

August 9, 2019

#5E28017-BG4

NMOCD District 1 1625 N. French Drive Hobbs, New Mexico 88240

SUBJECT: Remediation Plan for the Fluffy Cat 16 21 St Fed Com #216 Release (1RP-5570), Eddy County, New Mexico

To Who it May Concern:

On behalf of Devon Energy, Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes remediation of a release of liquids related to oil and gas production activities at the Fluffy Cat 16 21 St Fed Com #216 site. The site is in Section 13, Township 23S, Range 31E, Eddy County, New Mexico, on Federal (BLM) 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	Fluffy Cat 16 21 St Fed Com #216	Company	Devon Energy	
API Number	30-025-45728	Location	32.3048877 -103.7393848	
Incident Number	1RP-5570			
Estimated Date of Release	6/7/2019	Date Reported to NMOCD	6/8/2019	
Landowner	BLM	Reported To	NMOCD & BLM	
Source of Release	Flowline			
Released Volume	83 bbls	Released Material	Produced Water	
Recovered Volume	5 bbls	Net Release	78 bbls	
NMOCD Closure Criteria	>100 feet to groundwater			
SMA Response Dates	6/7/2019, 7/25/2019 - 8/1/2019			

1.0 Background

On June 7, 2019, a release was discovered at the Fluffy Cat 16 21 St Fed Com #216 site due to a failed flange on a 12-inch flowline. The release ran from the right-of-way (ROW) to the south, into the pasture. Initial response activities were conducted by operator and their contractors, and included source elimination, flowline repair and site stabilization activities, which recovered approximately 5 barrels of fluid, which was disposed of at an NMCOD approved facility. Figures 1 and 2 illustrate the vicinity and site location, Figure 3 illustrates the release location. The C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The Fluffy Cat 16 21 St Fed Com #216 release area is located approximately 20 miles east of Loving, New Mexico on Federal (BLM) land at an elevation of approximately 3491 feet above mean sea level (amsl).

Based upon New Mexico Office of the State Engineer (NMOSE) online water well database (Appendix B), depth to groundwater in the area is estimated to be between 290 and 400 feet below grade surface (bgs). There are no known water sources within ½-mile of the location, according to the New Mexico NMOSE online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 6/12/2019). The nearest significant watercourse is an unnamed pond, located approximately 4.5 miles to the northeast. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does not 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 groundwater depth of greater than 100 feet bgs; however, the reclamation levels outlined in 19.15.29. 13.D(1) NMAC apply to the top four feet of this release. 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 June 7, 2019, SMA personnel arrived on site in response to the release associated with Fluffy Cat 16 21 St Fed Com #216. SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly stained area. Soil samples were field screened for chloride using an electrical conductivity (EC) meter.

A total of seven (7) sample locations (L1-L7) were investigated using a hand-auger, to depths up to three (3) feet bgs. A minimum of two samples were collected at each sampling location and field-screened using the method above. A total of fourteen (14) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; one sample from each location was also analyzed 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. Table 3 itemizes the sample results as well as identifying any variances from the typical specification of two samples per boring. Locations for these initial samples are depicted on Figure 3a.

As summarized in Table 3, there were no impacts above the NMOCD Closure Criteria for this site; however, the reclamation requirement of 600mg/kg for chlorides is exceeded up to four (4) feet bgs.

From July 25 to August 1, 2019, SMA returned to the site to oversee the excavation of the top four (4) feet of contamination and fully delineate chloride contamination.

SMA guided the excavation activities by collecting soil samples for field screening using an electrical conductivity (EC) meter. The entire release area was excavated to a depth of four (4) feet bgs. The walls

Fluffy Cat 16 21 St Fed Com #216 Remediation Closure Report (1RP-5570) Page 3 of 4 August 9, 2019

and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met. NMOCD was notified on July 26, 2019 that closure samples were expected to be collected throughout the following week.

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 – BH5) and walls (SW1-SW5). SMA also oversaw the soil boring investigation, in which five soil borings (BH1-BH5) were installed to depths of 4 feet to 15 feet bgs, depending on chloride screening results.

A total of fourteen (14) samples were collected for laboratory analysis for a combination of total chloride using EPA Method 300.0; BTEX using EPA Method 8021B; and 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 Albuquergue, New Mexico (Appendix D).

Laboratory analysis returned chloride levels that were slightly above closure criteria for SW2, SW3 and SW4. SMA returned to the location on August 12, 2019 to recollect SW2-SW4 from within the excavation.

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.

In addition to meeting the Closure Criteria, the top four (4) feet of impacted areas in pasture meet the reclamation requirement of 19.15.29.13(D)(1). 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 Austin Weyant at 575-689-8801 or Shawna Chubbuck at 505-325-7535.

Submitted by: SOUDER, MILLER & ASSOCIATES

Reviewed by:

M. Janyan

Melodie R. Sanjari Staff Scientist

Shawna Chubbuck

Shawna Chubbuck Senior Scientist Fluffy Cat 16 21 St Fed Com #216 Remediation Closure Report (1RP-5570) Page 4 of 4 August 6, 2019

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map Figure 2: Surface Water Radius Map Figure 3: Site and Sample Location 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: VSP Sampling Protocol Appendix D: Laboratory Analytical Reports Appendix E: BLM Sundry Form 3160-5 Appendix F: Excavation Photo

FIGURES









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)	290-400	OSE & USGS (Appendix B)
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	N/A	
Hortizontal Distance to Nearest Significant Watercourse (ft)	23700'	Unnamed pond to the Northeast

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
	Closure Criteria (units in mg/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'	х	20000	2500	1000	50	10
Surface Water		if ye	s, then			
<300' from continuously flowing watercourse or other significant watercourse? <200' from lakebed, sinkhole or playa lake? Water Well or Water Source	no					
<500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes? <1000' from fresh water well or spring?	no					
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 no 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

Sample	Sample	Depth	Action	BTEX	Benzene	GRO	DRO	MRO	Total TPH	CI-	Cl- Field Screens
ID	Date	(feet bgs)	7101011	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
	NMOCD Clo	sure Criteria	1	50	10				2500	20000	
				INIT	IAL SAN	<u>IPLING</u>					
		0.5		<0.224	<0.025	<5.0	<9.5	<48	<62.5	8100	10655
11		1	excavated								9830
		2									11540
		3								12000	12630
		0.5		<0.221	<0.025	<4.9	<9.8	<49	<63.7	16000	8000
L2		1	excavated								8450
		2									11320
		3								16000	13430
		0.5		<0.221	<0.025	<4.9	<9.2	<46	<60.1	8500	8870
L3		1	excavated	-	-	-	-	-	-	-	9000
		2		-	-	-	-	-	-	-	13000
		3								2300	2500
	6/7/2010	0.5		<0.222	<0.025	<4.9	<9.4	<47	<01.3	7800	9030
L4	6/7/2019	1	excavated								10700
		2									3220
		2.5								440	2120
		0.5		<0.224	<0.025	<5.0	<9.4	<u>\$47</u>	<u>\$01.4</u>	2700	2360
L5		2	excavated								900
		25	-							93	<130
		0.5		<0.22	<0.024	<4.9	<9.8	<49	<63.7	7600	9570
		1		-0.22	-0.024	-+.0	-0.0	-+0		7000	8300
L6		2	excavated								200
		3								180	<130
		0.5		<0 225	<0.025	<5.0	<9.3	<47	<61.3	5400	6600
L7		1	excavated								11500
		2								4400	5300
	8		CLOS	URE SA	MPLING	& DEL	INEAT	ON			
SW1	8/1/2019	Surf - 4	sample	<0.225	<0.025	<5.0	<9.7	<48	<62.7	<60	
0111	8/1/2019		oumpio	<0.22	<0.020	<4.9	<9.2	<46	<60.1	770	
SW2	8/12/2010	Surf 4	sample	-0.22	~0.0ZŦ	-+.0	-0.2	-+0	-00.1	260	
	9/1/2010				-0.024	- 10	0 0	-	-61.9	200 690	
SW3	0/1/2019	Surf 4	sample	~0.22	NU.U24	~4.9	~9.9	~ 30	~04.0	000	
	0/12/2019									<00	
SW4	0/1/2019	Surf 4	sample	<0.225	0.025	<5.0	<9.9	<50	<04.9	000	
014/5	8/12/2019	0 ()								<00	
SW5	8/1/2019	Surf 4	sample	<0.219	<0.024	<4.9	<9.9	<49	<63.8	<60	
BH1	7/29/2019	4	sample	<0.224	<0.025	<5.0	<9.6	<48	<62.6	180	
BH2	7/29/2019	4	sample	<0.22	<0.024	<4.9	<8.7	<44	<57.6	2100	
22	7/29/2019	15	sample							530	
внз	7/29/2019	4	sample	<0.22	<0.024	<4.9	<10	<50	<64.9	2100	
010	7/29/2019	6	sample							600	
DU4	7/29/2019	4	sample	<0.219	<0.024	<4.9	<9.8	<49	<63.7	6000	
DIT4	7/29/2019	6	sample							350	
DUIS	7/29/2019	4	sample	<0.225	<0.025	<5.0	<9.8	<49	<63.8	1300	
BH2	7/29/2019	12	sample							130	

"--" = Not Analyzed to be excavated

APPENDIX A FORM 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	OGRID	
Contact Name	Contact Telephone	
Contact email	Incident # (assigned by OCD)	
Contact mailing address		

Location of Release Source

* Latitude	Longitude	* *Spill occurred
	(NAD 83 in decimal degrees to 5 decimal places)	
Site Name	Site Type	
Date Release Discovered	API# (if applicable≯	*(32.3037158 -103.6780372)

Unit Letter	Section	Township	Range	County

Surface Owner: State Federal Tribal Private (Name:

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)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS)	Yes No
	in the produced water >10,000 mg/l?	
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		

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?
Yes No	
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

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:	Title:
Signature: <u>Kendra DeHoyos</u>	Date:
email:	Telephone:
OCD Only	
Received by:	Date:

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	1RP-5570
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?	<u>290</u> (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
- \boxtimes Depth to water determination
- \boxtimes Determination of water sources and significant watercourses within $\frac{1}{2}$ -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

Form C-141 Page 2 State of New Mexico Oil Conservation Division

Incident ID	
District RP	1RP-5570
Facility ID	
Application ID	

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.

