	ure Criteria	ı (units in n	ng/kg)	
Depth to Groundwater		Chloride *numerical limit or background, whichever is greater	ТРН	GRO + DRO	BTEX	Benzene
< 50' BGS		600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'		20000	2500	1000	50	10
Surface Water	yes or no		if ye	s, then		
<300' from continuously flowing watercourse or other significant watercourse? <200' from lakebed, sinkhole or playa lake?	no no					
Solution of the second seco	no					
<1000' from fresh water well or spring?	yes					
Human and Other Areas		600	100		50	10
<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						
within an unstable area?	no]				
within a 100-year floodplain?	no					

Sample	Sample	Depth	Action	BTEX	Benzene	GRO	DRO	MRO	Total TPH	CI-
ID	Date	(feet bgs)		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
	NMOCD C	losure Criteria		50	10	10	00		100	600
			II	NITIAL SA	MPLE ANA	ALYSIS				
	3/7/2019	0.5	excavate	<0.22	<0.024	<4.9	170	220	390	2200
	3/7/2019	1	excavate			<4.9	10	<49	10	950
14	3/7/2019	2	excavate							2300
	3/27/2019	3	excavate							180
	3/27/2019	4	in-situ							67
	3/27/2019	5	in-situ							<60
	3/7/2019	0.5	excavate	<0.207	<0.023	<4.6	<9.7	<48	<62.3	810
L2	3/7/2019	1	excavate							1000
	3/7/2019	2	excavate							370
12	3/27/2019	3.5	in-situ							<75
LJ	3/27/2019	4	in-situ							<61
			CL	OSURE S	AMPLE AN	IALYSIS				
BH1	4/18/2019	2	sample	<0.216	<0.024	<4.8	<9.4	<47	<61.2	92
BH2	4/18/2019	2	sample	<0.224	<0.025	<5.0	<9.5	<47	<61.5	99
BH3	4/18/2019	3	sample	<0.225	<0.025	<5.0	<9.9	<49	<63.9	170
BH4	4/18/2019	3	sample	<0.219	<0.024	<4.9	<9.6	<48	<62.5	<60
SW1	4/18/2019	Surface - 2	sample	<0.222	<0.025	<4.9	<10	<50	<64.9	250
SW2	4/18/2019	Surface - 2	sample	<0.221	<0.025	<4.9	<9.7	<49	<63.6	240
SW3	4/18/2019	Surface - 3	sample	<0.217	<0.024	<4.8	<10	<50	<64.8	200
SW4	4/18/2019	Surface - 3	sample	<0.224	<0.025	<5.0	<9.3	<46	<60.3	210

-- not analyzed

APPENDIX A INITIAL & FINAL 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

)

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Matador Resources	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 32.2262234

Longitude -104.1372621

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Rustler Breaks Tank Battery	Site Type: Tank Battery
Date Release Discovered: 3/7/2019	API# (if applicable)

Unit Letter	Section	Township	Range	County
Р	12	248	27E	Eddy

Surface Owner: State Federal Tribal Private (Name:

Nature and Volume of Release

Materia	I(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)		
Produced Water	Volume Released (bbls) 407	Volume Recovered (bbls) 400		
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes No		
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				
Equipment Error. Release occurred within lined containment and was recovered. Approx. 7 barrels overflowed onto pad.				

Form	C-141
Page 2	

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?	If YES, for what reason(s) does the responsible party consider this a major release? >25 bbls
🛛 Yes 🗌 No	
If YES, was immediate no Yes. By SMA to NMOCI	otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? D District II via email on 3/8/2019

Initial Response

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

 \boxtimes 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:

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
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

Incident ID	
District RP	2RP-5321
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Matador Resources	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 32.2262234

Longitude -104.1372621 (NAD 83 in decimal degrees to 5 decimal places)

Site Name: Rustler Breaks Tank Battery	Site Type: Tank Battery
Date Release Discovered: 3/7/2019	API# (if applicable)

Unit Letter	Section	Township	Range	County	
Р	12	248	27E	Eddy	

Surface Owner: 🗌 State 🗌 Federal 🗍 Tribal 🔀 Private

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)	
Produced Water	Volume Released (bbls) 407	Volume Recovered (bbls) 400	
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes No	
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:			

Equipment Error. Release occurred within lined containment and was recovered. Approx. 7 barrels overflowed onto pad.

Page 2

State of New Mexico Oil Conservation Division

Incident ID	
District RP	52
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? >25 bbls
If YES, was immediate no	otice 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

 \square 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:

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 Speciali	st
Signature:	Jenth		Date: 5/2	119
email:	JHurt@matadorresources.com		Telephone:	_972-371-5200
OCD Only				
Received by:			Date:	

Form C-141 Page 3 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.

	4		
What is the shallowest depth to groundwater beneath the area affected by the release?			
Did this release impact groundwater or surface water?			
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? Medium karst	🗌 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.

$\!$	ea, surface features, subsurface features,	, delineation points, and	monitoring wells.
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- 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.

Form C-141	State of New Mexico		Incident ID	1
Page 4	Oil Conservation Division	on	District RP	
			Facility ID	
			Application ID	
I hereby certify that the information of the enviror failed to adequately investion addition, OCD acceptance and/or regulations. Printed Name: Signature: Hurt@	ormation given above is true and complete to e required to report and/or file certain release iment. The acceptance of a C-141 report by t gate and remediate contamination that pose a of a C-141 report does not relieve the operato 	the best of my knowledge a notifications and perform co the OCD does not relieve the threat to groundwater, surfa or of responsibility for complete 	nd understand that purse prrective actions for rele e operator of liability sho ice water, human health liance with any other fea	uant to OCD rules and eases which may endanger ould their operations have or the environment. In deral, state, or local laws
OCD Only				
Received by:		Date:		

Form C-141 Page 5 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 Hart Signature:	Title:
email:JHurt@matadorresources.com	
OCD Only	
Received by:	Date:
Closure approval by the OCD does not relieve the res remediate contamination that poses a threat to ground party of compliance with any other federal, state, or l	ponsible party of liability should their operations have failed to adequately investigate and water, surface water, human health, or the environment nor does not relieve the responsible ocal 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=P been O=or C=the	OD has replace phaned, e file is d)	d, , ,	qua	rters	s ai	re 1: re si	=NW :	2=NE 3	3=SW 4=	=SE) (NA) AD83 UTM in r	neters)	(In feet)	
	0.000	POD Sub-		Q	Q	Q	-	_	_	.gool)	(Depth	Depth	Water
C 03740 POD1	Code	e basin C	County ED	4 <mark>64</mark>	16 4	4 : 4	Sec 12	Tws 24S	Rng 27E	5812	X 83	¥ 3565795	Distance 43	Well 340	Water	Column
C 03037		С	ED	4	3	4	12	24S	27E	5809	30	3565795*	363	116	25	91
C 02976		С	ED	4	2	3	12	24S	27E	5805	19	3566195* 🍯	850	57	27	30
C 00342	С	CUB	ED		4	1	13	24S	27E	5804	32	3565080* 🧲	1145	2565		
C 03260 POD2	0	С	ED	1	3	3	12	24S	27E	5801	00	3565984 🧲	1199	80	56	24
<u>C 01943</u>		С	ED			1	13	24S	27E	5802	21	3565275* 🧲	1208	30	25	5
C 03260 POD1		С	ED	3	3	3	12	24S	27E	5799	95	3565935 🧲	1299	80	56	24
<u>C 00347</u>		CUB	ED		1	1	13	24S	27E	5800	10	3565479* 🧲	1330	60	30	30
C 03145		С	ED	3	1	4	13	24S	27E	5807	49	3564579* 🧲	1370	103	40	63
<u>C 03147</u>		С	ED	3	3	3	12	24S	27E	5798	85	3565715 🧲	1411	140		
<u>C 00232</u>		CUB	ED	1	3	2	07	24S	28E	5823	62	3566826* 🧲	1457	160		
<u>C 00361</u>	С	CUB	ED		3	3	80	24S	28E	5832	83	3565926* 🧲	1994	2575		
												Ave	rage Depth to	Water:	37	feet
													Minimum	Depth:	25	feet
				_									Maximum	Depth:	56	feet

