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

July 31, 2019 #5E27950-BG20

NMOCD District 2
Victoria Venegas
811 S First St.
Artesia, New Mexico 88210

SUBJECT: Remediation Closure Report for the Cypress 1H Release (2RP-5480), Carlsbad, New Mexico

Dear Ms. Venegas:

On behalf of Marathon Oil Permian LLC (Marathon), Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes the remediation of a release of liquids related to oil and gas production activities at the Cypress 1H site. The site is in Unit M, Section 9, Township 23S, Range 27E, Eddy County, New Mexico, on private land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

Table 1: Release Information and Closure Criteria			
Name	**Cypress 1H**	Company	**Marathon Oil Permian LLC**
API Number	**30-015-44046**	Location	**32.313848, -104.202615**
Incident Number	**2RP-5480**		
Estimated Date of Release	**6/6/2019**	Date Reported to NMOCD	**6/7/2019**
Land Owner	**Private**	Reported To	**NMOCD**
Source of Release	**Produced water load out valve**		
Released Volume	**103 bbls**	Released Material	**Produced water**
Recovered Volume	**60 bbls**	Net Release	**43 bbls**
NMOCD Closure Criteria	**>100 feet to groundwater**		
SMA Response Dates	**June 10, July 1-4, 2019**		

1.0 Background

On June 6, 2019, a release was discovered at the Cypress 1H site due to the water load out valve being left open. Initial response activities were conducted by Marathon Oil, and included source elimination and standing fluid recovery activities, which recovered approximately 60 barrels of fluid. Figure 1 illustrates

the vicinity and site location, Figure 2 illustrates the release location. The C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The Cypress 1H is located approximately 5 miles south of Carlsbad, New Mexico on private land at an elevation of approximately 3150 feet above mean sea level (amsl).

Based upon water well data (Appendix B), depth to groundwater in the area is estimated to be 150 feet below grade surface (bgs). There is one known water source within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 6/20/2019). The nearest significant watercourse is a FEMA flood zone located approximately 460 feet to the east. 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 a groundwater depth of greater than 100 feet bgs. The site on pad has been restored to meet the standards of Table I of 19.15.29.12 NMAC. The impacted area off pad has been remediated to reclamation levels as outlined by 19.15.29.12.B(3) NMAC.

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

3.0 Release Characterization and Remediation Activities

On June 10, 2019, SMA personnel arrived on site in response to the release associated with Cypress 1H. SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly stained area.

A total of seven sample locations (L1-L7) were investigated using a hand-auger, to depths up to 0.5 feet bgs. A total of seven samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D.

As summarized in Table 3, results indicated that the impacted area on the well pad measured approximately 300 feet by 70 feet by 0.5 feet deep, and adjacent off pad impacted area off pad measured approximately 80 feet by 70 feet by 2.5 feet deep. The narrow impacted area at the end of the release, measured approximately 100 feet by 15 feet by 1.5 feet deep.

From July 1-4, 2019, SMA returned to the site to guide the excavation of contaminated soil. SMA guided the excavation activities by collecting soil samples for field screening. Samples were screened for chloride using an electrical conductivity (EC) meter. The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met. NMOCD was notified on June 28, 2019 that closure samples were expected to be collected in two (2) business days.

On July 2, 2019, SMA conducted confirmation sampling of the walls and base of the western on-pad excavation, which measured approximately 1550 sq. feet. The areas around CL1-CL4 were excavated to a depth of 0.5 feet bgs. On July 4, 2019, the eastern off-pad area, represented by samples CL5 & CL6 were excavated to a depth of 2.5 feet bgs, and the area represented by CL7 was excavated to a depth of 1.5 feet bgs. Confirmation samples were comprised of five-point composites of the base (CL1-CL7) and side walls (SW1-SW8).

A total of fifteen (15) confirmation samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Laboratory samples were collected in accordance with the sampling protocol included in Appendix C. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix D).

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

In addition to meeting the Closure Criteria, the top four (4) feet of impacted areas off of the well pad meet the Reclamation requirement of 19.15.29.12.B(3) NMAC. 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 Heather Patterson at 575-689-8801 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Heather Patterson
Project Scientist

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map
Figure 2: Surface Water Radius Map
Figure 3: Site and Sample Location Map