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: Amanda Trujillo Davis	Title: Environmental Professional
Signature: Amanda Trujillo Davis D	Date: 8/16/2019
email: Amanda.davis@dvn.com Telephone:	(405) 235-3611
OCD Only	
Received by:	Date:

State of New Mexico Oil Conservation Division

Incident ID	
District RP	1RP-5570
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.

<u>Closure Report Attachment Checklist</u>: 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: Amanda Trujillo Davis

Title: Environmental Professional

Signature: Amanda Trujillo Davis Date: 8/16/2019

email: Amanda.davis@dvn.com

Telephone: (405) 235-3611

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 replaced, O=orphar C=the file closed)	has been ned, e is		((qua (qua	rtei	rs are rs are	1=NW smalle	V 2=NE est to la	3=SW 4=S rgest) (1	E) NAD83 UTM in m	neters)	(In fe	eet)	
		POD													
BOD N I		Sub-	0	Q	Q	Q	c	т	р	V	N	D' (D			Water
<u>C 02777</u>	Code	Dasin CUB	ED	64 4	4	4 4	Sec 10	1 ws 23S	Rng 31E	Х 616974	¥ 3575662 🌍	1828	890	n water C	olumn
<u>C 03749 POD1</u>		CUB	LE	3	4	4	07	23S	32E	616974	3575662 🌍	1828	865	639	226
<u>C 02258</u>		С	ED		3	2	26	238	31E	618055	3571853* 🌍	3165	662		
<u>C 02348</u>		С	ED	1	4	3	26	23S	31E	617648	3571068 🌍	4022	700	430	270
<u>C 02773</u>		CUB	ED	4	1	3	03	23S	31E	615668	3577762* 🌍	4100	880		
<u>C 03140</u>		CUB	ED	4	2	4	04	23S	31E	615266	3577758* 🌍	4400	684		
<u>C 03351</u>		С	ED	4	1	4	04	23S	31E	614917	3577861 🌍	4737	320	168	152
<u>C 03851 POD1</u>		CUB	LE	3	3	4	20	23S	32E	622880	3572660 🌍	4803	1392	713	679
											Averag	ge Depth to Wate	r:	487 fe	et
												Minimum Dep	oth:	168 fe	et
												Maximum Dep	th:	713 fe	et
Record Count: 8															
UTMNAD83 Radiu	s Search (in	meters):	<u>.</u>												
Easting (X): 618	8662		North	ning	(Y)):	3574	960			Radius: 5000				
*UTM location was derived	from PLSS -	see Help													
The data is furnished by the Maccuracy, completeness, reliable	NMOSE/ISC a pility, usability	nd is acce , or suitab	epted by the ility for any	e rec / par	ipie: ticul	nt v ar p	vith th ourpos	e expre e of the	essed und e data.	lerstanding th	hat the OSE/ISC ma	ke no warranties, e	expressed or im	plied, conce	rning the
6/12/19 10:03 AM												WATER COL	UMN/ AVER	AGE DEPT	ТН ТО



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National Water Information System: Web Interface

IISGS Water Resources	Data Category:	Geographic Area:	
USUS Water Resources	Groundwater	✓ United States	∽ GO

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- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site no list =

• 321609103445901

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 321609103445901 23S.31E.26.34411

Available data for this site Groundwater: Field measurements GO Eddy County, New Mexico Hydrologic Unit Code 13060011 Latitude 32°16'11.9", Longitude 103°45'01.2" NAD83 Land-surface elevation 3,451.00 feet above NGVD29 The depth of the well is 365 feet below land surface. This well is completed in the Dewey Lake Redbeds (312DYLK) local aquifer.

Output formats

|--|

Tab-separated data

Graph of data

Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.

Download a presentation-quality graph

Questions about sites/data? Feedback on this web site Automated retrievals Help Data Tips Explanation of terms Subscribe for system changes News

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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	5
Stratum 1	5
Total area of all strata	4087.20 ft 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	Туре	Historical	Sample Area
-11548206.0026	3803382.8429			Random in Grid		
-11548177.9436	3803392.0411			Random in Grid		
-11548232.2786	3803406.5145			Random in Grid		
-11548201.1815	3803414.2760			Random in Grid		
-11548238.6068	3803435.7999			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 $h_{\rm c}$

is the weight associated with stratum *h*,

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

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

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

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
C _h	\$500.00
W _h	4087.2

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	5
Total Samples	5

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 6/12/2019 2:56:51 PM.

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

Lab Order: 1906603

Hall Environmental Analysis Laboratory, Inc.

Date Reported:

CLIENT:	Souder, Miller & Associates	Client Sample ID: L1-0.5'					
Project:	Cactus 167		(Collection Dat	e: 6/7	/2019 12:00:00 PM	
Lab ID:	1906603-001	Matrix: SOIL		Received Dat	e: 6/1	2/2019 8:55:00 AM	
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA MET	THOD 300.0: ANIONS					Analyst:	MRA
Chloride		8100	300	mg/Kg	100) 6/19/2019 10:55:14 AM	45658
EPA MET	THOD 8015M/D: DIESEL RANG	GE ORGANICS				Analyst:	том
Diesel R	ange Organics (DRO)	ND	9.5	mg/Kg	1	6/15/2019 6:28:40 AM	45578
Motor Oi	I Range Organics (MRO)	ND	48	mg/Kg	1	6/15/2019 6:28:40 AM	45578
Surr: I	DNOP	80.6	70-130	%Rec	1	6/15/2019 6:28:40 AM	45578
EPA MET	THOD 8015D: GASOLINE RAN	GE				Analyst:	NSB
Gasoline	Range Organics (GRO)	ND	5.0	mg/Kg	1	6/15/2019 1:32:00 AM	45546
Surr: E	3FB	95.5	73.8-119	%Rec	1	6/15/2019 1:32:00 AM	45546
EPA MET	THOD 8021B: VOLATILES					Analyst:	NSB
Benzene	9	ND	0.025	mg/Kg	1	6/15/2019 1:32:00 AM	45546
Toluene		ND	0.050	mg/Kg	1	6/15/2019 1:32:00 AM	45546
Ethylben	zene	ND	0.050	mg/Kg	1	6/15/2019 1:32:00 AM	45546
Xylenes,	Total	ND	0.099	mg/Kg	1	6/15/2019 1:32:00 AM	45546

97.6

80-120

%Rec

1

6/15/2019 1:32:00 AM

45546

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

Surr: 4-Bromofluorobenzene

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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Lab Order: 1906603

Hall Environmental Analysis Laboratory, Inc.			Date Reported:					
CLIENT: Souder, Miller & Associates		Clie	ent Sample I	D: L1-3'				
Project: Cactus 167		С	ollection Dat	e: 6/7/2019 12:15:00 PM				
Lab ID: 1906603-002	Matrix: SOIL]	Received Dat	e: 6/12/2019 8:55:00 AM				
Analyses	Result	RL	Qual Units	DF Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS				Analys	it: MRA			
Chloride	12000	600	mg/Kg	200 6/19/2019 11:07:39 AM	A 45658			

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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Lab Order: 1906603

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates Project: Cactus 167		Cl (ient Sample II Collection Dat	D: L2 [.] e: 6/7	-0.5' /2019 12:45:00 PM	
Lab ID: 1906603-003	Matrix: SOIL		Received Dat	e: 6/1	2/2019 8:55:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	16000	600	mg/Kg	200	6/19/2019 11:20:03 AM	45658
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	ТОМ
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/15/2019 6:53:16 AM	45578
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	6/15/2019 6:53:16 AM	45578
Surr: DNOP	79.8	70-130	%Rec	1	6/15/2019 6:53:16 AM	45578
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/15/2019 1:55:43 AM	45546
Surr: BFB	99.1	73.8-119	%Rec	1	6/15/2019 1:55:43 AM	45546
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.025	mg/Kg	1	6/15/2019 1:55:43 AM	45546
Toluene	ND	0.049	mg/Kg	1	6/15/2019 1:55:43 AM	45546
Ethylbenzene	ND	0.049	mg/Kg	1	6/15/2019 1:55:43 AM	45546
Xylenes, Total	ND	0.098	mg/Kg	1	6/15/2019 1:55:43 AM	45546
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	6/15/2019 1:55:43 AM	45546

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 RangeRL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.			Date Reported:						
CLIENT: Souder, Miller & Associates		Cl	ient Sam	ple II	D: L2-3'				
Project: Cactus 167		(Collection	n Dat	e: 6/7/2019 12:55:00 PM				
Lab ID: 1906603-004	Matrix: SOIL		Received	d Dat	e: 6/12/2019 8:55:00 AM				
Analyses	Result	RL	Qual U	nits	DF Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analyst:	MRA			
Chloride	16000	600	m	ng/Kg	200 6/19/2019 11:32:28 AM	45658			

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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Lab Order: 1906603

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates		Cl	ient Sample II): L3-	-0.5'	
Project: Cactus 167		(Collection Dat	e: 6/7	/2019 1:15:00 PM	
Lab ID: 1906603-005	Matrix: SOIL		Received Dat	e: 6/1	2/2019 8:55:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	8500	300	mg/Kg	100	6/19/2019 12:09:41 PM	45658
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	том
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	6/15/2019 7:17:49 AM	45578
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	6/15/2019 7:17:49 AM	45578
Surr: DNOP	82.3	70-130	%Rec	1	6/15/2019 7:17:49 AM	45578
EPA METHOD 8015D: GASOLINE RANGI	E				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/15/2019 2:19:34 AM	45546
Surr: BFB	99.8	73.8-119	%Rec	1	6/15/2019 2:19:34 AM	45546
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.025	mg/Kg	1	6/15/2019 2:19:34 AM	45546
Toluene	ND	0.049	mg/Kg	1	6/15/2019 2:19:34 AM	45546
Ethylbenzene	ND	0.049	mg/Kg	1	6/15/2019 2:19:34 AM	45546
Xylenes, Total	ND	0.098	mg/Kg	1	6/15/2019 2:19:34 AM	45546
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/15/2019 2:19:34 AM	45546