Record Count: 12

UTMNAD83 Radius Search (in meters):

Easting (X): 581290.8

Northing (Y): 3565837.7

Radius: 2000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

APPENDIX C VSP SAMPLING PROTOCOL

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	2560.32 ft ²



Area: Area 1

X Coord	Y Coord	Label	Value	Туре	Historical	Sample Area
602021.4398	446047.9993			Random in Grid		
601996.9011	446062.6450			Random in Grid		
601970.7552	446086.4533			Random in Grid		
601996.9267	446088.5273			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:

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

where

L is the number of strata, h=1,2,...,L,

is the estimated proportion of measurements in stratum *h*,

 $\begin{array}{c} P_h & \text{is the} \\ W_h = N_h / N \\ N_h & \text{is the} \\ N & \text{is the} \end{array}$ is the weight associated with stratum *h*,

is the total number of possible sampling locations (units) in stratum h,

is the total number of possible units in all strata combined, M

$$=\sum_{h=1}^{2}N_{h}$$

V is the pre-specified variance or precision, and

is the cost of collecting and measuring a sample in stratum *h*. C_h

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

Parameter	Stratum
	1
P _h	0.2
W _h	2560.32

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,
- n_h is the number of sample 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.

This report was automatically produced* by Visual Sample Plan (VSP) software version 7.11b.

This design was last modified 4/16/2019 8:10:12 AM.

Software and documentation available at http://vsp.pnnl.gov

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^{* -} The report contents may have been modified or reformatted by end-user of software.

APPENDIX D LABORATORY ANALYTICAL REPORTS

Analytical Report

Lab Order 1903458

Date Reported:

Hall Environmental	Analysis	[aboratory]	Inc
	Allarysis	Laboratory, 1	IIIC.

CLIENT: Project:	Souder, Miller & Associates Rustler Breaks TB	Client Sample ID: L1-0.5 Collection Date: 3/7/2019 5:00:00 AM						
Lab ID:	1903458-001	Matrix: SOIL		Received Date	e: 3/9	0/2019 10:50:00 AM		
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch	
EPA MET	HOD 300.0: ANIONS					Analyst:	smb	
Chloride		2200	60	mg/Kg	20	3/15/2019 1:08:47 PM	43706	
EPA MET	HOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst:	Irm	
Diesel Ra	ange Organics (DRO)	170	9.8	mg/Kg	1	3/12/2019 12:06:40 PM	43618	
Motor Oil	Range Organics (MRO)	220	49	mg/Kg	1	3/12/2019 12:06:40 PM	43618	
Surr: D	DNOP	103	70-130	%Rec	1	3/12/2019 12:06:40 PM	43618	
EPA MET	HOD 8015D: GASOLINE RANGE					Analyst:	NSB	
Gasoline	Range Organics (GRO)	ND	4.9	mg/Kg	1	3/12/2019 11:04:48 AM	43605	
Surr: E	3FB	96.7	73.8-119	%Rec	1	3/12/2019 11:04:48 AM	43605	
EPA MET	HOD 8021B: VOLATILES					Analyst:	NSB	
Benzene		ND	0.024	mg/Kg	1	3/12/2019 11:04:48 AM	43605	
Toluene		ND	0.049	mg/Kg	1	3/12/2019 11:04:48 AM	43605	
Ethylbenz	zene	ND	0.049	mg/Kg	1	3/12/2019 11:04:48 AM	43605	
Xylenes,	Total	ND	0.098	mg/Kg	1	3/12/2019 11:04:48 AM	43605	
Surr: 4	-Bromofluorobenzene	98.3	80-120	%Rec	1	3/12/2019 11:04:48 AM	43605	

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

iterer to the	QC Dunnin	ary report a	la sumple log	in encernise for	i maggea v	preserve	ation mit

*	Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Qualifiers:

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 0
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1903458

Date Reported:

	_				*		
CLIENT: Souder, Miller & Associates Project: Rustler Breaks TB		Cl	ient Sample II Collection Dat	D: L1 e: 3/7	-1 7/2019 5:15:00 AM		
Lab ID: 1903458-002	Matrix: SOIL	SOIL Received Date: 3/9/2019 10:50:00 AM					
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	t: smb	
Chloride	950	60	mg/Kg	20	3/15/2019 1:21:11 PM	43706	
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analys	t: Irm	
Diesel Range Organics (DRO)	10	9.9	mg/Kg	1	3/19/2019 10:27:02 AM	1 43753	
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	3/19/2019 10:27:02 AM	1 43753	
Surr: DNOP	95.3	70-130	%Rec	1	3/19/2019 10:27:02 AM	1 43753	
EPA METHOD 8015D: GASOLINE RANG	E				Analys	t: NSB	
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	3/19/2019 9:11:13 AM	43729	
Surr: BFB	98.5	73.8-119	%Rec	1	3/19/2019 9:11:13 AM	43729	

Hall Environmental Analysis Laboratory, Inc.

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected i
	D	Sample Diluted Due to Matrix	Е	Value above quan
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected b
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In
	PQL	Practical Quanitative Limit	RL	Reporting Detection
	S	% Recovery outside of range due to dilution or matrix	W	Sample container

- in the associated Method Blank
- titation range
- below quantitation limits Page 2 of 0
- Range
- on Limit
- temperature is out of limit as specified

Hall Environmental Analysis	•	Lab Order 1903458 Date Reported:					
CLIENT: Souder, Miller & Associates		Clien	t Sample II	D: L1	-2		
Project: Rustler Breaks TB	Collection Date: 3/7/2019 5:30:00 AM						
Lab ID: 1903458-003	Matrix: SOIL	L Received Date: 3/9/2019 10:50:00 AM					
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	st: MRA	
Chloride	2300	150	ma/Ka	50	3/18/2019 1:50:33 PM	43706	

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

Qualifiers: * Value exceeds Maximum Contaminant Level. В

- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 0 J

Analytical Report

- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Analytical Report

Lab Order 1903458

Date Reported:

Hall	Environmental	Analysis	Laboratory, Inc.	
		•	•	

-										
CLIENT:	Souder, Miller & Associates	Client Sample ID: L2-0.5 Collection Date: 3/7/2019 4:00:00 AM								
Project:	Rustler Breaks TB									
Lab ID:	1903458-004	Matrix: SOIL		Received Dat	e: 3/9	9/2019 10:50:00 AM				
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch			
EPA MET	THOD 300.0: ANIONS					Analyst	: smb			
Chloride		810	60	mg/Kg	20	3/15/2019 2:35:39 PM	43706			
EPA MET	THOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm			
Diesel R	ange Organics (DRO)	ND	9.7	mg/Kg	1	3/12/2019 12:30:59 PM	43618			
Motor Oi	il Range Organics (MRO)	ND	48	mg/Kg	1	3/12/2019 12:30:59 PM	43618			
Surr: I	DNOP	105	70-130	%Rec	1	3/12/2019 12:30:59 PM	43618			
EPA MET	THOD 8015D: GASOLINE RANGE	E				Analyst	: NSB			
Gasoline	e Range Organics (GRO)	ND	4.6	mg/Kg	1	3/12/2019 12:15:44 PM	43605			
Surr: I	BFB	95.0	73.8-119	%Rec	1	3/12/2019 12:15:44 PM	43605			
EPA MET	THOD 8021B: VOLATILES					Analyst	: NSB			
Benzene	9	ND	0.023	mg/Kg	1	3/12/2019 12:15:44 PM	43605			
Toluene		ND	0.046	mg/Kg	1	3/12/2019 12:15:44 PM	43605			
Ethylben	izene	ND	0.046	mg/Kg	1	3/12/2019 12:15:44 PM	43605			
Xylenes,	, Total	ND	0.092	mg/Kg	1	3/12/2019 12:15:44 PM	43605			
Surr: 4	4-Bromofluorobenzene	98.7	80-120	%Rec	1	3/12/2019 12:15:44 PM	43605			

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

Refer to the QC Summary report and sample rogin checknist for magged QC data and preservation more

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	Н	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 0
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Er	•	Lab Order 1903458 Date Reported:						
CLIENT:	Souder, Miller & Associates		Cl	ient Sa	ample II	D:L2	-1	
Project:	Rustler Breaks TB	Collection Date: 3/7/2019 4:15:00 AM						
Lab ID:	1903458-005	Matrix: SOIL		Recei	ved Dat	e: 3/9	0/2019 10:50:00 AM	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS						Analys	st: smb
Chloride		1000	60		mg/Kg	20	3/15/2019 2:48:04 PM	43706

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in
	D	Sample Diluted Due to Matrix	Е	Value above quanti
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected be
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In I
	PQL	Practical Quanitative Limit	RL	Reporting Detection
	S	% Recovery outside of range due to dilution or matrix	W	Sample container to

_

- the associated Method Blank
- itation range
- elow quantitation limits Page 5 of 0

Analytical Report

- Range
- n Limit
- emperature is out of limit as specified

Hall Er	•	Lab Order 1903458 Date Reported:						
CLIENT:	Souder, Miller & Associates		Cl	ient Sa	ample II	D: L2	-2	
Project:	Rustler Breaks TB	Collection Date: 3/7/2019 4:30:00 AM						
Lab ID:	1903458-006	Matrix: SOIL		Recei	ved Dat	e: 3/9	0/2019 10:50:00 AM	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS						Analys	t: smb
Chloride		370	60		mg/Kg	20	3/15/2019 3:00:29 PM	43706

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associate
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	ц	Holding times for preparation or analysis exceeded	T	Analyte detected below quantita

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- ed Method Blank
- Analyte detected below quantitation limits Page 6 of 0 J

Analytical Report

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



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

April 04, 2019

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

OrderNo.: 1903E33

RE: Rustler Breaks TB

Dear Melodie Sanjari:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/29/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report

Lab Order: 1903E33

Hall Enviro	nmental Analysis Lab	oratory, I	nc.			I	Date Reported:	4/4/20)19
CLIENT: Project:	Souder, Miller & Associates Rustler Breaks TB]	Lab ()rder: 1	903E3	33
Lab ID:	1903E33-001			Colle	ction Dat	e: 3/2	27/2019 12:00	:00 PI	M
Client Sample ID	: BG1-2'				Matri	x: SC	JIL		
Analyses		Result	RI	Qu	al Units	DF	Date Analyz	ed	Batch II
EPA METHOD 30 Chloride	00.0: ANIONS	ND	6	D	mg/Kg	20	4/3/2019 7:58	Anal :40 PN	yst: MRA / 44074
Lab ID:	1903E33-002			Colle	ction Dat	e: 3/2	27/2019 12:30	:00 PI	М
Client Sample ID	: BG1-6'				Matri	x: SC	JIL		
Analyses		Result	RI	Qu	al Units	DF	' Date Analyz	ed	Batch II
EPA METHOD 30 Chloride	00.0: ANIONS	210	6	0	mg/Kg	20	4/3/2019 8:11	Anal :05 PN	yst: MRA 1 44074
Lab ID:	1903E33-003			Colle	ction Dat	e: 3/2	27/2019 1:00:0)0 PM	[
Client Sample ID	: BG1-10'				Matri	x: SC	JIL		
Analyses		Result	RI	Qu	al Units	DF	Date Analyz	ed	Batch II
EPA METHOD 30	00.0: ANIONS							Anal	yst: MRA
Chloride		200	6	0	mg/Kg	20	4/3/2019 8:48	:19 PN	44074
Lab ID:	1903E33-004			Colle	ction Dat	e: 3/2	27/2019 11:00	:00 A	М
Client Sample ID	: BG4-4'				Matri	x: SC	JIL		
Analyses		Result	RI	Qu	al Units	DF	' Date Analyz	ed	Batch II
EPA METHOD 30 Chloride	00.0: ANIONS	ND	6	0	mg/Kg	20	4/3/2019 9:00	Anal :43 PN	yst: MRA 1 44074
Lab ID:	1903E33-005			Colle	ction Dat	e: 3/2	27/2019 11:15	:00 A	М
Client Sample ID	: BG4-6'				Matri	x: SC	JIL		
Analyses		Result	RI	Qu	al Units	DF	Date Analyz	ed	Batch II
EPA METHOD 30	00.0: ANIONS							Anal	yst: MRA
Chloride		210	6	0	mg/Kg	20	4/3/2019 9:13	:08 PN	44074

Hall Environmental Analysis Laboratory Inc

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

H Holding times for preparation or analysis exceeded PQL Practical Quanitative Limit Qualifiers:

ND Not Detected at the Reporting Limit RL Reporting Detection Limit

W Sample container temperature is out of limit as specified at testcode

Analytical Report

Lab Order: 1903E33

Hall Environ	nmental Analysis Lab	ooratory, Inc.				Ľ	Date Reported: 4/4	/2019
CLIENT: Project:	Souder, Miller & Associates Rustler Breaks TB				L	ab O)rder: 1903	E33
Lab ID:	1903E33-006		Coll	ecti	on Date	: 3/2	27/2019 11:20:00	AM
Client Sample ID:	BG4-10'				Matrix	: SO	DIL	
Analyses		Result	RL Q	ual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 30 Chloride	0.0: ANIONS	200	60		mg/Kg	20	Ar 4/3/2019 9:25:33	nalyst: MRA PM 44074
Lab ID:	1903E33-007		Coll	ecti	on Date	: 3/2	27/2019 9:40:00 A	M
Client Sample ID:	: L1-3'				Matrix	: SO	DIL	
Analyses		Result	RL Q	ual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 30 Chloride	0.0: ANIONS	180	60		mg/Kg	20	Ar 4/3/2019 9:37:58	alyst: MRA PM 44074
Lah ID•	1903F33-008		Coll	ecti	on Date	• 3/2	27/2019 9:50:00 4	M
Client Sample ID:	: L1-4'		con	ceu	Matrix	: SO	DIL	
Analyses		Result	rl Q	ual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 30	0.0: ANIONS						Ar	alyst: MRA
Chloride		67	60		mg/Kg	20	4/3/2019 9:50:24	PM 44074

Hall Environmental Analysis Laboratory Inc

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

Qualifiers:

H Holding times for preparation or analysis exceeded PQL Practical Quanitative Limit

- ND Not Detected at the Reporting Limit
- W Sample container temperature is out of limit as specified at testcode
- RL Reporting Detection Limit

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Souder, Miller & Assoc Rustler Breaks TB	ciates						
Sample ID: MB-440	74 SampType	BLK	Tes	tCode: EPA Method	d 300.0: Anions	S		
Client ID: PBS	Batch ID:	44074	F	RunNo: 58854				
Prep Date: 4/3/201	9 Analysis Date:	4/3/2019	S	SeqNo: 1979174	Units: mg/K	g		
Analyte	Result P	QL SPK value	SPK Ref Val	%REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5						
Sample ID: LCS-440	074 SampType	LCS	Tes	tCode: EPA Method	d 300.0: Anions	5		
Client ID: LCSS	Batch ID:	44074	F	RunNo: 58854				
Prep Date: 4/3/201	9 Analysis Date:	4/3/2019	S	SeqNo: 1979175	Units: mg/K	g		
Analyte	Result P	QL SPK value	SPK Ref Val	%REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5 15.00	0	95.7 90	110			

Qualifiers:

H Holding times for preparation or analysis exceeded

PQL Practical Quanitative Limit

- W Sample container temperature is out of limit as specified at testcode
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmer TEL: 505-345-39 Website: www	ttal Analysis Labor 4901 Hawkin Albuquerque, NM 8 975 FAX: 505-345- v.hallenvironmenta	atory ns NE 17109 San 1.com	nple Log-In Check List
Client Name: SMA-CARLSBAD	Work Order Numb	per: 1903E33		RcptNo: 1
Received By: Leah Baca Completed By: Michelle Garcia Reviewed By:	3/29/2019 8:40:00 / 3/29/2019 10:29:26 5 2 9/19	AM AM	Lal SBace Minue G	anua)
 <u>Chain of Custody</u> 1. Is Chain of Custody complete? 2. How was the sample delivered? 		Yes 🗹 <u>Courier</u>	No 🗌	Labeled By : DAD 31-09/19 Not Present
Log In 3. Was an attempt made to cool the sample	es?	Yes 🗹	No 🗌	NA 🗌
4. Were all samples received at a temperate	ure of >0° C to 6.0°C	Yes 🔽	No 🗌	
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌	
 6. Sufficient sample volume for indicated tes 7. Are samples (except VOA and ONG) prop 	st(s)? perly preserved?	Yes ✔ Yes ✔	No 🗌	
8. Was preservative added to bottles?	 Accord of Landschaf (Accord) 	Yes	No 🔽	NA 🗌
 VOA vials have zero headspace? Were any sample containers received brock 	oken?	Yes 🗌 Yes	No 🗌 No 🗹	No VOA Vials 🗹
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗌	bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain13. Is it clear what analyses were requested?14. Were all holding times able to be met? (If no, notify customer for authorization.)	of Custody?	Yes ♥ Yes ♥ Yes ♥	No No No	Checked by: DAD 3/29/19
<u>Special Handling (if applicable)</u> 15. Was client notified of all discrepancies wi	th this order?	Yes	No 🗌	NA 🗹
Person Notified: By Whom: Regarding: Client Instructions: 16. Additional remarks:	Date: Via:	eMail D F	Phone 🗌 Fax	In Person

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.4	Good	Yes			
2	1.7	Good	Yes			
3	5.7	Good	Yes			
4	1.6	Good	Yes			



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: 1903E33

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
5	2.0	Good	Yes			
6	3.3	Good	Yes			

Chain-of-Custody Record	Turn-Around Tim	le:	Constant of the second se					i					
Client: GWA Carl Sbad	□ Standard	Kush 1	5 day				AL AL	N S	z s	P R	30RATC	AL	
	Project Name:			100		~	ed wy	llenvir	onme	antal o	uc.		
Mailing Address:	Rustler	Brails	d d	4	901 Ha	wkins	ШZ	Albu	duero	d'ent	M 87109		
	Project #:			н	el. 50	5-345-	3975	Ű.	ax 50	5-34	-4107		
Phone #:							1	Inalys	is Re	sanba			
email or Fax#:	Project Manager			() (0)				[†] 09		(<u></u> 1u			
QA/QC Package:	Mendie	Sami	avi	208) e'	PCB's	SMISU	0141100	PO₄, S	×	əsdA\tr			
Accreditation:	Sampler: W	Yes [ON	amt \ Ad\0	2808\a	(1.40	170.10	^{'z} ON '		Presei			
EDD (Type)	# of Coolers: (BE	əbi	g pc	etals	10 ³) WJ			
	Cooler Temp(inclue	ding CF): 4 4	17.157, 1.6 120, 33	TM Der	oitee	e 8 vi	B Me	3r, 1		inneo ofilo			
Date Time Matrix Sample Name	Container Pre Type and # Tyr	eservative	HEAL No.) XЭТ8 08:НЯТ	9 1808	N) 803	RCRA		A) 0928	C) 0120			
3/27/10/2:00 Son 1 BG1-2'	· raf							A					T
1, 12:30, BG1-61			003					7					<u> </u>
1:00 BG1-101			003					\backslash					
11:00 86 7-41			POO					1					
11:15 1364-6'			002					$\overline{\ }$					
× 11:20 \$ BG 4-101			000					\setminus	_				
9.40 9190 61-31			Lav					\backslash	_				
15-17 22/06 05:6	~ \$		008										
(13) r													
									1004				
	0								-				
Date: Time: Relinquished by	Received by:	ïä /	3/28/19 [300	Remark MW	R du								
Datey Time: Relinquished by	Redeived by: V	ia: Cowor	Date Time										
If mecessary, samples submitted to Hall Environmental may be su	ubcontracted to other accred	lited laboratories.	This serves as notice of this	possibility.	Any sub	-contrac	ted data	will be o	learly n	otated o	the analytical report		٦



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

April 04, 2019

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

RE: Rustler Breaks TB

OrderNo.: 1903E35

Dear Melodie Sanjari:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/29/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall En	vironmental Analysis	s Laboratory, Inc	•				Lab Order 1903E35 Date Reported: 4/4/20	19
CLIENT:	Souder, Miller & Associates		Cl	ient Sa	ample II	D: L1	-5'	
Project:	Rustler Breaks TB		(Collect	ion Dat	e: 3/2	27/2019 10:10:00 AM	
Lab ID:	1903E35-001	Matrix: SOIL		Recei	ved Dat	e: 3/2	29/2019 8:40:00 AM	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METI	HOD 300.0: ANIONS						Analys	st: MRA
Chloride		ND	60		mg/Kg	20	4/3/2019 10:27:37 PM	44074

Analytical Report

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

Qualifiers:

 H
 Holding times for preparation or analysis exceeded

 PQL
 Practical Quanitative Limit

PQL Practical Quanitative Limit W Sample container temperature is out of limit as specified at testcode NDNot Detected at the Reporting LimitRLReporting Detection Limit

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Souder, Miller & Asso Rustler Breaks TB	ociates									
Sample ID: MB-44	074 SampTyp	e: MBLM	(Test	tCode: El	PA Method	300.0: Anions	5			-
Client ID: PBS	Batch II	D: 44074	L	R	unNo: 5	8854					
Prep Date: 4/3/2	019 Analysis Date	e: 4/3/2	019	S	eqNo: 1	979174	Units: mg/K	g			
Analyte	Result	PQL S	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									
Sample ID: LCS-4	4074 SampTyp	e: LCS		Test	tCode: El	PA Method	300.0: Anions	5			_
Client ID: LCSS	Batch II	D: 44074	L	R	unNo: 5	8854					
Prep Date: 4/3/2	019 Analysis Date	e: 4/3/2	019	S	eqNo: 1	979175	Units: mg/K	g			
Analyte	Result	PQL S	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	14	1.5	15.00	0	95.7	90	110				