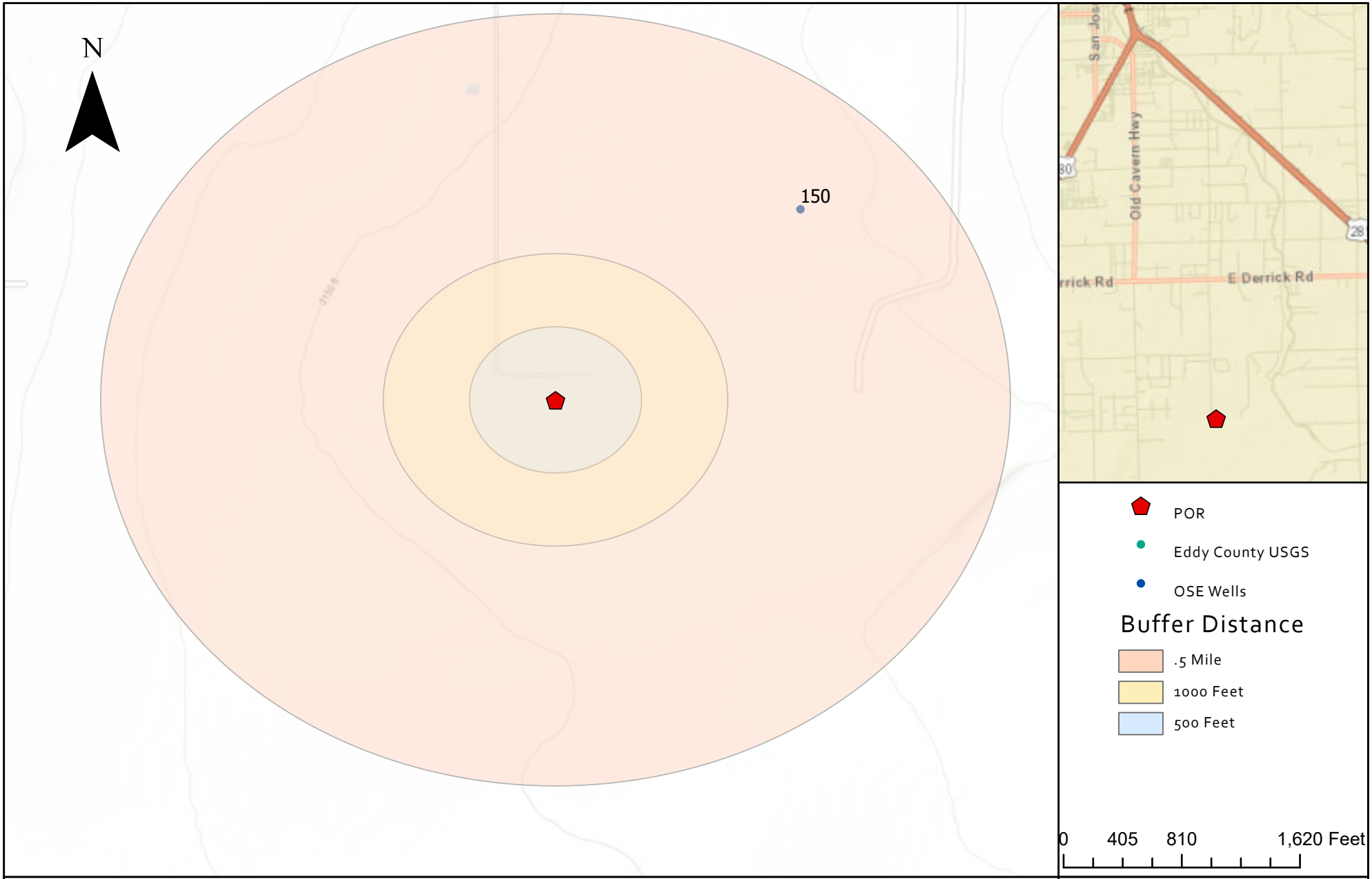
Tables:

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

Appendices:

Appendix A: Form C141
Appendix B: NMOSE Wells Report
Appendix C: Photo Log
Appendix D: Laboratory Analytical Reports

FIGURES



Regional Vicinity & Wellhead Protection Map
Cypress 1H-Marathon Oil
Sec. 9 T23S R27E, New Mexico