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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Lab Order: 1906603

Hall Environmental Analysis Laboratory, Inc.			Date Reported:						
CLIENT: Souder, Miller & Associates		Clie	ent Sample II	D: L3	-3'				
Project: Cactus 167		C	ollection Dat	e: 6/7	/2019 1:20:00 PM				
Lab ID: 1906603-006	Matrix: SOIL	ŀ	Received Dat	e: 6/1	2/2019 8:55:00 AM				
Analyses	Result	RL (Qual Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	st: smb			
Chloride	2300	60	mg/Kg	20	6/19/2019 2:20:45 AM	45658			

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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Lab Order: 1906603

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates		Cli	ient Sample II): L4	-0.5' /2010 1:40:00 PM	
Lab ID: 1906603-007	Matrix: SOIL	,	Received Date	e: 6/1	2/2019 1:40:00 FM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst:	MRA
Chloride	7800	300	mg/Kg	100	6/19/2019 12:22:06 PM	45658
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	том
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	6/15/2019 7:42:18 AM	45578
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	6/15/2019 7:42:18 AM	45578
Surr: DNOP	87.1	70-130	%Rec	1	6/15/2019 7:42:18 AM	45578
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/15/2019 2:43:24 AM	45546
Surr: BFB	97.0	73.8-119	%Rec	1	6/15/2019 2:43:24 AM	45546
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.025	mg/Kg	1	6/15/2019 2:43:24 AM	45546
Toluene	ND	0.049	mg/Kg	1	6/15/2019 2:43:24 AM	45546
Ethylbenzene	ND	0.049	mg/Kg	1	6/15/2019 2:43:24 AM	45546
Xylenes, Total	ND	0.099	mg/Kg	1	6/15/2019 2:43:24 AM	45546
Surr: 4-Bromofluorobenzene	99.5	80-120	%Rec	1	6/15/2019 2:43:24 AM	45546

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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Analytical H	Report
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Hall Environmental Analysis Laboratory, Inc.			Date Reported:				
CLIENT: Souder, Miller & Associates	Client Sample ID: L4-2.5						
Project: Cactus 167	Collection Date: 6/7/2019 1:50:00 PM						
Lab ID: 1906603-008	Matrix: SOIL	ŀ	Received Date: 6/12/2019 8:55:00 AM				
Analyses	Result	RL (Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	t: smb	
Chloride	440	60	mg/Kg	20	6/19/2019 2:45:35 AM	45658	

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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Lab Order: 1906603

Hall Environmental Analysis Laboratory, Inc.

Date Reported:

CLIENT:	Souder, Miller & Associates		Cl	ient Sample II	D: L5	-0.5							
Project:	Cactus 167		(Collection Dat	e:6/7	7/2019 2:00:00 PM							
Lab ID:	1906603-009	Matrix: SOIL	Matrix: SOIL Received Date: 6/12/2019 8:55:00 AM										
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch						
EPA MET	HOD 300.0: ANIONS					Analyst:	MRA						
Chloride		2700	150	mg/Kg	50	6/19/2019 12:34:31 PM	45658						
EPA MET	HOD 8015M/D: DIESEL RANG	GE ORGANICS				Analyst:	том						
Diesel R	ange Organics (DRO)	ND	9.4	mg/Kg	1	6/15/2019 8:06:51 AM	45578						
Motor Oi	I Range Organics (MRO)	ND	47	mg/Kg	1	6/15/2019 8:06:51 AM	45578						
Surr: [DNOP	92.5	70-130	%Rec	1	6/15/2019 8:06:51 AM	45578						
EPA MET	HOD 8015D: GASOLINE RAN	IGE				Analyst:	NSB						
Gasoline	Range Organics (GRO)	ND	5.0	mg/Kg	1	6/15/2019 3:07:00 AM	45546						
Surr: E	3FB	97.6	73.8-119	%Rec	1	6/15/2019 3:07:00 AM	45546						
EPA MET	HOD 8021B: VOLATILES					Analyst:	NSB						
Benzene		ND	0.025	mg/Kg	1	6/15/2019 3:07:00 AM	45546						
Toluene		ND	0.050	mg/Kg	1	6/15/2019 3:07:00 AM	45546						
Ethylben	zene	ND	0.050	mg/Kg	1	6/15/2019 3:07:00 AM	45546						
Xvlenes.	Total	ND	0.099	ma/Ka	1	6/15/2019 3:07:00 AM	45546						

99.1

80-120

%Rec

1

6/15/2019 3:07:00 AM

45546

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

Surr: 4-Bromofluorobenzene

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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Lab Order: 1906603

Hall Environmental Analysis	s Laboratory, Inc.	•	Date Reported:										
CLIENT: Souder, Miller & Associates		Clie	ent Sample II	D:L5	-2'								
Project: Cactus 167		С	Collection Date: 6/7/2019 2:15:00 PM										
Lab ID: 1906603-010	Matrix: SOIL	Received Date: 6/12/2019 8:55:00 AM											
Analyses	Result	RL (Qual Units	DF	Date Analyzed	Batch							
EPA METHOD 300.0: ANIONS					Analys	st: smb							
Chloride	93	60	mg/Kg	20	6/19/2019 3:10:24 AM	45658							

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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Lab Order: 1906603

Hall Environmental Analysis Laboratory, Inc.

Date Reported:

CLIENT:	Souder, Miller & Associates		Cl	ient Sample II	D: L6	-0.5						
Project:	Cactus 167			Collection Dat	e: 6/7	/2019 3:00:00 PM						
Lab ID:	1906603-011	Matrix: SOIL Received Date: 6/12/2019 8:55:00 AM										
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch					
EPA MET	HOD 300.0: ANIONS					Analyst:	MRA					
Chloride		7600	300	mg/Kg	100) 6/19/2019 12:46:56 PM	45658					
EPA MET	HOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst:	том					
Diesel Ra	ange Organics (DRO)	ND	9.8	mg/Kg	1	6/15/2019 8:31:19 AM	45578					
Motor Oi	I Range Organics (MRO)	ND	49	mg/Kg	1	6/15/2019 8:31:19 AM	45578					
Surr: D	DNOP	88.4	70-130	%Rec	1	6/15/2019 8:31:19 AM	45578					
EPA MET	HOD 8015D: GASOLINE RANG	E				Analyst:	NSB					
Gasoline	Range Organics (GRO)	ND	4.9	mg/Kg	1	6/15/2019 3:30:31 AM	45546					
Surr: E	3FB	98.3	73.8-119	%Rec	1	6/15/2019 3:30:31 AM	45546					
EPA MET	HOD 8021B: VOLATILES					Analyst:	NSB					
Benzene		ND	0.024	mg/Kg	1	6/15/2019 3:30:31 AM	45546					
Toluene		ND	0.049	mg/Kg	1	6/15/2019 3:30:31 AM	45546					
Ethylben	zene	ND	0.049	mg/Kg	1	6/15/2019 3:30:31 AM	45546					
Xvlenes.	Total	ND	0.098	ma/Ka	1	6/15/2019 3:30:31 AM	45546					

101

80-120

%Rec

1

6/15/2019 3:30:31 AM 45546

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

Surr: 4-Bromofluorobenzene

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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Lab	Order:	1906603	

Hall Environmental Analysis	S Laboratory, Inc.		Date Reported:										
CLIENT: Souder, Miller & Associates		Cli	ent Sample II	D: L6	-3'								
Project: Cactus 167		C	Collection Date: 6/7/2019 3:10:00 PM										
Lab ID: 1906603-012	Matrix: SOIL		Received Date: 6/12/2019 8:55:00 AM										
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch							
EPA METHOD 300.0: ANIONS					Analys	st: smb							
Chloride	180	60	mg/Kg	20	6/19/2019 3:35:13 AM	45658							

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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Lab Order: 1906603

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates Project: Cactus 167		Cli (ient Sample II Collection Dat): L7- e:6/7	-0.5 /2019 4:15:00 PM						
Lab ID: 1906603-013	Matrix: SOIL		Received Date: 6/12/2019 8:55:00 AM								
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS					Analyst:	MRA					
Chloride	5400	300	mg/Kg	100	6/19/2019 12:59:21 PM	45658					
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst:	том					
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	6/15/2019 8:56:04 AM	45578					
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	6/15/2019 8:56:04 AM	45578					
Surr: DNOP	93.2	70-130	%Rec	1	6/15/2019 8:56:04 AM	45578					
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst:	NSB					
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/15/2019 3:54:05 AM	45546					
Surr: BFB	97.5	73.8-119	%Rec	1	6/15/2019 3:54:05 AM	45546					
EPA METHOD 8021B: VOLATILES					Analyst:	NSB					
Benzene	ND	0.025	mg/Kg	1	6/15/2019 3:54:05 AM	45546					
Toluene	ND	0.050	mg/Kg	1	6/15/2019 3:54:05 AM	45546					
Ethylbenzene	ND	0.050	mg/Kg	1	6/15/2019 3:54:05 AM	45546					
Xylenes, Total	ND	0.10	mg/Kg	1	6/15/2019 3:54:05 AM	45546					
Surr: 4-Bromofluorobenzene	99.9	80-120	%Rec	1	6/15/2019 3:54:05 AM	45546					

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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Lap Order: 190660.3	Lab	Order: 1906603
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Hall Environmental Analysis	S Laboratory, Inc.		Date Reported:										
CLIENT: Souder, Miller & Associates		Cl	lient Sar	nple Il	D:L7	-2'							
Project: Cactus 167			Collection Date: 6/7/2019 4:20:00 PM										
Lab ID: 1906603-014	Matrix: SOIL		Received Date: 6/12/2019 8:55:00 AM										
Analyses	Result	RL	Qual 1	Units	DF	Date Analyzed	Batch						
EPA METHOD 300.0: ANIONS						Analys	t: MRA						
Chloride	4400	150	I	mg/Kg	50	6/19/2019 1:11:46 PM	45658						