Qualifiers:

H Holding times for preparation or analysis exceeded

PQL Practical Quanitative Limit

- W Sample container temperature is out of limit as specified at testcode
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

04-Apr-19

HALL ENVIRONMENT ANALYSIS LABORATORY	Hall Envi AL TEL: 505 Websit	ronmental Analysis Laborat 4901 Hawkins Albuquerque, NM 871 -345-3975 FAX: 505-345-41 e: www.hallenvironmental.c	ory NE 109 Sam 107 om	ple Log-In Check List
Client Name: SMA-CAR	_SBAD Work Order	Number: 1903E35		RcptNo: 1
Received By: Leah Bac Completed By: Michelle Reviewed By:	a 3/29/2019 Garcia 3/29/2019 10: 3/29/19	:40:11 AM	Lach Star Minute Gar	un
Chain of Custody 1. Is Chain of Custody comp 2. How was the sample deliv	lete? rered?	Yes ⊻ <u>Courier</u>	No 🗌	DAD $3/29/19$ Not Present
Log In 3. Was an attempt made to a	cool the samples?	Yes 🗹	No 🗌	NA 🗌
 Were all samples received Sample(s) in proper conta 	at a temperature of >0° C to 6.0° iner(s)?	°C Yes ✔ Yes ✔	No 🗌	NA 🗌
 6. Sufficient sample volume f 7. Are samples (except VOA 8. Was preservative added to 	or indicated test(s)? and ONG) properly preserved? bottles?	Yes ✔ Yes ✔ Yes □	No 🗌 No 🗍 No 🗹	NA 🗌
 9. VOA vials have zero heads 10. Were any sample contained 11. Does nanenvork match hold 	space? ers received broken?	Yes	No 🔽	No VOA Vials ✓ # of preserved bottles checked for pH:
(Note discrepancies on cha 12. Are matrices correctly iden 13. Is it clear what analyses we 14. Were all holding times able	ain of custody) tified on Chain of Custody? ere requested? to be met?	Yes ✔ Yes ✔ Yes ✔	No 🗌 No 🗌 No 🗌	(<2.of >12 unless noted) Adjusted? Checked by: DAD 3/74/19
(If no, notify customer for a <u>Special Handling (if app</u> 15. Was client notified of all di	uthorization.) • licable) screpancies with this order?	Yes	No 🗌	NA 🗹
Person Notified: By Whom: Regarding: Client Instructions: 16. Additional remarks: 17. <u>Cooler Information</u>		Date: Via: eMail Pho	one 🗌 Fax 🛛	In Person

Cooler No Temp °C Condition Seal Intact Seal No Signed By Seal Date 1 4.4 Good Yes 2 3 4 1.7 Good Yes 5.7 Good Yes 1.6 Good Yes



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: 1903E35

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
5	2.0	Good	Yes			
6	3.3	Good	Yes			

HALL ENVIRONMENTAL ANALYSIS LABORATORY	www.hallenvironmental.com wkins NE - Albuquerque, NM 87109	-345-3975 Fax 505-345-4107	Analysis kequest	کی ASO4, کO4 (finesd	Oq , A\tri	- 827 - 827 - 827	0 0 0 81£ 401	331 1ets Nets N())))))))))))))))))	8 Nov 8 8 Nov 8 8 Nov 0 5 8 Nov 5 8 Nov 5 8 Nov 8 8 Nov 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	PAHs PAHs BCRA 8260 (8270 (Total C								
	4901 Ha	Tel. 505		B's B's	50 \ 50 \ 51 (8	TME 7 DF 28082	les/ E /	D)C	M /	X∃T8 8:H9T 9 1808 9 1808							 temarks:	
Turn-Around Time: Saw .	Project Name: / Project Name: /	Project #:		Project Manager:	Welder Jan an	Sampler: MPS	Unice: 🛛 Yes 🗆 No		COOIER 1 ETTD(including CF): 44,12,52,16,20, 3,3	Container Preservative / HEAL No. Type and # Type	dare of the						 Received by: Via: Date Time R 3/20/19 1300	Received by: Via: Courtor Date Time
Chain-of-Custody Record	Mailing Address:		Phone #:	email or Fax#: QA/QC Package:	□ Standard □ Level 4 (Full Validation)	Accreditation:				Date Time Matrix Sample Name	2/17/18 10,17 Carl 11 - 1						Date: Time: Relinquished by:	Date: Time: Relinquished by:



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

April 26, 2019

Melodie Sanjari Souder, Miller & Associates 201 S Halagueno Carlsbad, NM 88221 TEL: (575) 689-8801 FAX

OrderNo.: 1904A38

RE: Rustler Breaks TB

Dear Melodie Sanjari:

Hall Environmental Analysis Laboratory received 8 sample(s) on 4/20/2019 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/26/2019

CLIENT: Souder, Miller & Associates Project: Rustler Breaks TB	Client Sample ID: BH1 Collection Date: 4/18/2019 7:00:00 AM										
Lab ID: 1904A38-001	Matrix: SOIL	20/2019 9:01:00 AM									
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS					Analyst	smb					
Chloride	92	60	mg/Kg	20	4/25/2019 2:10:51 PM	44534					
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: JME					
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	4/24/2019 9:42:15 PM	44490					
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	4/24/2019 9:42:15 PM	44490					
Surr: DNOP	96.8	70-130	%Rec	1	4/24/2019 9:42:15 PM	44490					
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst	: NSB					
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	4/24/2019 12:13:48 AM	44468					
Surr: BFB	86.3	73.8-119	%Rec	1	4/24/2019 12:13:48 AM	44468					
EPA METHOD 8021B: VOLATILES					Analyst	: NSB					
Benzene	ND	0.024	mg/Kg	1	4/24/2019 12:13:48 AM	44468					
Toluene	ND	0.048	mg/Kg	1	4/24/2019 12:13:48 AM	44468					
Ethylbenzene	ND	0.048	mg/Kg	1	4/24/2019 12:13:48 AM	44468					
Xylenes, Total	ND	0.096	mg/Kg	1	4/24/2019 12:13:48 AM	44468					
Surr: 4-Bromofluorobenzene	86.3	80-120	%Rec	1	4/24/2019 12:13:48 AM	44468					

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 12

Date Reported: 4/26/2019

CLIENT: Souder, Miller & Associates Client Sample ID: BH2											
Project: Rustler Breaks TB	Collection Date: 4/18/2019 7:30:00 AM										
Lab ID: 1904A38-002	Matrix: SOIL	Matrix: SOIL Received Date: 4/20/20									
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS					Analyst	smb					
Chloride	99	61	mg/Kg	20	4/25/2019 2:23:15 PM	44534					
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: JME					
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	4/24/2019 10:06:35 PM	44490					
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	4/24/2019 10:06:35 PM	44490					
Surr: DNOP	97.1	70-130	%Rec	1	4/24/2019 10:06:35 PM	44490					
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	: NSB					
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	4/24/2019 12:37:17 AM	44468					
Surr: BFB	86.3	73.8-119	%Rec	1	4/24/2019 12:37:17 AM	44468					
EPA METHOD 8021B: VOLATILES					Analyst	: NSB					
Benzene	ND	0.025	mg/Kg	1	4/24/2019 12:37:17 AM	44468					
Toluene	ND	0.050	mg/Kg	1	4/24/2019 12:37:17 AM	44468					
Ethylbenzene	ND	0.050	mg/Kg	1	4/24/2019 12:37:17 AM	44468					
Xylenes, Total	ND	0.099	mg/Kg	1	4/24/2019 12:37:17 AM	44468					
Surr: 4-Bromofluorobenzene	86.1	80-120	%Rec	1	4/24/2019 12:37:17 AM	44468					

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

Qualifiers: *

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Hall Environmental Analysis Laboratory, Inc.