Figure 1

\\CBO10\Projects\5-Marathon MSA 2019 (5E27950)\GIS\ARCGIS\MARATHON_MIT.aprx

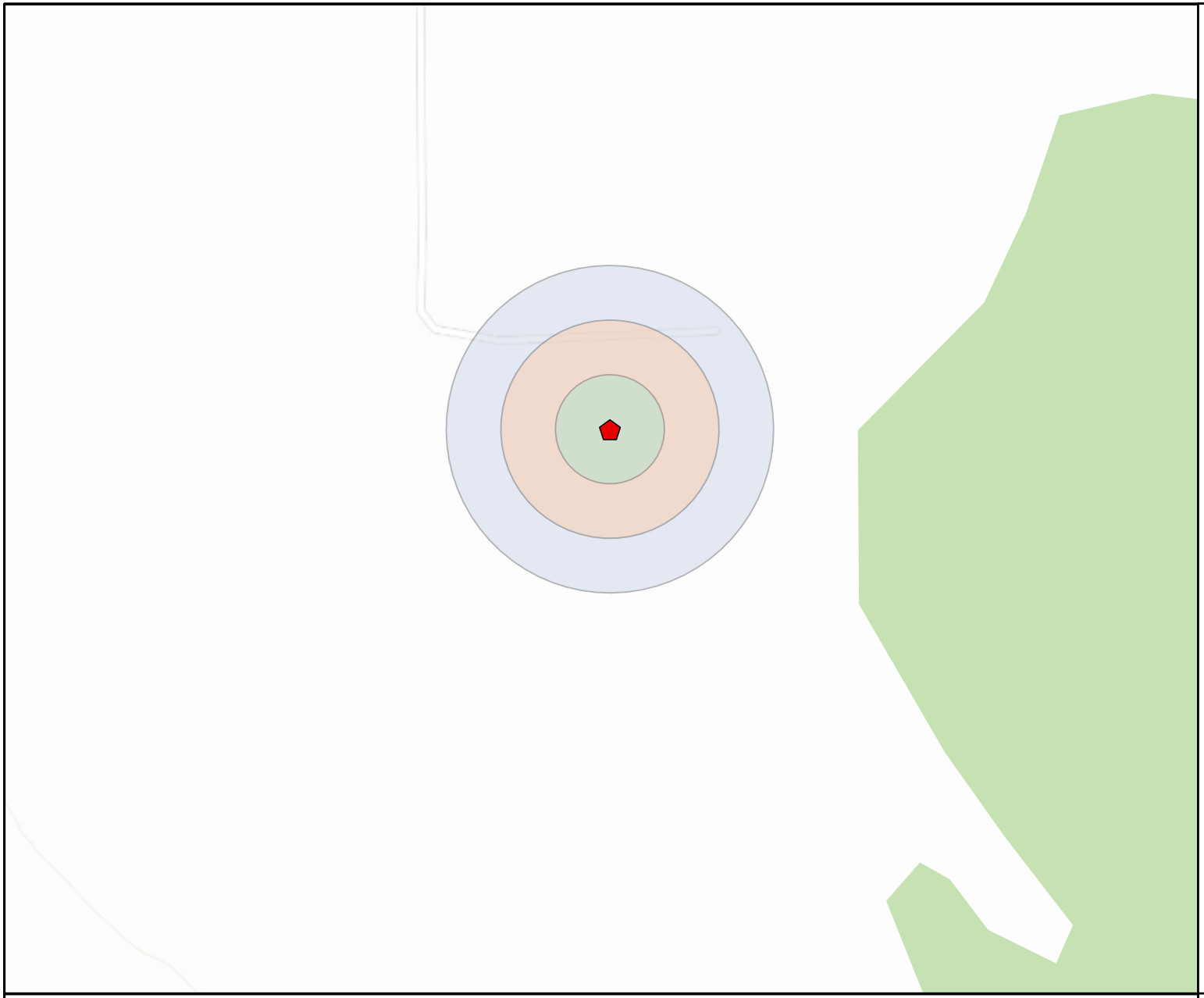
Date Saved: 6/20/2019

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

Drawn Heather Patterson
Date 6/20/2019
Checked
Approved

SMA

201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
Serving the Southwest & Rocky Mountains



Surface Water Protection Map
Cypress 1H-Marathon Oil
Sec. 9 T23S R27E, Eddy County, New Mexico