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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			4901 Hawkins NF - Alburnisten on NA 87100	Tel 505-345-3975 Fax 505-345-4107	Analysis Request	(C (1)	(8021) / MR() / MR() / MR() / MR() / MR(B's B's PRC 22 F 2705 2705 2705 2705 2705 2705 2705 2705	TMI (102 3082 3082 3082 1 (1 0 2 3082 3082 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	V = 1 V	-BE olde 310 310 310 310 -V(-V(-V(-V(-V(-V(-V(-V(-V(-V(TM ¹ 15D 15D 15D 15D 15D 15D 15D 15D 15D 15D	3TEX 1011 101 1011 1				7			}		7		<u>}</u>		Remarks:	Dever.	12	
Turn-Around Time:	Destandard Rush Sdau	Project Name:	Cactus 167	Project #:		Project Manager:	A Ha was		Sampler: MPS	On Ice: 🔯 Yes 🗆 No	# of Coolers: 2 5.2 - 0.5 - 4.7°	Cooler Temp(including CF): 2.6 - 0.5- 2.1°C	Container Preservative HEAL No. Type and # Type 10,003	402	- 002	200-	hoo-	-005	- 000	±00 1	-00%	-009	010-	-011	210-	Received 1: Via: Date Time	SWV 6/11/9 140	Kecelled by: Via: Uate Lime	times contract blietly 8:00
Chain-of-Custody Record	Client: SMA Carrsbad.		Mailing Address:		Phone #:	email or Fax#:	QA/QC Package:		Accreditation:		EDD (Type) EDD (Type)		Date Time Matrix Sample Name	12.0-11 L.2 cercily140	12:15 [1-3'	12:45 1 22-0.5	12:55 L2-3'	1:15 13-0.51	1:20 13-3'	1:70 14-0.51	1:50 L4-2.5	5:0-57 0:2	5:12 IS-51	3:00 LU - 0.5	Q 3:10 L6-31	Date: Time: Relinquished by:	man and and and and and and and and and a	Late: Inne: Reinquisieury.	NIII WW XWW

	ANALYSTS LABORATORY		4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	() () ()	's (8021 PO4, Sc 1t/Abser	TMB (28062 3062, 1,1) 827(3062, 1,1)	 V :: O 5 S : S :	18E 010 310 1-V(1-V(1) 1-V(1) 1-V(1)) 1-V(1) 1-V(1)) 1-V(1)) 1-V(1)) 1-V(1)) 1-V(1)) 1-V(1)) 1-V(1)) 1-V(1)) 1-V(1))	ГМ Вагіс Асті Аеті 8 Ма 8 Ма 8 Ма 8 Ма 8 Ма 7 ОІ 10 11 0	ВТЕХ ТРН:80 8081 Р В081 Р В206 (/ 8220 (/ 8270 (/ 8270 (/ 10tal C 10tal C							Remarks:	2/2
Turn-Around Time:	D Standard Kush Sdan .	Project Name:	Coctus lu7	Project #:		Project Manager:	J. Hanz	Sampler: LLS.	On Ice: 🕱 Yes 🗆 No	# of Coolers: み 5.み - 0.5 - 4.7 ~	Cooler Temp(including CF): ていしいいちょうは	Container Preservative HEAL No. Type and # Type 1906603	4~ · -013 .	- 01H			and the second of the second of the second s		Received by Via: Date Time F	Received by: Via: Date Time Date 13/19 8:55
Chain-of-Custody Record	Client: SWA Carlsbud.		Mailing Address:		Phone #:	email or Fax#:	QA/QC Package:	Accreditation:		EDD (Type) EDD (Type)		Date Time Matrix Sample Name	W111 7:15 Sul 17-0.5-	1 7:20 F L7-21					Date: Time: Relinquished by:	build Time. Relingosthed two

Lab Order 1908154

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Souder, Miller & Associates		Cl	ient Sample II	D: BI	H1-4'						
Project:	Fluffy Cat Del		(Collection Dat	e: 7/2	29/2019 2:00:00 PM						
Lab ID:	1908154-001	Matrix: SOIL		Received Dat	e: 8/3/2019 9:30:00 AM							
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch					
EPA MET	THOD 300.0: ANIONS					Analyst	: CAS					
Chloride		180	60	mg/Kg	20	8/7/2019 11:46:40 AM	46644					
EPA MET	THOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM					
Diesel R	ange Organics (DRO)	ND	9.6	mg/Kg	1	8/8/2019 3:32:22 AM	46624					
Motor Oi	il Range Organics (MRO)	ND	48	mg/Kg	1	8/8/2019 3:32:22 AM	46624					
Surr: I	DNOP	101	70-130	%Rec	1	8/8/2019 3:32:22 AM	46624					
EPA MET	THOD 8015D: GASOLINE RANG	E				Analyst	: NSB					
Gasoline	e Range Organics (GRO)	ND	5.0	mg/Kg	1	8/6/2019 8:08:33 PM	46604					
Surr: I	BFB	92.9	73.8-119	%Rec	1	8/6/2019 8:08:33 PM	46604					
ΕΡΑ ΜΕΊ	THOD 8021B: VOLATILES					Analyst	: NSB					
Benzene	9	ND	0.025	mg/Kg	1	8/6/2019 8:08:33 PM	46604					
Toluene		ND	0.050	mg/Kg	1	8/6/2019 8:08:33 PM	46604					
Ethylben	izene	ND	0.050	mg/Kg	1	8/6/2019 8:08:33 PM	46604					
Xylenes,	, Total	ND	0.099	mg/Kg	1	8/6/2019 8:08:33 PM	46604					
Surr: 4	4-Bromofluorobenzene	93.6	80-120	%Rec	1	8/6/2019 8:08:33 PM	46604					

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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tory, Inc. Lab Order 1903

Hall	Environmental	Ana	lysis	La	borat	tory,]	Inc.
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CLIENT: Souder, Miller & Associates Client Sample ID: BH2-4' **Project:** Fluffy Cat Del Collection Date: 7/29/2019 12:30:00 PM Lab ID: 1908154-002 Matrix: SOIL Received Date: 8/3/2019 9:30:00 AM Analyses Result **RL Oual** Units **DF** Date Analyzed Batch **EPA METHOD 300.0: ANIONS** Analyst: CAS Chloride 2100 60 mg/Kg 20 8/7/2019 11:59:04 AM 46644 **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: BRM **Diesel Range Organics (DRO)** ND 8.7 mg/Kg 1 8/8/2019 3:54:47 AM 46624 Motor Oil Range Organics (MRO) ND 46624 44 mg/Kg 1 8/8/2019 3:54:47 AM Surr: DNOP 98.6 %Rec 8/8/2019 3:54:47 AM 46624 70-130 1 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB ND 8/6/2019 8:32:01 PM Gasoline Range Organics (GRO) 4.9 46604 mg/Kg 1 Surr: BFB 92.0 73.8-119 %Rec 1 8/6/2019 8:32:01 PM 46604 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.024 8/6/2019 8:32:01 PM 46604 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 8/6/2019 8:32:01 PM 46604 Ethylbenzene ND 0.049 mg/Kg 1 8/6/2019 8:32:01 PM 46604 Xylenes, Total ND 0.098 mg/Kg 8/6/2019 8:32:01 PM 46604 1 Surr: 4-Bromofluorobenzene 8/6/2019 8:32:01 PM 46604 91.9 80-120 %Rec 1

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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Hall Environmental Analysis	s Laboratory, Inc	•			Lab Order 1908154 Date Reported:	
CLIENT: Souder, Miller & Associates		Cli	ent Sample II	D:BF	H2-15'	
Project: Fluffy Cat Del		C	Collection Dat	e: 7/2	29/2019 1:30:00 PM	
Lab ID: 1908154-003	Matrix: SOIL		Received Dat	e: 8/3	3/2019 9:30:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: CJS
Chloride	530	60	mg/Kg	20	8/6/2019 9:20:42 PM	46621

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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8/6/2019 8:55:29 PM

46604

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates Project: Fluffy Cat Del		C	ient Sample II Collection Dat	D: BH e: 7/2	H3-4' 29/2019 11:00:00 AM	
Lab ID: 1908154-005	Matrix: SOIL		Received Dat	e: 8/3	3/2019 9:30:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	CAS
Chloride	2100	60	mg/Kg	20	8/7/2019 12:36:17 PM	46644
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/8/2019 4:16:54 AM	46624
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	8/8/2019 4:16:54 AM	46624
Surr: DNOP	97.1	70-130	%Rec	1	8/8/2019 4:16:54 AM	46624
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/6/2019 8:55:29 PM	46604
Surr: BFB	91.4	73.8-119	%Rec	1	8/6/2019 8:55:29 PM	46604
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.024	mg/Kg	1	8/6/2019 8:55:29 PM	46604
Toluene	ND	0.049	mg/Kg	1	8/6/2019 8:55:29 PM	46604
Ethylbenzene	ND	0.049	mg/Kg	1	8/6/2019 8:55:29 PM	46604
Xylenes, Total	ND	0.098	mg/Kg	1	8/6/2019 8:55:29 PM	46604

92.2

80-120

%Rec

1

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

Qualifiers: *

Surr: 4-Bromofluorobenzene

- * 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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Analytical Report
Lab Order 1908154

Hall Environmental Analysis	s Laboratory, Inc.	•				Date Reported:	
CLIENT: Souder, Miller & Associates		Cl	ient Sa	mple II	D: BH	I3-6'	
Project: Fluffy Cat Del		(Collect	ion Dat	e: 7/2	9/2019 11:45:00 AM	
Lab ID: 1908154-006	Matrix: SOIL		Receiv	ved Dat	e: 8/3	/2019 9:30:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	t: CJS
Chloride	600	60		mg/Kg	20	8/6/2019 10:22:45 PM	46621

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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Hall Environmental Analysis Laboratory, Inc.