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 12

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/26/2019

CLIENT: Souder, Miller & Associates		Cl	ient Sample II	D: BF	H3				
Project: Rustler Breaks 1B Lab ID: 1904A38-003	Matrix: SOIL Received Date: 4/20/2019 9:01:00 AM								
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	t: smb			
Chloride	170	60	mg/Kg	20	4/25/2019 2:35:39 PM	44534			
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: JME			
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	4/24/2019 10:30:56 PM	1 44490			
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	4/24/2019 10:30:56 PM	1 44490			
Surr: DNOP	105	70-130	%Rec	1	4/24/2019 10:30:56 PM	1 44490			
EPA METHOD 8015D: GASOLINE RANGE	E				Analys	t: NSB			
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	4/24/2019 1:00:50 AM	44468			
Surr: BFB	86.6	73.8-119	%Rec	1	4/24/2019 1:00:50 AM	44468			
EPA METHOD 8021B: VOLATILES					Analys	t: NSB			
Benzene	ND	0.025	mg/Kg	1	4/24/2019 1:00:50 AM	44468			
Toluene	ND	0.050	mg/Kg	1	4/24/2019 1:00:50 AM	44468			
Ethylbenzene	ND	0.050	mg/Kg	1	4/24/2019 1:00:50 AM	44468			
Xylenes, Total	ND	0.10	mg/Kg	1	4/24/2019 1:00:50 AM	44468			
Surr: 4-Bromofluorobenzene	86.1	80-120	%Rec	1	4/24/2019 1:00:50 AM	44468			

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

Qualifiers: *

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 12

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/26/2019

CLIENT: Souder, Miller & Associates	Client Sample ID: BH4									
Lab ID: 1904A38-004	Matrix: SOIL Received Date: 4/20/2019 9:01:00 AM									
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analys	t: smb				
Chloride	ND	60	mg/Kg	20	4/25/2019 3:12:54 PM	44534				
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: JME				
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	4/24/2019 10:55:08 PM	1 44490				
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	4/24/2019 10:55:08 PM	44490				
Surr: DNOP	98.6	70-130	%Rec	1	4/24/2019 10:55:08 PM	1 44490				
EPA METHOD 8015D: GASOLINE RANG	E				Analys	t: NSB				
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	4/24/2019 1:24:19 AM	44468				
Surr: BFB	89.1	73.8-119	%Rec	1	4/24/2019 1:24:19 AM	44468				
EPA METHOD 8021B: VOLATILES					Analys	t: NSB				
Benzene	ND	0.024	mg/Kg	1	4/24/2019 1:24:19 AM	44468				
Toluene	ND	0.049	mg/Kg	1	4/24/2019 1:24:19 AM	44468				
Ethylbenzene	ND	0.049	mg/Kg	1	4/24/2019 1:24:19 AM	44468				
Xylenes, Total	ND	0.097	mg/Kg	1	4/24/2019 1:24:19 AM	44468				
Surr: 4-Bromofluorobenzene	89.2	80-120	%Rec	1	4/24/2019 1:24:19 AM	44468				

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 4 of 12

Date Reported: 4/26/2019

CLIENT:	Souder, Miller & Associates		Cl	ient Sample II	D:SV	V1						
Project:	Rustler Breaks TB	Collection Date: 4/18/2019 9:00:00 AM										
Lab ID:	1904A38-005	Matrix: SOIL Received Date: 4/20/2019 9:01:00 AM										
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch					
EPA MET	HOD 300.0: ANIONS					Analyst	smb					
Chloride		250	60	mg/Kg	20	4/25/2019 3:25:18 PM	44534					
EPA MET	HOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	JME					
Diesel Ra	ange Organics (DRO)	ND	10	mg/Kg	1	4/24/2019 11:19:22 PM	44490					
Motor Oil	I Range Organics (MRO)	ND	50	mg/Kg	1	4/24/2019 11:19:22 PM	44490					
Surr: E	DNOP	99.7	70-130	%Rec	1	4/24/2019 11:19:22 PM	44490					
EPA MET	HOD 8015D: GASOLINE RANG	E				Analyst	NSB					
Gasoline	Range Organics (GRO)	ND	4.9	mg/Kg	1	4/24/2019 1:47:44 AM	44468					
Surr: E	3FB	86.1	73.8-119	%Rec	1	4/24/2019 1:47:44 AM	44468					
EPA MET	HOD 8021B: VOLATILES					Analyst	NSB					
Benzene		ND	0.025	mg/Kg	1	4/24/2019 1:47:44 AM	44468					
Toluene		ND	0.049	mg/Kg	1	4/24/2019 1:47:44 AM	44468					
Ethylben	zene	ND	0.049	mg/Kg	1	4/24/2019 1:47:44 AM	44468					
Xylenes,	Total	ND	0.099	mg/Kg	1	4/24/2019 1:47:44 AM	44468					
Surr: 4	1-Bromofluorobenzene	85.9	80-120	%Rec	1	4/24/2019 1:47:44 AM	44468					

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

Qualifiers: *

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 12

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1904A38

Date Reported: 4/26/2019

CLIENT:	Souder, Miller & Associates		Cl	ient Sample II	D: SV	W2							
Project:	Rustler Breaks TB		Collection Date: 4/18/2019 9:15:00 AM										
Lab ID:	1904A38-006	Matrix: SOIL Received Date: 4/20/2019 9:01:00 AM											
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch						
EPA MET	HOD 300.0: ANIONS					Analyst	smb						
Chloride		240	59	mg/Kg	20	4/25/2019 3:37:43 PM	44534						
EPA MET	HOD 8015M/D: DIESEL RANGE	E ORGANICS				Analyst	: JME						
Diesel Ra	ange Organics (DRO)	ND	9.7	mg/Kg	1	4/24/2019 11:43:37 PM	44490						
Motor Oil	Range Organics (MRO)	ND	49	mg/Kg	1	4/24/2019 11:43:37 PM	44490						
Surr: D	DNOP	101	70-130	%Rec	1	4/24/2019 11:43:37 PM	44490						
EPA MET	HOD 8015D: GASOLINE RANG	E				Analyst	: NSB						
Gasoline	Range Organics (GRO)	ND	4.9	mg/Kg	1	4/24/2019 2:11:09 AM	44468						
Surr: E	3FB	86.9	73.8-119	%Rec	1	4/24/2019 2:11:09 AM	44468						
EPA MET	HOD 8021B: VOLATILES					Analyst	: NSB						
Benzene		ND	0.025	mg/Kg	1	4/24/2019 2:11:09 AM	44468						
Toluene		ND	0.049	mg/Kg	1	4/24/2019 2:11:09 AM	44468						
Ethylben	zene	ND	0.049	mg/Kg	1	4/24/2019 2:11:09 AM	44468						
Xylenes,	Total	ND	0.098	mg/Kg	1	4/24/2019 2:11:09 AM	44468						
Surr: 4	I-Bromofluorobenzene	86.6	80-120	%Rec	1	4/24/2019 2:11:09 AM	44468						