Figure 2

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Date Saved: 7/10/2019

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

Drawn Henryetta Price
Date 7/10/2019
Checked
Approved

SMA

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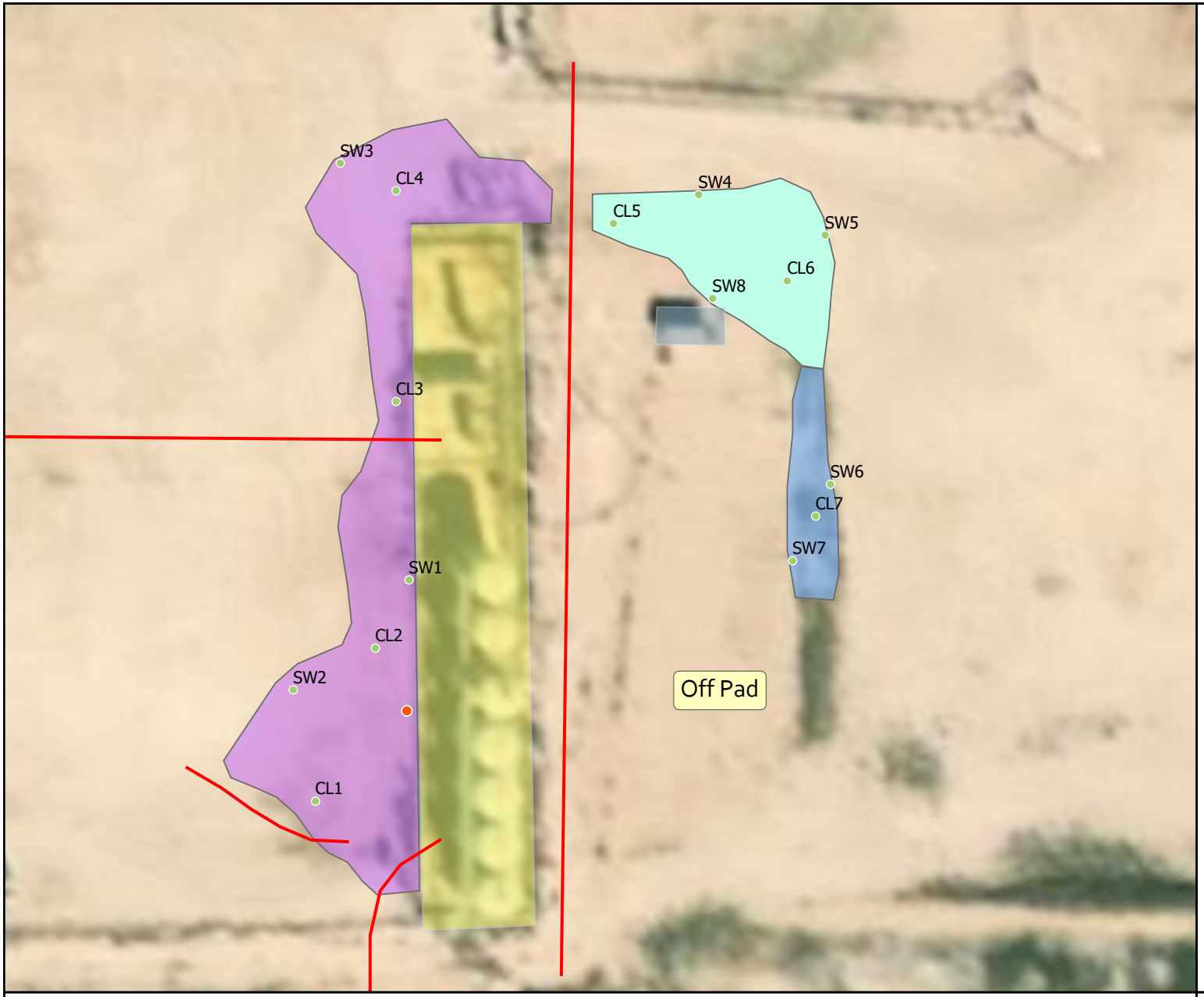

Site and Sample location Map
Cypress 1H- Marathon Oil
Sec 9 T23S R27E, Eddy County, New Mexico

Figure 3

P:\5-Marathon MSA 2019 (5E27950)\BG13 - Madera 25 Fed Com 5H\Report\ARCGIS\MARATHON_MIT.aprx

Date Saved: 7/30/2019

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

Drawn *Henryetta Price*
Date 7/30/2019
Checked
Approved

SMA

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

Table 2:
NMOCD Closure Criteria

Marathon Oil Permian
Cypress 1H (2RP-5480)

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	150	NMOSE
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	1900	NMOSE, USGS Topo Map (Fig 1)
Hortizontal Distance to Nearest Significant Watercourse (ft)	350	USGS Topo Map (Fig 2)

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

Table 3:
Summary of Sample Results

Marathon Oil Permian
Cypress 1H (2RP-5480)

Sample ID	Sample Date	Depth (feet bgs)	Action Taken	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10	1000			2500	600*/ 20000
Initial Sampling Event										
L1	6/10/2019	0.5	in-situ	<0.224	<0.025	<5.0	<9.6	<48	<62.6	680
L2	6/10/2019	0.5	in-situ	--	--	--	--	--	--	500
L3	6/10/2019	0.5	excavated	--	--	--	--	--	--	1400
L4	6/10/2019	0.5	excavated	<0.221	<0.025	<4.9	<9.9	<50	<64.8	2000
L5	6/10/2019	0.5	excavated	--	--	--	--	--	--	**5100**
L6	6/10/2019	0.5	excavated	--	--	--	--	--	--	**4500**
L7	6/10/2019	0.5	excavated	<0.217	<0.024	<4.8	<9.5	<47	<61.3	**2800**
Closure Sampling Event										
SW1	7/2/2019	0.5	in-situ	<0.224	<0.025	<5.0	27	50	77	11000
SW2	7/2/2019	0.5	in-situ	<0.220	<0.024	<4.9	33	63	96	14000
SW3	7/2/2019	0.5	in-situ	<0.221	<0.025	<4.9	46	140	186	8300
SW4	7/2/2019	2.5	in-situ	<0.221	<0.025	<4.9	<10	<50	<64.9	75
SW5	7/2/2019	2.5	in-situ	<0.219	<0.024	<4.9	<9.8	<49	<63.7	170
SW6	7/2/2019	1.5	in-situ	<0.222	<0.025	<4.9	<9.8	<49	<63.7	430
SW7	7/2/2019	1.5	in-situ	<0.221	<0.025	<4.9	<9.8	<49	<63.7	140
SW8	7/2/2019	2.5	in-situ	<0.225	<0.025	<5.0	<9.8	<49	63.8	86
CL1	7/2/2019	0.5	in-situ	<0.225	<0.025	<5.0	410	130	540	12000
CL3	7/2/2019	0.5	in-situ	<0.225	<0.025	<5.0	16	<48	16	8600
CL2	7/4/2019	0.5	in-situ	<0.216	<0.024	<4.8	<10	<50	<64.8	5100
CL4	7/4/2019	0.5	in-situ	<0.222	<0.025	<4.9	<10	<50	<63.8	12000
CL5	7/4/2019	2.5	in-situ	<0.219	<0.024	<4.9	<9.9	<50	<64.8	<60
CL6	7/4/2019	2.5	in-situ	<0.225	<0.025	<5.0	<9.9	<49	<63.9	<60
CL7	7/4/2019	1.5	in-situ	<0.216	<0.024	<4.8	<9.5	<47	<61.3	370