Date Reported:

CLIENT: Souder, Miller & Associates Project: Fluffy Cat Del		Cl	ient Sample II Collection Dat	D: BH e: 7/2	I4-4' 9/2019 8:00:00 AM	
Lab ID: 1908154-008	Matrix: SOIL		Received Date	e: 8/3	/2019 9:30:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	CAS
Chloride	6000	300	mg/Kg	100) 8/8/2019 11:42:50 PM	46644
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	8/8/2019 4:39:30 AM	46624
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/8/2019 4:39:30 AM	46624
Surr: DNOP	101	70-130	%Rec	1	8/8/2019 4:39:30 AM	46624
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/6/2019 9:18:52 PM	46604
Surr: BFB	90.9	73.8-119	%Rec	1	8/6/2019 9:18:52 PM	46604
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	8/6/2019 9:18:52 PM	46604
Toluene	ND	0.049	mg/Kg	1	8/6/2019 9:18:52 PM	46604
Ethylbenzene	ND	0.049	mg/Kg	1	8/6/2019 9:18:52 PM	46604
Xylenes, Total	ND	0.097	mg/Kg	1	8/6/2019 9:18:52 PM	46604
Surr: 4-Bromofluorobenzene	92.1	80-120	%Rec	1	8/6/2019 9:18:52 PM	46604

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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Analytical Report
Lab Order 1908154

Hall Environmental Analysis	s Laboratory, Inc.	•				Date Reported:	
CLIENT: Souder, Miller & Associates		Cli	ient Sa	mple II	D: BH	I4-6'	
Project: Fluffy Cat Del		(Collect	ion Dat	e: 7/2	29/2019 9:00:00 AM	
Lab ID: 1908154-009	Matrix: SOIL		Receiv	ved Dat	e: 8/3	8/2019 9:30:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	t: CJS
Chloride	350	60		mg/Kg	20	8/6/2019 10:35:09 PM	46621

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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Lab Order 1908154

Hall Environmental Analysis Laboratory, Inc.

Date Reported:

CLIENT: Souder, Miller & Associates		Cl	ient Sample II): BF	15-4'	
Project: Fluffy Cat Del		(Collection Date	e: 7/2	29/2019 10:30:00 AM	
Lab ID: 1908154-011	Matrix: SOIL		Received Date	e: 8/3	8/2019 9:30:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	CAS
Chloride	1300	59	mg/Kg	20	8/7/2019 1:25:56 PM	46644
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	8/8/2019 5:01:46 AM	46624
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/8/2019 5:01:46 AM	46624
Surr: DNOP	98.7	70-130	%Rec	1	8/8/2019 5:01:46 AM	46624
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	8/6/2019 9:42:17 PM	46604
Surr: BFB	89.0	73.8-119	%Rec	1	8/6/2019 9:42:17 PM	46604
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.025	mg/Kg	1	8/6/2019 9:42:17 PM	46604
Toluene	ND	0.050	mg/Kg	1	8/6/2019 9:42:17 PM	46604
Ethylbenzene	ND	0.050	mg/Kg	1	8/6/2019 9:42:17 PM	46604
Xylenes, Total	ND	0.10	mg/Kg	1	8/6/2019 9:42:17 PM	46604
Surr: 4-Bromofluorobenzene	91.4	80-120	%Rec	1	8/6/2019 9:42:17 PM	46604

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

Analytical Report	
Lab Order 1908154	

Hall Environmental Analysis	s Laboratory, Inc	•			Date Reported:	
CLIENT: Souder, Miller & Associates		Clien	t Sample I	D: BF	I5-12'	
Project: Fluffy Cat Del		Coll	ection Dat	e: 7/2	29/2019 10:55:00 AM	
Lab ID: 1908154-012	Matrix: SOIL	Re	ceived Dat	e: 8/3	3/2019 9:30:00 AM	
Analyses	Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: CAS
Chloride	130	59	mg/Kg	20	8/7/2019 1:38:21 PM	46644

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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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmen A TEL: 505-345-35 Website: www	tal Analy 490 1lbuquerg 075 FAX: hallenvis	sis Laborato II Hawkins I tue, NM 871 505-345-41 ronmental.co	vry NE 09 Sar 07 07	npie Log-In C	Check List
Client Name: SMA-CARLSBAD	Work Order Numb	er: 190	8154		RcptNo	: 1
Received By: Erin Melendrez Completed By: Erin Melendrez	8/3/2019 9:30:00 AM 8/5/2019 9:49:09 AM	И		UL UL		·
Chain of Custody						
1 Is Chain of Custody complete?		Yes		No 🗌	Not Present	
2. How was the sample delivered?		Cou	rier			
Log In 3. Was an attempt made to cool the sar	nples?	Yes		No 🗌	NA 🗌	
4. Were all samples received at a tempe	erature 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	l test(s)?	Yes	\checkmark	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	l broken?	Yes		No 🔽	# of preserved bottles checked	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custo	dy)	Yes	✓	No 🗌	for pH: (<2 or	∵×12 unless noted)
12. Are matrices correctly identified on Ch	ain of Custody?	Yes		No 🗌	Adjusted? —	
13. Is it clear what analyses were request	ed?	Yes			Charling hur	45 8/5/a
14. Were all holding times able to be met (If no, notify customer for authorization	? 1.)	Yes		No 🗀		/
Special Handling (if applicable)						
15. Was client notified of all discrepancie	s with this order?	Yes		No 🗌	NA 🗹	
Person Notified: By Whom: Regarding: Client Instructions:	Date: Via:	eMa	ail 🗌 Pho	one 🗌 Fax	In Person	
16. Additional remarks:						J
17. <u>Cooler Information</u> Cooler No Temp ^o C Conditio 1 5.5 Good	n. Seal Intact. Seal No. Yes	Seal D	ite. S	igned By		

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Chain-of-Custody Record	Turn-Around Time:	
Client: SMA-Cansbad	□ Standard X Rush S day .	
	Project Name:	www.hallenvironmental.com
Mailing Address:	Flutty Cat Del.	4901 Hawkins NE - Albuquerque, NM 87109
	Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #:		Analysis Request
email or Fax#:	Project Manager:	() () () () () () () () () () () () () (
QA/QC Package:	men Melodie Sanjari	208) 8's 20 / МR PCB's PO₄, 5 SIMS PO₄, 5 SiMS
Accreditation:	Sampler: MLS J On Ice: X Yes ⊡No	/ TMB s/8082 s/8082 s/8082 or 827 s , NO ₂ , (Preser (Preser
EDD (Type)	# of Coolers,	(GF 9110 912 913 913 910 910 910 910 910 910 910 910 910 910
	Cooler Temp $m_{\text{manuful cp}}$, $(h - 0.1)$ (CF) = 5.5°	7 MT 015D 6estic 8 Me 8 Me 8 Me 8 Me 8 Me 7 00 1 0 0 1 0
Date Time Matrix Sample Name	Container Preservative 10 HEAL No. Type and # Type	BTEX TPH:80 8081 P EDB (<i>h</i> 8260 (<i>j</i> 8260 (<i>j</i> 8270 (<i>j</i> 70tal C
129 2:00 Soil BHI-4'	- 001 - 001	
1 12:30 1 BH2-4'	- 002	<u>}</u>
1:30 BH2-IS'	-003	
1:35 BH2-18'	-004	PLEASE HOLDI PENDING REPORT
II:00 BH3-41		
II: 45 RANGEOU BH3	ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا	
2:00 BH3-8'		ALEASE HOUD PENDING REPORT
8:00 BH4-4'	- 00%	
9:00 BH4-6	-009	
9:20 844-81		PLEASE HOLD PENDING REPORT.
0:30 BHS-4'		
+ 10:55 * BHS-12'	× / / -012	
Date: Time: Relinquished by:	Received by: Via: Date Time	Remarks:
Date: Time: Relinquigned PM	Received by: A Via: CNI Jr in Date Time	
82/19 1940 X 1/1	Kitte Brazie	
If necessary, samples submitted to Hall Environmental may	y 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

August 09, 2019

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

RE: Fluffy Cat SW

OrderNo.: 1908155

Dear Melodie Sanjari:

Hall Environmental Analysis Laboratory received 5 sample(s) on 8/3/2019 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: 8/9/2019

CLIENT: Souder, Miller & Associates Project: Fluffy Cat SW		CI (ient Sample II Collection Dat	D: SV e: 8/1	V1 1/2019 9:00:00 AM	
Lab ID: 1908155-001	Matrix: SOIL	3/2019 9:30:00 AM				
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analysi	CAS
Chloride	ND	60	mg/Kg	20	8/7/2019 1:50:45 PM	46644
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	8/8/2019 5:24:05 AM	46624
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	8/8/2019 5:24:05 AM	46624
Surr: DNOP	106	70-130	%Rec	1	8/8/2019 5:24:05 AM	46624
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	8/6/2019 10:05:50 PM	46604
Surr: BFB	91.8	73.8-119	%Rec	1	8/6/2019 10:05:50 PM	46604
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.025	mg/Kg	1	8/6/2019 10:05:50 PM	46604
Toluene	ND	0.050	mg/Kg	1	8/6/2019 10:05:50 PM	46604
Ethylbenzene	ND	0.050	mg/Kg	1	8/6/2019 10:05:50 PM	46604
Xylenes, Total	ND	0.10	mg/Kg	1	8/6/2019 10:05:50 PM	46604
Surr: 4-Bromofluorobenzene	92.7	80-120	%Rec	1	8/6/2019 10:05:50 PM	46604

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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Hall Environmental Analysis Laboratory, Inc.