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

Qualifiers: *

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 4/26/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Souder, Miller & Associates	Client Sample ID: SW3									
Project:	Rustler Breaks TB	Collection Date: 4/18/2019 9:20:00 AM									
Lab ID:	1904A38-007	Matrix: SOIL	20/2019 9:01:00 AM								
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch			
EPA MET	HOD 300.0: ANIONS						Analyst	smb			
Chloride		200	60		mg/Kg	20	4/25/2019 3:50:07 PM	44534			
EPA MET	HOD 8015M/D: DIESEL RANGE	ORGANICS					Analyst	JME			
Diesel Ra	ange Organics (DRO)	ND	10		mg/Kg	1	4/25/2019 12:07:48 AM	44490			
Motor Oil	Range Organics (MRO)	ND	50		mg/Kg	1	4/25/2019 12:07:48 AM	44490			
Surr: D	DNOP	102	70-130		%Rec	1	4/25/2019 12:07:48 AM	44490			
EPA MET	HOD 8015D: GASOLINE RANG	E					Analyst	NSB			
Gasoline	Range Organics (GRO)	ND	4.8		mg/Kg	1	4/24/2019 2:34:38 AM	44468			
Surr: E	3FB	85.9	73.8-119		%Rec	1	4/24/2019 2:34:38 AM	44468			
EPA MET	HOD 8021B: VOLATILES						Analyst	NSB			
Benzene		ND	0.024		mg/Kg	1	4/24/2019 2:34:38 AM	44468			
Toluene		ND	0.048		mg/Kg	1	4/24/2019 2:34:38 AM	44468			
Ethylbenz	zene	ND	0.048		mg/Kg	1	4/24/2019 2:34:38 AM	44468			
Xylenes,	Total	ND	0.097		mg/Kg	1	4/24/2019 2:34:38 AM	44468			
Surr: 4	-Bromofluorobenzene	85.3	80-120		%Rec	1	4/24/2019 2:34:38 AM	44468			

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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S % Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

Lao Order 1904A38

Date Reported: 4/26/2019

CLIENT:	Souder, Miller & Associates		Cl	ient Sample II	D: SV	V4							
Project:	Rustler Breaks TB		Collection Date: 4/18/2019 9:25:00 AM										
Lab ID:	1904A38-008	Matrix: SOIL Received Date: 4/20/2019 9:01:00 AM											
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch						
EPA MET	HOD 300.0: ANIONS					Analyst	smb						
Chloride		210	59	mg/Kg	20	4/25/2019 4:02:32 PM	44534						
EPA MET	HOD 8015M/D: DIESEL RANGI	E ORGANICS				Analyst	JME						
Diesel Ra	ange Organics (DRO)	ND	9.3	mg/Kg	1	4/25/2019 12:31:55 AM	44490						
Motor Oi	I Range Organics (MRO)	ND	46	mg/Kg	1	4/25/2019 12:31:55 AM	44490						
Surr: D	DNOP	104	70-130	%Rec	1	4/25/2019 12:31:55 AM	44490						
EPA MET	HOD 8015D: GASOLINE RANG	E				Analyst	NSB						
Gasoline	Range Organics (GRO)	ND	5.0	mg/Kg	1	4/24/2019 2:58:09 AM	44468						
Surr: E	3FB	89.8	73.8-119	%Rec	1	4/24/2019 2:58:09 AM	44468						
EPA MET	HOD 8021B: VOLATILES					Analyst	NSB						
Benzene		ND	0.025	mg/Kg	1	4/24/2019 2:58:09 AM	44468						
Toluene		ND	0.050	mg/Kg	1	4/24/2019 2:58:09 AM	44468						
Ethylben	zene	ND	0.050	mg/Kg	1	4/24/2019 2:58:09 AM	44468						
Xylenes,	Total	ND	0.099	mg/Kg	1	4/24/2019 2:58:09 AM	44468						
Surr: 4	1-Bromofluorobenzene	89.6	80-120	%Rec	1	4/24/2019 2:58:09 AM	44468						

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

Qualifiers: *

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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WO#:	1904A38
	26-Apr-19

Client: Project:	Souc Rust	ler, Miller & Asso ler Breaks TB	ociate	es							
Sample ID:	MB-44534	SampTyp	e: MI	BLK	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	PBS	S Batch ID: 44534 RunNo: 59428									
Prep Date:	ate: 4/25/2019 Analysis Date: 4/25/2019 SeqNo: 2002547 Units: mg/Kg										
Analyte		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Chloride		ND	1.5								
Sample ID:	LCS-44534	SampTyp	e: LC	s	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	LCSS	Batch II	D: 44	534	F	unNo: 5 9	9428				
Prep Date:	4/25/2019	Analysis Date: 4/25/2019 SeqNo: 2002548 Units: mg/Kg									
Analyte		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Chloride		14	1.5	15.00	0	95.2	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Souder, I Rustler E	Miller & As Breaks TB	ssociate	es									
Sample ID:	MB-44501	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics			
Client ID:	PBS	Batch	n ID: 44	501	F	RunNo: 59378							
Prep Date:	4/24/2019	Analysis D	ate: 4/	24/2019	SeqNo: 2000142			Units: %Red	Units: %Rec				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: DNOP		9.9	9.9 10.00 99.1 70 130										
Sample ID:	LCS-44501	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics			
Client ID:	LCSS	Batch	D: 44	501	F	RunNo: 5	9378		-	-			
Prep Date:	4/24/2019	Analysis D	ate: 4/	24/2019	S	SeqNo: 2	000143	Units: %Red	;				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: DNOP		4.4		5.000		87.5	70	130					
Sample ID:	MB-44490	SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics											
Client ID:	PBS	Batch	Batch ID: 44490 RunNo: 59379										
Prep Date:	4/23/2019	Analysis D	ate: 4/	24/2019	S	Units: mg/K	g						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range	Organics (DRO)	ND	10										
Motor Oil Rang	ge Organics (MRO)	ND 10	50	10.00		105	70	120					
Sull. DNOP		10		10.00		105	70	130					
Sample ID:	LCS-44490	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics			
Client ID:	LCSS	Batch	n ID: 44	490	F	RunNo: 5	9379						
Prep Date:	4/23/2019	Analysis D	ate: 4/	24/2019	S	SeqNo: 2	000155	Units: mg/K	g				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range	Organics (DRO)	46	10	50.00	0	91.2	63.9	124					
Suff: DNOP		4.6		5.000		91.8	70	130					
Sample ID:	MB-44521	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics			
Client ID:	PBS	Batch ID: 44521 RunNo: 59378											
Prep Date:	4/24/2019	Analysis D	ate: 4/	25/2019	5	SeqNo: 2	001614	Units: %Red	•				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: DNOP		9.5		10.00		95.4	70	130					
Sample ID:	LCS-44521	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics			
Client ID:	LCSS	Batch	D: 44	521	F	RunNo: 5	9378						

	J-44JZ I	Sampry	. LU.	3	163	sicoue.	EFA Methou		sel hange	organics
Client ID: LC	SS	Batch I	D: 445	521	F	RunNo:	59378			
Prep Date: 4/	/24/2019	Analysis Dat	e: 4/2	25/2019	Ş	SeqNo:	2001615	Units: %Red	;	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	C LowLimit	HighLimit	%RPD	RPDLimit
Surr: DNOP		3.8		5.000		76.9	9 70	130		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit
- S
- % Recovery outside of range due to dilution or matrix