"--" = Not Analyzed
* = per Reclamation Standard (19.15.29.12.B(3) NMAC)
Off Pad Samples

SMA # 5E27950

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

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

Incident ID	NAB1916433920
District RP	2RP-5480
Facility ID	
Application ID	pAB1916432889

Release Notification

Responsible Party

Responsible Party Marathon Oil Permian LLC	OGRID 372098
Contact Name Callie Karrigan	Contact Telephone 575-297-0956
Contact email cnkarrigan@marathonoil.com	Incident # *(assigned by OCD)* NAB1916433920
Contact mailing address 4111 Tidwell Road, Carlsbad New Mexico, 88220	

Location of Release Source

Latitude 32.313848 Longitude -104.202615
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Cypress 1H	Site Type Oil and gas drilling facility
Date Release Discovered 6/6/19	API# *(if applicable)* 30-015-44046

Unit Letter	Section	Township	Range	County
M	9	23S	27E	Eddy

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) 103	Volume Recovered (bbls) 60
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☑ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Last night at 6:30 pm, a third party working near the Cypress 1H location reported a load line leak. Upon further investigation by the Operator, the water load out valve at the load out pot was left cracked. Approximately 103 bbls of produced water was released. Approximately 60 bbls of standing fluids were recovered via vac truck.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1916433920
District RP	2RP-5480
Facility ID	
Application ID	pAB1916432889

Was this a major release as defined by 19.15.29.7(A) NMAC? ☑ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release exceeded 25 bbls.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Mike Bratcher, Victoria Venegas, Rombert Hamlet and Jim Griswold via email (6/7/19 9:27 am) from clalie Karrigan

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: Callie Karrigan Title: HES Professional

Signature: Callie Karrigan Date: 6/11/19

email: cnkarrigan@marathonoil.com Telephone: 575-297-0956

OCD Only

Received by: Amalia Bustamante Date: 6/13/2019

State of New Mexico
Oil Conservation Division

Incident ID	nAB1916433920
District RP	2RP-5480
Facility ID	
Application ID	pAB1916432889

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	nAB1916433920
District RP	2RP-5480
Facility ID	
Application ID	pAB1916432889

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: Isaac Castro Title: ADV HES Tech

Signature: Isaac Castro Date: 8/2/19

email: icastro@marathonoil.com Telephone: 575-988-0561

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAB1916433920
District RP	2RP-5480
Facility ID	
Application ID	pAB1916432889

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: ___Isaac Castro_____ Title: _ADV HES Tech_____

Signature: Isaac Castro Date: ___8/2/19_____

email: ____icastro@marathonoil.com____ Telephone: ___Telephone: _575-988-0561_____

OCD Only

Received by: _____ Date**:** _____

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

Closure Approved by: _____ Date**:** _____

Printed Name: _____ Title: _____

APPENDIX B
NMOSE WELLS REPORT

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

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04044 POD1	CUB	ED	3	2	3	09	23S	27E	575504	3575907	614	290	150	140

Average Depth to Water: **150 feet**

Minimum Depth: **150 feet**

Maximum Depth: **150 feet**

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 575027.915 **Northing (Y):** 3575518.575 **Radius:** 1000

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

2017 MAY 16 AM 8:38

1. GENERAL AND WELL LOCATION

OSE POD NUMBER (WELL NUMBER): POD1	OSE FILE NUMBER(S): C-4044
WELL OWNER NAME(S): Scott and Valerie Branson	PHONE (OPTIONAL): 575-706-5659
WELL OWNER MAILING ADDRESS: 910 W Pierce Street #138	CITY: Carlsbad STATE: NM ZIP: 88220

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	32	19	2.85"	N
LONGITUDE	104	11	52.35"	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

SW/4 NE/4 SW/4 Section 09 T 23S R 27E

2. DRILLING & CASING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-331	Joel H. Stewart	Stewart Brothers Drilling Co.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
4/21/17	4/22/17	290	290	150

COMPLETED WELL IS: ○ ARTESIAN ○ DRY HOLE ◉ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT):

DRILLING FLUID: ◉ AIR ○ MUD ADDITIVES - SPECIFY:

DRILLING METHOD: ◉ ROTARY ○ HAMMER ○ CABLE TOOL ○ OTHER - SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	150	12.25"	8.625" certa-lok	integral bell joint	8.625"	.500	
150	290	12.25"	8.625" certa-lok	integral bell joint	8.625"	.500	.032"

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	15	12.25"	portland cement	6.2	from surface
15	20	12.25"	bentonite chips	2.06	from surface
20	290	12.25"	3/8" pea gravel	111.43	from surface

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	C-4044	POD NUMBER	1	TRN NUMBER	605685
LOCATION	Exp1	23S.27E.9.323			PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	60	60	brown sand, large rocks	○ Y ◉ N	
60	100	40	tan clay and sand	○ Y ◉ N	
100	290	190	dark brown gravel and sand	◉ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: ○ PUMP ○ AIR LIFT ○ BAILER ○ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): unknown

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

Minimal air-lift development was performed after well installation was complete. Owner is taking care of pump testing and equipping.

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Don Ward

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

Joel H. Stewart — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

5-10-17 — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	C-4044	POD NUMBER		TRN NUMBER	605685
LOCATION	Expl	23S.27E.9.323			PAGE 2 OF 2

APPENDIX C
PHOTO LOG

Cypress 1H (2RP-5480) Photo Log

July 2, 2019
L1 facing East

July 4, 2019
L2 facing south towards L1

July 4, 2019
L3 facing South

July 4, 2019
L4 facing East

July 4, 2019
L5 facing West

July 4, 2019
L6 facing South

July 4, 2019
L7 facing North

APPENDIX D

LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

June 20, 2019

Heather Patterson

Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL:
FAX

RE: Cypress 1H OrderNo.: 1906599

Dear Heather Patterson:

Hall Environmental Analysis Laboratory received 7 sample(s) on 6/12/2019 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1
Project: Cypress 1H
Collection Date: 6/10/2019 10:35:00 AM
Lab ID: 1906599-001 **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: **smb**	
Chloride	680	60		mg/Kg	20	6/18/2019 12:13:38 AM	45633
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/14/2019 1:18:35 PM	45572
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/14/2019 1:18:35 PM	45572
Surr: DNOP	112	70-130		%Rec	1	6/14/2019 1:18:35 PM	45572
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/13/2019 5:42:38 PM	45528
Surr: BFB	117	73.8-119		%Rec	1	6/13/2019 5:42:38 PM	45528
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/14/2019 7:14:27 PM	45528
Toluene	ND	0.050		mg/Kg	1	6/14/2019 7:14:27 PM	45528
Ethylbenzene	ND	0.050		mg/Kg	1	6/14/2019 7:14:27 PM	45528
Xylenes, Total	ND	0.099		mg/Kg	1	6/14/2019 7:14:27 PM	45528
Surr: 4-Bromofluorobenzene	97.2	80-120		%Rec	1	6/14/2019 7:14:27 PM	45528

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2
Project: Cypress 1H
Collection Date: 6/10/2019 10:43:00 AM
Lab ID: 1906599-002 **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: **smb**	
Chloride	500	60		mg/Kg	20	6/18/2019 12:26:02 AM	45633

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3
Project: Cypress 1H
Collection Date: 6/10/2019 10:59:00 AM
Lab ID: 1906599-003
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: **smb**	
Chloride	1400	60		mg/Kg	20	6/18/2019 12:38:27 AM	45633

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4
Project: Cypress 1H
Collection Date: 6/10/2019 11:11:00 AM
Lab ID: 1906599-004 **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	2000	60		mg/Kg	20	6/18/2019 1:51:23 PM	45650
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/14/2019 2:02:42 PM	45572
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/14/2019 2:02:42 PM	45572
Surr: DNOP	111	70-130		%Rec	1	6/14/2019 2:02:42 PM	45572
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/13/2019 6:52:36 PM	45528
Surr: BFB	115	73.8-119		%Rec	1	6/13/2019 6:52:36 PM	45528
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/14/2019 7:37:54 PM	45528
Toluene	ND	0.049		mg/Kg	1	6/14/2019 7:37:54 PM	45528
Ethylbenzene	ND	0.049		mg/Kg	1	6/14/2019 7:37:54 PM	45528
Xylenes, Total	ND	0.098		mg/Kg	1	6/14/2019 7:37:54 PM	45528
Surr: 4-Bromofluorobenzene	93.9	80-120		%Rec	1	6/14/2019 7:37:54 PM	45528

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L5
Project: Cypress 1H
Collection Date: 6/10/2019 11:28:00 AM
Lab ID: 1906599-005
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	5100	150		mg/Kg	50	6/19/2019 9:53:11 AM	45650

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L6
Project: Cypress 1H
Collection Date: 6/10/2019 11:46:00 AM
Lab ID: 1906599-006
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	4500	150		mg/Kg	50	6/19/2019 10:05:36 AM	45650