Lab Order 1908155 Date Reported: 8/9/2019

CLIENT: Souder, Miller & Associates Project: Fluffy Cat SW	Client Sample ID: SW2 Collection Date: 8/1/2019 10:00:00 AM									
Lab ID: 1908155-002	Matrix: SOIL		Received Date	e: 8/3	3/2019 9:30:00 AM					
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analyst	CAS				
Chloride	770	60	mg/Kg	20	8/7/2019 2:27:58 PM	46644				
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM				
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	8/8/2019 5:46:08 AM	46624				
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	8/8/2019 5:46:08 AM	46624				
Surr: DNOP	102	70-130	%Rec	1	8/8/2019 5:46:08 AM	46624				
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	: NSB				
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/6/2019 10:29:30 PM	46604				
Surr: BFB	95.6	73.8-119	%Rec	1	8/6/2019 10:29:30 PM	46604				
EPA METHOD 8021B: VOLATILES					Analyst	NSB				
Benzene	ND	0.024	mg/Kg	1	8/6/2019 10:29:30 PM	46604				
Toluene	ND	0.049	mg/Kg	1	8/6/2019 10:29:30 PM	46604				
Ethylbenzene	ND	0.049	mg/Kg	1	8/6/2019 10:29:30 PM	46604				
Xylenes, Total	ND	0.098	mg/Kg	1	8/6/2019 10:29:30 PM	46604				
Surr: 4-Bromofluorobenzene	95.7	80-120	%Rec	1	8/6/2019 10:29:30 PM	46604				

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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Hall Environmental Analysis Laboratory, Inc.

Lab Order 1908155 Date Reported: 8/9/2019

CLIENT: Souder, Miller & Associates Project: Fluffy Cat SW	Client Sample ID: SW3 Collection Date: 8/1/2019 11:00:00 AM										
Lab ID: 1908155-003	Matrix: SOIL	3/2019 9:30:00 AM									
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS					Analysi	: CAS					
Chloride	680	61	mg/Kg	20	8/7/2019 2:40:23 PM	46644					
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: BRM					
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	8/8/2019 6:08:34 AM	46624					
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	8/8/2019 6:08:34 AM	46624					
Surr: DNOP	99.7	70-130	%Rec	1	8/8/2019 6:08:34 AM	46624					
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	: NSB					
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/6/2019 10:53:06 PM	46604					
Surr: BFB	94.2	73.8-119	%Rec	1	8/6/2019 10:53:06 PM	46604					
EPA METHOD 8021B: VOLATILES					Analyst	: NSB					
Benzene	ND	0.024	mg/Kg	1	8/6/2019 10:53:06 PM	46604					
Toluene	ND	0.049	mg/Kg	1	8/6/2019 10:53:06 PM	46604					
Ethylbenzene	ND	0.049	mg/Kg	1	8/6/2019 10:53:06 PM	46604					
Xylenes, Total	ND	0.098	mg/Kg	1	8/6/2019 10:53:06 PM	46604					
Surr: 4-Bromofluorobenzene	94.4	80-120	%Rec	1	8/6/2019 10:53:06 PM	46604					

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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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/9/2019

CLIENT: Souder, Miller & Associates Project: Fluffy Cat SW	Client Sample ID: SW4 Collection Date: 8/1/2019 12:00:00 PM									
Lab ID: 1908155-004	Matrix: SOIL		Received Dat	e: 8/3	3/2019 9:30:00 AM					
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analyst	: CAS				
Chloride	660	60	mg/Kg	20	8/7/2019 2:52:47 PM	46644				
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM				
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	8/8/2019 6:30:41 AM	46624				
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	8/8/2019 6:30:41 AM	46624				
Surr: DNOP	95.9	70-130	%Rec	1	8/8/2019 6:30:41 AM	46624				
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	: NSB				
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	8/6/2019 11:16:36 PM	46604				
Surr: BFB	96.8	73.8-119	%Rec	1	8/6/2019 11:16:36 PM	46604				
EPA METHOD 8021B: VOLATILES					Analyst	: NSB				
Benzene	ND	0.025	mg/Kg	1	8/6/2019 11:16:36 PM	46604				
Toluene	ND	0.050	mg/Kg	1	8/6/2019 11:16:36 PM	46604				
Ethylbenzene	ND	0.050	mg/Kg	1	8/6/2019 11:16:36 PM	46604				
Xylenes, Total	ND	0.10	mg/Kg	1	8/6/2019 11:16:36 PM	46604				
Surr: 4-Bromofluorobenzene	96.7	80-120	%Rec	1	8/6/2019 11:16:36 PM	46604				

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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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/9/2019

CLIENT: Souder, Miller & Associates		Cl	ient Sample II	D: SV	V5	
Project: Fluffy Cat SW		(Collection Date	e: 8/1	/2019 2:00:00 PM	
Lab ID: 1908155-005	Matrix: SOIL	8/2019 9:30:00 AM				
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: CAS
Chloride	ND	60	mg/Kg	20	8/7/2019 3:05:12 PM	46644
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	8/8/2019 6:52:48 AM	46624
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/8/2019 6:52:48 AM	46624
Surr: DNOP	97.7	70-130	%Rec	1	8/8/2019 6:52:48 AM	46624
EPA METHOD 8015D: GASOLINE RANG	E				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/7/2019 1:38:03 AM	46604
Surr: BFB	94.8	73.8-119	%Rec	1	8/7/2019 1:38:03 AM	46604
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.024	mg/Kg	1	8/7/2019 1:38:03 AM	46604
Toluene	ND	0.049	mg/Kg	1	8/7/2019 1:38:03 AM	46604
Ethylbenzene	ND	0.049	mg/Kg	1	8/7/2019 1:38:03 AM	46604
Xylenes, Total	ND	0.097	mg/Kg	1	8/7/2019 1:38:03 AM	46604
Surr: 4-Bromofluorobenzene	95.4	80-120	%Rec	1	8/7/2019 1:38:03 AM	46604

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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WO#:	190	8155
	00 4	10

09-Aug-19

Client: Project:	Souc Fluff	ler, Miller & A fy Cat SW	ssociate	S							
Sample ID:	MB-46644	SampT	ype: ME	BLK	Tes	tCode: EP	A Method	300.0: Anion	s		
Client ID:	PBS	Batch	h ID: 46	644	F	RunNo: 61	958				
Prep Date:	8/7/2019	Analysis D	Date: 8/	7/2019	S	SeqNo: 21	02630	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID:	LCS-46644	SampT	ype: LC	S	Tes	tCode: EP	A Method	300.0: Anion	s		
Client ID:	LCSS	Batch	h ID: 46	644	F	RunNo: 61	958				
Prep Date:	8/7/2019	Analysis D	Date: 8/	7/2019	5	SeqNo: 21	02631	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	92.8	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.