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 10 of 12

Qual

WO#: 1904A38

WO#:	1904A38
	26-Apr-19

Client: So Project: Ru	uder, Miller & Asso astler Breaks TB	ciates							
Sample ID: MB-44468	SampType	: MBLK	Tes	tCode: EF	PA Method	8015D: Gasc	line Rang	e	
Client ID: PBS	Batch ID	: 44468	F	RunNo: 5 9	9360				
Prep Date: 4/22/2019	Analysis Date	4/23/2019	S	SeqNo: 19	999557	Units: mg/#	٢g		
Analyte	Result P	QL SPK value	e SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (G Surr: BFB	RO) ND 870	5.0)	87.3	73.8	119			
Sample ID: LCS-44468	SampType	E LCS	Tes	tCode: EF	PA Method	8015D: Gasc	line Rang	e	
Client ID: LCSS	Batch ID	44468	F	RunNo: 59	9360				
Prep Date: 4/22/2019	Analysis Date	4/23/2019	S	SeqNo: 19	999558	Units: mg/#	٤g		
Analyte	Result P	QL SPK value	e SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (G	RO) 24	5.0 25.00) 0	95.6	80.1	123			
Surr: BFB	960	1000)	96.1	73.8	119			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
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- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#:	1904	A38
	26.4	10

26-Apr-19

Client: Project:	Souder, Miller & A Rustler Breaks TB	Associate	es							
Sample ID: MB-444	68 Samp	Туре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Bato	h ID: 44	468	F	RunNo: 5	9360				
Prep Date: 4/22/20	Analysis	Date: 4/	23/2019	S	SeqNo: 1	999589	Units: mg/k	٤g		
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-Bromofluoroben	zene 0.87		1.000		86.7	80	120			
Sample ID: LCS-444	168 Samp	Type: LC	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Bato	ch ID: 44	468	F	RunNo: 5	9360				
Prep Date: 4/22/20	Analysis	Date: 4/	23/2019	5	SeqNo: 1	999590	Units: mg/ #	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.2	80	120			
Toluene	0.94	0.050	1.000	0	94.4	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.1	80	120			
Surr: 4-Bromofluoroben	zene 0.91		1.000		90.9	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmen. A TEL: 505-345-39 Website: www.	tal Analysis Labo 4901 Hawk Ubuquerque, NM 75 FAX: 505-342 hallenvironment	ratory ins NE 87109 Sarr 5-4107 al.com	nple Log-In Check List
Client Name: SMA-CARLSBAD	Work Order Numb	er: 1904A38		RcptNo: 1
Received By: Victoria Zellar Completed By: Victoria Zellar Reviewed By: ENM	4/20/2019 9:01:00 A 4/20/2019 10:59:45 4/2Z/19	M AM	Victmia Gel Victmia Gel	ian 1 abe led by
 <u>Chain of Custody</u> 1. Is Chain of Custody complete? 2. How was the sample delivered? 		Yes ⊻ <u>Courier</u>	No 🗌	DAD 4/77/194 Not Present ロ
Log In 3. Was an attempt made to cool the sample	s?	Yes 🔽	No 🗌	
4. Were all samples received at a temperatu	re of >0° C to 6.0°C	Yes 🔽	No 🗌	
5. Sample(s) in proper container(s)?		Yes 🖌	No 🗌	
6. Sufficient sample volume for indicated tes	t(s)?	Yes 🗹	No 🗌	
 Are samples (except VOA and ONG) prop 8. Was preservative added to bottles? 	erly preserved?	Yes ⊻ Yes □	No 🗌 No 🗹	NA 🗌
9. VOA vials have zero headspace?		Yes	No 🗌	No VOA Vials 🗹
 10. Were any sample containers received bro 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) 12. Are matrices correctly identified on Chain 13. Is it clear what analyses were requested? 14. Were all holding times able to be met? 	ken? of Custody?	Yes 🗸 Yes 🖍 Yes 🗭 Yes 🖉	No	# of preserved bottles checked for pH: (<2 or >12 unless noted) Adjusted? Checked by:
 (If no, notify customer for authorization.) <u>Special Handling (if applicable)</u> 15. Was client notified of all discrepancies with 	h this order?	Yes	No 🗌	NA 🗹
Person Notified: By Whom: Regarding: Client Instructions: 16. Additional remarks:	Date: Via:	eMail 🗌	Phone 🗌 Fax	In Person

S	hain-	-of-Cu	ustody Record	Turn-Around	Time:						10 10		T A VI	6					
Client:	Ę.	Amb	t Cansbad	□ Standard	K Rush S	day					AL	N N	Z S		BOR		E O	_ ≿	
				Project Name		2						lenvir		intal o	mo)		
Mailing	Address			RINS	HUR Bren	AL ST		490	1 Hav	vkins	л Ш И Ц	Albu	duero	due. h	JM 871	60			
				Project #:				Tel.	505-	345-3	3975	Ц.	IX 50	5-34	5-4107				
Phone #	÷÷.								1000		4	nalys	is Re	saups	÷				Sala
email or	- Fax#:			Project Mana	ger:		(1	(0		-	AL UN	[†] 0		(tu					
QA/QC F	^b ackage: dard		Level 4 (Full Validation)	Merod	ie Sanjo	.5	.208) <i>e'</i> 8	NO / MR	PCB's	SMISO		PO₄, S	10	9sdA\tn					
Accredit	tation: AC	□ Az Co □ Other	mpliance	Sampler: On Ice:	MPr U	40	AMT /	NO / DB	7808/5	or 827	9	' ^z on '	() ,	Presei					
	(Type)			# of Coolers:			BE	 אפ)	səpi	01	slet	103) ш.					
				Cooler Temp	(including CF); Jdoc	and the stand set	TΜ) D S I E D	Silse	V 83	эМ	r, 1	(AO	-inna iotilo					
Date	Time	Matrix	Sample Name	Container Type and #	Preservative 0(HEAL No.	(XETR	08:H9T	94 1808	d sHA9	8 AADA	CI)E' B	A) 0228	D (S) O (S)					
418/19	7:00	jes.	8 H	Arr			2	\backslash				\sum		-					1
	7:30	_	BHZ			00	\	$\left \right\rangle$				\setminus							1
	Q: 00		BHZ			600	1	~				l							
	8:30		But			70	\backslash	\mathbf{X}				1							1
	0:00		By Surt			50	>	1				ι							1
	51:6		2~10) (0)QC	l	~				١							
	9:20		Sw3			ĻQ	ļ	~				١	-						1
A	3:22	Ø	Swt.	Ņ	-	80	1												1
									_	_									
				~						_			-						
Date:	Time:	Relinquishe	ed by:	Received by:	Via:	Date Time	Rem	arks:											1
119/19	1400	3	Y	ANN	f/19	2/19 1400	\geq	124	B	2									
Date:	Time:	Relinquish	edilby:	Repeived how:	Via: COLULON	Date Time 20//01 090/													
	f necessary,	samples subi	Imitted to Hall Environmental may be subc	contracted to other a	ocredited laboratories. Th	is serves as notice of this	s possib	ility. An	y sub-c	ontracte	ed data	will be c	early ne	otated o	n the anal	ytical rep	ort.		٦

>

APPENDIX E EXCAVATION PHOTO