WO#:	190815	5

09-Aug-19

Client:	Souder,	Miller & A	ssociate	es									
Project:	Fluffy C	Cat SW											
Sample ID:	LCS-46614	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics			
Client ID:	LCSS	Batch	n ID: 46	614	F	RunNo: 6	1951						
Prep Date:	8/6/2019	Analysis D	ate: 8/	7/2019	S	SeqNo: 2	101219	Units: %Re	с				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: DNOP		4.4		5.000		88.0	70	130					
Sample ID:	MB-46614	SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics											
Client ID:	PBS	Batch	n ID: 46	614	F	RunNo: 61951							
Prep Date:	8/6/2019	Analysis D	ate: 8/	7/2019	S	SeqNo: 2	101220	Units: %Re	с				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: DNOP		12		10.00		121	70	130					
		SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics											
Sample ID:	LCS-46624	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics			
Sample ID: Client ID:	LCS-46624 LCSS	SampT Batch	ÿpe: LC n ID: 46	S 624	Tes F	tCode: El RunNo: 6	PA Method 1951	8015M/D: Di	esel Rang	e Organics			
Sample ID: Client ID: Prep Date:	LCS-46624 LCSS 8/6/2019	SampT Batch Analysis D	ÿpe: LC n ID: 46 9ate: 8 /	CS 624 /7/2019	Tes F S	tCode: El RunNo: 6 SeqNo: 2	PA Method 1951 101649	8015M/D: Di Units: mg/F	esel Rang Kg	e Organics			
Sample ID: Client ID: Prep Date: Analyte	LCS-46624 LCSS 8/6/2019	SampT Batch Analysis D Result	ÿpe: LC n ID: 46 Øate: 8 / PQL	2 S 624 77/2019 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 6 SeqNo: 2 %REC	PA Method 1951 101649 LowLimit	8015M/D: Di Units: mg/ł HighLimit	esel Rang (g %RPD	e Organics RPDLimit	Qual		
Sample ID: Client ID: Prep Date: Analyte Diesel Range (LCS-46624 LCSS 8/6/2019 Drganics (DRO)	SampT Batch Analysis D Result 50	ype: LC 1 ID: 46 Date: 8/ PQL 10	5 624 17/2019 SPK value 50.00	Tes F S SPK Ref Val 0	tCode: El RunNo: 6 SeqNo: 2 <u>%REC</u> 100	PA Method 1951 101649 LowLimit 63.9	8015M/D: Di Units: mg/k HighLimit 124	esel Rang (g %RPD	e Organics RPDLimit	Qual		
Sample ID: Client ID: Prep Date: Analyte Diesel Range (Surr: DNOP	LCS-46624 LCSS 8/6/2019 Organics (DRO)	SampT Batch Analysis D Result 50 4.4	ype: LC n ID: 46 Date: 8/ PQL 10	624 77/2019 SPK value 50.00 5.000	Tes F SPK Ref Val 0	tCode: El RunNo: 6 SeqNo: 2 <u>%REC</u> 100 88.2	PA Method 1951 101649 LowLimit 63.9 70	8015M/D: Di Units: mg/k HighLimit 124 130	esel Rang (g %RPD	e Organics	Qual		
Sample ID: Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP Sample ID:	LCS-46624 LCSS 8/6/2019 Organics (DRO) MB-46624	SampT Batch Analysis D Result 50 4.4 SampT	ype: LC 1 ID: 46 Date: 8/ PQL 10	50.00 50.00 50.00 50.00	Tes F SPK Ref Val 0 Tes	tCode: E RunNo: 6 SeqNo: 2 <u>%REC</u> 100 88.2 tCode: E	PA Method 1951 101649 LowLimit 63.9 70 PA Method	8015M/D: Di Units: mg/P HighLimit 124 130 8015M/D: Di	esel Rang (g %RPD esel Rang	e Organics RPDLimit	Qual		
Sample ID: Client ID: Prep Date: Analyte Diesel Range (Surr: DNOP Sample ID: Client ID:	LCS-46624 LCSS 8/6/2019 Organics (DRO) MB-46624 PBS	SampT Batch Analysis D Result 50 4.4 SampT Batch	ype: LC n ID: 46 Pate: 8/ PQL 10	CS 624 77/2019 SPK value 50.00 5.000 BLK 624	Tes F SPK Ref Val 0 Tes F	tCode: EI RunNo: 6 SeqNo: 2 %REC 100 88.2 tCode: EI RunNo: 6	PA Method 1951 101649 LowLimit 63.9 70 PA Method 1951	8015M/D: Di Units: mg/k HighLimit 124 130 8015M/D: Di	esel Rang (g %RPD esel Rang	e Organics RPDLimit	Qual		
Sample ID: Client ID: Prep Date: Analyte Diesel Range (Surr: DNOP Sample ID: Client ID: Prep Date:	LCS-46624 LCSS 8/6/2019 Drganics (DRO) MB-46624 PBS 8/6/2019	SampT Batch Analysis D Result 50 4.4 SampT Batch Analysis D	ype: LC n ID: 46 vate: 8/ PQL 10 ype: MI n ID: 46 vate: 8/	CS 624 77/2019 SPK value 50.00 5.000 BLK 624 77/2019	Tes F SPK Ref Val 0 Tes F S	tCode: El RunNo: 6 SeqNo: 2 %REC 100 88.2 tCode: El RunNo: 6 SeqNo: 2	PA Method 1951 101649 LowLimit 63.9 70 PA Method 1951 101650	8015M/D: Di Units: mg/P HighLimit 124 130 8015M/D: Di Units: mg/P	esel Rang (g %RPD esel Rang	e Organics RPDLimit	Qual		
Sample ID: Client ID: Prep Date: Analyte Diesel Range (Surr: DNOP Sample ID: Client ID: Prep Date: Analyte	LCS-46624 LCSS 8/6/2019 Drganics (DRO) MB-46624 PBS 8/6/2019	SampT Batch Analysis D Result 50 4.4 SampT Batch Analysis D Result	ype: LC n ID: 46 Pate: 8/ PQL 10 in ID: 46 Pate: 8/ PQL	25 624 77/2019 50.00 5.000 8LK 624 77/2019 SPK value	Tes F SPK Ref Val 0 Tes F SPK Ref Val	tCode: El RunNo: 6 SeqNo: 2 %REC 100 88.2 tCode: El RunNo: 6 SeqNo: 2 %REC	PA Method 1951 101649 LowLimit 63.9 70 PA Method 1951 101650 LowLimit	8015M/D: Di Units: mg/k HighLimit 124 130 8015M/D: Di Units: mg/k HighLimit	esel Rang (g %RPD esel Rang (g %RPD	e Organics RPDLimit e Organics RPDLimit	Qual		
Sample ID: Client ID: Prep Date: Analyte Diesel Range (Surr: DNOP Sample ID: Client ID: Prep Date: Analyte Diesel Range (LCS-46624 LCSS 8/6/2019 Organics (DRO) MB-46624 PBS 8/6/2019 Organics (DRO)	SampT Batch Analysis D Result 50 4.4 SampT Batch Analysis D Result ND	ype: LC n ID: 46 vate: 8/ PQL 10 ype: MI n ID: 46 vate: 8/ PQL 10	CS 624 77/2019 SPK value 50.00 5.000 BLK 624 77/2019 SPK value	Tes F SPK Ref Val 0 Tes F SPK Ref Val	tCode: El RunNo: 6 SeqNo: 2 %REC 100 88.2 tCode: El RunNo: 6 SeqNo: 2 %REC	PA Method 1951 101649 LowLimit 63.9 70 PA Method 1951 101650 LowLimit	8015M/D: Di Units: mg/P HighLimit 124 130 8015M/D: Di Units: mg/P HighLimit	esel Rang (g %RPD esel Rang (g %RPD	e Organics RPDLimit e Organics RPDLimit	Qual		
Sample ID: Client ID: Prep Date: Analyte Diesel Range (Surr: DNOP Sample ID: Client ID: Prep Date: Analyte Diesel Range (Motor Oil Rang	LCS-46624 LCSS 8/6/2019 Drganics (DRO) MB-46624 PBS 8/6/2019	SampT Batch Analysis D Result 50 4.4 SampT Batch Analysis D Result ND ND	ype: LC n ID: 46 vate: 8/ PQL 10 ype: MI n ID: 46 vate: 8/ PQL 10 50	25 624 77/2019 50.00 5.000 3LK 624 77/2019 SPK value	Tes F SPK Ref Val 0 Tes F SPK Ref Val	tCode: El RunNo: 6 SeqNo: 2 %REC 100 88.2 tCode: El RunNo: 6 SeqNo: 2 %REC	PA Method 1951 101649 LowLimit 63.9 70 PA Method 1951 101650 LowLimit	8015M/D: Di Units: mg/k HighLimit 124 130 8015M/D: Di Units: mg/k HighLimit	esel Rang (g %RPD esel Rang (g %RPD	e Organics RPDLimit e Organics RPDLimit	Qual		

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

Client: Sou Project: Fluf	der, Miller & A fy Cat SW	ssociate	28							
Sample ID: MB-46604	BLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batcl	h ID: 46	2: 46604 RunNo: 61943			1943				
Prep Date: 8/5/2019	Analysis E	Date: 8/	6/2019	S	SeqNo: 2	100703	Units: mg/k	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRC Surr: BFB)) ND 930	5.0	1000		93.4	73.8	119			
Sample ID: LCS-46604	SampT	Гуре: LC	s	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID: LCSS	Batcl	h ID: 46	604	F	RunNo: 6	1943				
Prep Date: 8/5/2019	Analysis E	Date: 8/	6/2019	S	SeqNo: 2	100704	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRC	0) 24	5.0	25.00	0	95.1	80.1	123			
Surr: BFB	1100		1000		115	73.8	119			

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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Reporting Emili

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1908155**

09-Aug-19

Client: Project:	Souder, Miller & A Fluffy Cat SW	Associate	es								
Sample ID: MB-466	604 Samp	Туре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	tiles			
Client ID: PBS	Bato	h ID: 46	604	F	RunNo: 6						
Prep Date: 8/5/20	19 Analysis	Date: 8/	6/2019	19 SeqNo: 2100854				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-Bromofluorobe	nzene 0.94		1.000		94.1	80	120				
Sample ID: LCS-46	604 Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Volat	tiles			
Client ID: LCSS	Bato	h ID: 46	604	F	RunNo: 6	1943					
Prep Date: 8/5/20	19 Analysis	Date: 8/	6/2019	5	SeqNo: 2	100855	Units: mg/k	٢g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.93	0.025	1.000	0	93.3	80	120				
Toluene	0.98	0.050	1.000	0	97.8	80	120				
Ethylbenzene	0.98	0.050	1.000	0	97.7	80	120				
Xylenes, Total	3.0	0.10	3.000	0	98.5	80	120				
Surr: 4-Bromofluorobe	nzene 0.98		1.000		97.6	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
- 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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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albu TEL: 505-345-3975 Website: www.ha	Analy. 490 iquerq FAX: llenvir	sis Laborat 1 Hawkins ue, NM 871 505-345-41 conmental.c	ory NE 109 San 107 com	nple Log-In Check List
Client Name: SMA-CARLSBAD	Work Order Number:	1908	3155		RcptNo: 1
Received By: Erin Melendrez	8/3/2019 9:30:00 AM			inter	7
Completed By: Erin Melendrez	8/5/2019 10:19:04 AM			Mar	~
Reviewed By: DAD \$15/19					
Chain of Custody				_	_
1. Is Chain of Custody complete?		Yes	\checkmark	No 🗌	Not Present
2. How was the sample delivered?		<u>Cou</u>	ier		
Log In 3. Was an attempt made to cool the samples?		Yes		No 🗔	NA 🗌
				No 🗔	
4. Were all samples received at a temperature (or >0° C to 6.0°C	Yes	V		
5. Sample(s) in proper container(s)?		Yes		No 🗌	
6, Sufficient sample volume for indicated test(s)	?	Yes	\checkmark	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 broker	1?	Yes		No 🗹	# of preserved
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes	\checkmark	No 🗆	for pH:
12. Are matrices correctly identified on Chain of C	Custody?	Yes	\checkmark	No 🗌	Adjusted?
13. Is it clear what analyses were requested?		Yes	\checkmark	No 🗌	/ holls
 Were all holding times able to be met? (If no, notify customer for authorization.) 		Yes		No	Checked by: MS 0/5/11
<u>Special Handling (if applicable)</u>					
15. Was client notified of all discrepancies with the	his order?	Yes		No 🗌	NA 🗹
Person Notified:	Date:				
By Whom:	Via:	eMa	ail 🗌 Ph	one 🗌 Fax	In Person
Regarding:					
Client Instructions:					
16. Additional remarks:					
17. <u>Cooler Information</u> <u>Cooler No</u> <u>Temp ^oC</u> <u>Condition</u> Se 1 <u>5.5</u> <u>Good</u> <u>Yes</u>	al Intact, Seal No S	eal Da	ate S	Signed By	

Chain-of-Custody Record	Turn-Around Time:	
Client: SMA-Cansbad.	Standard Rush Sdaul AMALYSIS LABORATOR	י גר
	Project Name:	
Mailing Address:	Flutty Cat SW 4901 Hawkins NE - Albuquerque, NM 87109	
	Project #:) Tel. 505-345-3975 Fax 505-345-4107	
Phone #:	Analysis Request	
email or Fax#:	Project Manager:	
QA/QC Package:	Nelodie Janiari (802 SIMS Od; SIMS	
Accreditation:	Samole: MB's MB'	
	On tee X (e 1)	
🗆 EDD (Type)		
	Cooler Tempinetering CF J. (CF) J. (CF	
Date Time Matrix Sample Name	Container Preservative HEAL No. Stort HEAL NO. STOR	
x11 9:00 Soil Sw/	402 M35 1 0 - M35 1 - M35 1 0 - M35 1 -	
1 10:00 SWZ	-0402 10402	
11:00 SW3	-01503 & 444	
12:00 See 4	- 01P0 1	
4 2:00 SWS	-0705 JVV 1	
Date: Time: Relinquished by	Received by: Via: Date Time Remarks:	
Batic Time: Relinquished O	Regelve from Via CULTICT Date (Time) 8/3/19 0930	
If necessary, samples submitted to Hall Environmental may be subt	poontracted 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

August 15, 2019

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

RE: Fluffy Cat

OrderNo.: 1908763

Dear Melodie Sanjari:

Hall Environmental Analysis Laboratory received 3 sample(s) on 8/14/2019 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

Lab Order: 1908763

Hall Environ	mental Analysis Lab	ooratory, Inc.				Ι	Date Reported:	8/15/2	2019
CLIENT:	Souder, Miller & Associates Fluffy Cat				L	ab C)rder:	190876	53
Lab ID:	1908763-001		Со	llecti	on Date	: 8/1	12/2019 8:00	:00 AN	1
Client Sample ID:	SW2				Matrix	: SC	DIL		
Analyses		Result	RL (Qual	Units	DF	Date Analy	zed	Batch ID
EPA METHOD 30 Chloride	0.0: ANIONS	260	60		mg/Kg	20	8/14/2019 5:	Anal 22:32 P	yst: CAS M 46784
Lab ID:	1908763-002		Со	llecti	on Date	: 8/1	12/2019 8:15	:00 AN	1
Client Sample ID:	SW3				Matrix	: SC	DIL		
Analyses		Result	RL (Qual	Units	DF	Date Analy	zed	Batch ID
EPA METHOD 30	0.0: ANIONS							Anal	yst: CAS
Chloride		ND	60		mg/Kg	20	8/14/2019 5:	59:46 P	M 46784
Lab ID:	1908763-003		Co	llecti	on Date	: 8/1	12/2019 8:25	:00 AN	1
Client Sample ID:	SW4				Matrix	: SC	DIL		
Analyses		Result	RL (Qual	Units	DF	Date Analy	zed	Batch ID
EPA METHOD 30	0.0: ANIONS							Anal	yst: CAS
Chloride		ND	60		mg/Kg	20	8/14/2019 6:	12:11 P	M 46784

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.

Same Decision and Statement Containing Level.
 Same Decision of Statement Stateme

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

Е Value above quantitation range

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits J

P Sample pH Not I RL Reporting Limit Sample pH Not In Range

В

Page 1 of 2

WO#:	1908763
	15 Aug 10

Client: Project:	Soude Fluffy	er, Miller & As Cat	ssociate	es							
Sample ID:	MB-46784	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	PBS	Batch	n ID: 46	784	F	RunNo: 62	2158				
Prep Date:	8/14/2019	Analysis D	ate: 8/	14/2019	ç	SeqNo: 21	09704	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID:	LCS-46784	SampT	ype: LC	s	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	LCSS	Batch	n ID: 46	784	F	RunNo: 62	2158				
Prep Date:	8/14/2019	Analysis D	ate: 8/	14/2019	S	SeqNo: 21	09705	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	91.1	90	110			

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
- % Recovery outside of range due to dilution or matrix S

- 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 2 of 2

15-Aug-19

HALL	
	NTAL
ANALYSIS	
LABORATOR	Y

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 Nun	nber: 1908763		Rcpti	No: 1
Received By: Desiree Dominguez	8/14/2019 9:00:00	AM	D		
Completed By: Erin Melendrez	8/14/2019 9:38:05	AM	U.M.		
Reviewed By:	8/14/19				
Chain of Custody					
1. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present	
2. How was the sample delivered?		Courier			
<u>Log In</u>					
3. Was an attempt made to cool the samples?		Yes 🖌	No 🗌		
4. Were all samples received at a temperature	of >0° C to 6.0°C	Yes 🗹	No 🗌		
5. Sample(s) in proper container(s)?		Yes 🔽	No 🗌		
6. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗌		
Are samples (except VOA and ONG) proper	ly 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 broke	n?	Yes	No 🗹		
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🖌	No 🗔	# of preserved bottles checked for pH:	
12. Are matrices correctly identified on Chain of the	Custodv?	Yes 🗸	No	(<2) Adjusted?	or >12 unless noted)
13. Is it clear what analyses were requested?	, .	Yes 🔽			
 Were all holding times able to be met? (If no, notify customer for authorization.) 		Yes 🔽	No 🗌	Checked by:	DAD 8/14/14
<u>Special Handling (if applicable)</u>					
15. Was client notified of all discrepancies with t	his order?	Yes 🗌	No 🗍		
Person Notified: By Whom: Regarding: Client Instructions:	Date: Via:	eMail] P	Phone [] Fax	In Person	
16. Additional remarks:	······································	· ·· · · · · · · · · · · · · · · · · ·			
17. <u>Cooler Information</u>					

	Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
	1	1.9	Good	Yes	in the second second second	and the second	
1	A A A A A A A A A A A A A A A A A A A	W.B	A CONTRACTOR OF CONTRACTOR OF CONTRACTOR	L	l		1 1

Chain-of-Custody Record	Turn-Around Time:	
Client: SMA - C BAD		- ENVIRONMENTAL
	Project Name: / ANA	LYSIS LABORATORY
Mailing Address:	Fluctonat 1	allenvironmental.com
	Project #: 4901 Hawkins NE	- Albuquerque, NM 87109
Phone #:	Tel. 505-345-397	Fax 505-345-4107
email or Fax#:	Project Manarter	Analysis Request
QA/QC Package:		¢OS (1ne
Standard Level 4 (Full Validation)	IV COCIC Janjar 18 18	, مم edA'
Accreditation:	Sampler: M/2 S 2014:0: 8270: 2014:0: 8270: 2015:	dus, F
🗆 EDD (Type)		1 ,e (AC nnq)
	Cooler TempInduans or: 1, 9, -0, 0 : 1, 9 - 0, 0 : 1, 9 -	(Ad mi-Ve form
Date Time Matrix Comple Name	Container Preservative Pre	6 (VC
		826 827
	200-	
Date: Time: Relinguished by:	Received by: Via: Date Time Domotion	
Date: Time: Relinquisheowy	All A BOD NOW	
alistical free of the design of the	TES COURTER &/14/19 9:00	
 It necessary, samples submitted to Hall Environmental may be subcor 	ntracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data w	I be clearly notated on the analytical report.
APPENDIX E BLM SUNDRY FORM 3160-5

Form 3160-5 (June 2015)	m 3160-5 UNITED STATES Operator Copy ne 2015) DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT					FORM APPROVED OMB No. 1004-0137 Expires: January 31, 2018 5. Lease Serial No. NMNM086153		
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.						6. If Indian, Allottee or Tribe Name		
SUBMIT IN TRIPLICATE - Other instructions on page 2						7. If Unit of CA/Agreement, Name and/or No.		
1. Type of Well Gas Well Other						8. Well Name and No. Fluffy Cat 16 21 St. Fed. Com #216H		
2. Name of Operator Devon Energy Production Company						9. API Well No. 30-025-45728		
3a. Address 6488 Seve	3b. Phone N 575-748-0	Io. <i>(include area code</i> 176	2)	10. Field and Pool or Exploratory Area Sand Dunes, South/Bone Spring				
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) Well: Sec 16 T23S R32E Lea County Actual Release: Sec 13 T23S R31E Eddy County						11. Country or Parish, State New Mexico		
· <u> </u>	12. CHEC	K THE APPROPRIATE B	OX(ES) TO	INDICATE NATURI	E OF NOTI	CE, REPORT OR OTH	ER DATA	
TYPE OF SUBMISSION TYPE						FACTION		
Votice of Intent		Acidize		eepen ydraulic Fracturing	Prod	uction (Start/Resume) amation	Water Shut-Off Well Integrity	
Subsequent Report		Casing Repair	P	ew Construction lug and Abandon	Tem	porarily Abandon		
Final Abandonment Notice		Convert to Injection	P	lug Back	Wate	r Disposal		
completed. Final Aba is ready for final insp Requesting approv borders a lease ro site. Estimated start da The release area v meeting the Recla chloride using an f order to return the	ndomment Noti ection.) val for surface ad, Devon do te: July 8, 201 vill be excava mation requin EC meter. App surface to pro	ices must be filed only after e disturbance to address es not foresee the need 19 ted to the NMOCD Closs ement of 19.15.29.13(D) proximately 4600 cubic y evious contours.	all requirem the remedia of a buffer of ure Criteria, (1). SMA wi ards of con ards of con	ents, including reclar ation of the site (am of more than five fee the top four (4) fee Il guide the excavat taminated soil are p	nation, hav ended C1 et around f t of impaci ion by col projected to	te been completed and the sent to NMOCD & the edges of the excant the edges of the excant ted areas off the well becting composite soil to be removed and rep	BLM on 6/20/2019). As the release vation to access and remediate the pad will be excavated and backfilled samples for field screening for placed with clean backfill material in	
Amanda Trujillo Davis				Environm Title	Environmental Professional Title			
Signature Amanda T. Davis Date 06/25/2019)19	
		THE SPACI	E FOR FE	DERAL OR ST	TATE OF			
Approved by Conditions of approval, if certify that the applicant h which would shitle the ap Title 18 U.S.C Section 10 any false, fictitious or frau	any, are attach olds legal or ec oplicant to conc 01 and Title 43 dulent stateme	ed. Approval of this notice quitable title to those rights fuct operations thereon. U.S.C Section 1212, make nts or representations as to	does not war in the subject it a crime for any matter v	Title Trant or ot lease Office or any person knowing vithin its jurisdiction.	SPL LFD gly and wil	Ifully to make to any de	Date 6-25-13	
(Instructions on page	2)							

APPENDIX F EXCAVATION PHOTO