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L7
Project: Cypress 1H
Collection Date: 6/10/2019 12:07:00 PM
Lab ID: 1906599-007 **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	2800	150		mg/Kg	50	6/19/2019 10:18:00 AM	45650
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/14/2019 2:24:55 PM	45572
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/14/2019 2:24:55 PM	45572
Surr: DNOP	114	70-130		%Rec	1	6/14/2019 2:24:55 PM	45572
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/13/2019 8:02:06 PM	45528
Surr: BFB	114	73.8-119		%Rec	1	6/13/2019 8:02:06 PM	45528
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	6/14/2019 8:24:49 PM	45528
Toluene	ND	0.048		mg/Kg	1	6/14/2019 8:24:49 PM	45528
Ethylbenzene	ND	0.048		mg/Kg	1	6/14/2019 8:24:49 PM	45528
Xylenes, Total	ND	0.097		mg/Kg	1	6/14/2019 8:24:49 PM	45528
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	6/14/2019 8:24:49 PM	45528

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906599**

20-Jun-19

Client: Souder, Miller & Associates

Project: Cypress 1H

Sample ID: **MB-45633**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **45633**	RunNo: **60701**
Prep Date: **6/17/2019**	Analysis Date: **6/17/2019**	SeqNo: **2054652** Units: **mg/Kg**

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

Sample ID: **LCS-45633**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **45633**	RunNo: **60701**
Prep Date: **6/17/2019**	Analysis Date: **6/17/2019**	SeqNo: **2054653** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.9	90	110			

Sample ID: **MB-45650**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **45650**	RunNo: **60725**
Prep Date: **6/18/2019**	Analysis Date: **6/18/2019**	SeqNo: **2056354** Units: **mg/Kg**

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

Sample ID: **LCS-45650**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **45650**	RunNo: **60725**
Prep Date: **6/18/2019**	Analysis Date: **6/18/2019**	SeqNo: **2056355** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906599**
20-Jun-19

Client: Souder, Miller & Associates
Project: Cypress 1H

Sample ID: **MB-45572**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **45572**	RunNo: **60667**
Prep Date: **6/13/2019**	Analysis Date: **6/14/2019**	SeqNo: **2052663** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		116	70	130			

Sample ID: **LCS-45572**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **45572**	RunNo: **60697**
Prep Date: **6/13/2019**	Analysis Date: **6/17/2019**	SeqNo: **2054878** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	63.9	124			
Surr: DNOP	5.0		5.000		99.3	70	130			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906599**

20-Jun-19

Client: Souder, Miller & Associates

Project: Cypress 1H

Sample ID: **MB-45528**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **45528**	RunNo: **60624**
Prep Date: **6/12/2019**	Analysis Date: **6/13/2019**	SeqNo: **2051781** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		108	73.8	119			

Sample ID: **LCS-45528**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **45528**	RunNo: **60624**
Prep Date: **6/12/2019**	Analysis Date: **6/13/2019**	SeqNo: **2051782** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.2	80.1	123			
Surr: BFB	1200		1000		121	73.8	119			S

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906599**

20-Jun-19

Client: Souder, Miller & Associates

Project: Cypress 1H

Sample ID: **MB-45528**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **45528**	RunNo: **60624**
Prep Date: **6/12/2019**	Analysis Date: **6/13/2019**	SeqNo: **2051816** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: **LCS-45528**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **45528**	RunNo: **60624**
Prep Date: **6/12/2019**	Analysis Date: **6/13/2019**	SeqNo: **2051817** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	104	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **1906599** RcptNo: 1

Received By: **Desiree Dominguez** **6/12/2019 8:55:00 AM** DD

Completed By: **Desiree Dominguez** **6/12/2019 11:05:03 AM** DD

Reviewed By: YG 6/12/19

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: DAD 6/12/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

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

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.7	Good	Not Present			
2	2.1	Good	Not Present			

Chain-of-Custody Record

Client: SMA Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☐ Standard ☐ Rush

Project Name: Cypress 1H

Project #:

Project Manager: H. Patterson

Sampler: HMP

On Ice: ☒ Yes ☐ No

# of Coolers: 2 5.2 - 0.5 = 4.7°c

Cooler Temp(including CF): 2.6 - 0.5 = 2.1°c

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1906599	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6.10.19	10:35	soil	L1	4oz		-001	X	X					X			
	10:43		L2			-002							X			
	10:59		L3			-003							X			
	11:11		L4			-004	X	X					X			
	11:20		L5			-005							X			
	11:46		L6			-006							X			
	12:07		L7			-007	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6.10.19	2:00	Samantha Watson			6/11/19	1400
6/11/19	1940			Courier	6/12/19	8:55

Remarks: Marathon '19

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 16, 2019

Heather Patterson

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

RE: Cypress 1 OrderNo.: 1907233

Dear Heather Patterson:

Hall Environmental Analysis Laboratory received 10 sample(s) on 7/5/2019 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1
Project: Cypress 1
Collection Date: 7/2/2019 9:35:00 AM
Lab ID: 1907233-001 **Matrix:** SOIL **Received Date:** 7/5/2019 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	11000	1500		mg/Kg	500	7/12/2019 12:05:03 PM	46126
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	27	9.7		mg/Kg	1	7/12/2019 12:28:25 PM	46129
Motor Oil Range Organics (MRO)	50	49		mg/Kg	1	7/12/2019 12:28:25 PM	46129
Surr: DNOP	142	70-130	S	%Rec	1	7/12/2019 12:28:25 PM	46129
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2019 3:07:01 PM	46033
Surr: BFB	103	73.8-119		%Rec	1	7/7/2019 3:07:01 PM	46033
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/7/2019 3:07:01 PM	46033
Toluene	ND	0.050		mg/Kg	1	7/7/2019 3:07:01 PM	46033
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2019 3:07:01 PM	46033
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 3:07:01 PM	46033
Surr: 4-Bromofluorobenzene	92.0	80-120		%Rec	1	7/7/2019 3:07:01 PM	46033

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW 2
Project: Cypress 1
Collection Date: 7/2/2019 9:30:00 AM
Lab ID: 1907233-002
Matrix: SOIL
Received Date: 7/5/2019 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	14000	1500		mg/Kg	500	7/12/2019 12:17:28 PM	46126
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	33	9.5		mg/Kg	1	7/12/2019 12:53:10 PM	46129
Motor Oil Range Organics (MRO)	63	48		mg/Kg	1	7/12/2019 12:53:10 PM	46129
Surr: DNOP	108	70-130		%Rec	1	7/12/2019 12:53:10 PM	46129
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 4:15:04 PM	46033
Surr: BFB	99.2	73.8-119		%Rec	1	7/7/2019 4:15:04 PM	46033
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	7/7/2019 4:15:04 PM	46033
Toluene	ND	0.049		mg/Kg	1	7/7/2019 4:15:04 PM	46033
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 4:15:04 PM	46033
Xylenes, Total	ND	0.098		mg/Kg	1	7/7/2019 4:15:04 PM	46033
Surr: 4-Bromofluorobenzene	90.1	80-120		%Rec	1	7/7/2019 4:15:04 PM	46033

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW 3
Project: Cypress 1
Collection Date: 7/2/2019 9:50:00 AM
Lab ID: 1907233-003 **Matrix:** SOIL **Received Date:** 7/5/2019 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	8300	300		mg/Kg	100	7/12/2019 12:29:53 PM	46126
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	46	9.5		mg/Kg	1	7/12/2019 1:17:47 PM	46129
Motor Oil Range Organics (MRO)	140	48		mg/Kg	1	7/12/2019 1:17:47 PM	46129
Surr: DNOP	81.0	70-130		%Rec	1	7/12/2019 1:17:47 PM	46129
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 4:37:44 PM	46033
Surr: BFB	96.7	73.8-119		%Rec	1	7/7/2019 4:37:44 PM	46033
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/7/2019 4:37:44 PM	46033
Toluene	ND	0.049		mg/Kg	1	7/7/2019 4:37:44 PM	46033
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 4:37:44 PM	46033
Xylenes, Total	ND	0.098		mg/Kg	1	7/7/2019 4:37:44 PM	46033
Surr: 4-Bromofluorobenzene	87.1	80-120		%Rec	1	7/7/2019 4:37:44 PM	46033

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW 4
Project: Cypress 1
Collection Date: 7/2/2019 11:00:00 AM
Lab ID: 1907233-004 **Matrix:** SOIL **Received Date:** 7/5/2019 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	75	60		mg/Kg	20	7/11/2019 8:59:21 PM	46126
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/10/2019 2:40:03 PM	46087
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/10/2019 2:40:03 PM	46087
Surr: DNOP	80.8	70-130		%Rec	1	7/10/2019 2:40:03 PM	46087
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 5:00:24 PM	46033
Surr: BFB	96.5	73.8-119		%Rec	1	7/7/2019 5:00:24 PM	46033
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/7/2019 5:00:24 PM	46033
Toluene	ND	0.049		mg/Kg	1	7/7/2019 5:00:24 PM	46033
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 5:00:24 PM	46033
Xylenes, Total	ND	0.098		mg/Kg	1	7/7/2019 5:00:24 PM	46033
Surr: 4-Bromofluorobenzene	86.0	80-120		%Rec	1	7/7/2019 5:00:24 PM	46033

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW 5
Project: Cypress 1
Collection Date: 7/2/2019 11:15:00 AM
Lab ID: 1907233-005 **Matrix:** SOIL
Received Date: 7/5/2019 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	170	60		mg/Kg	20	7/11/2019 9:11:45 PM	46126
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/10/2019 3:02:18 PM	46087
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/10/2019 3:02:18 PM	46087
Surr: DNOP	76.8	70-130		%Rec	1	7/10/2019 3:02:18 PM	46087
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 5:23:01 PM	46033
Surr: BFB	100	73.8-119		%Rec	1	7/7/2019 5:23:01 PM	46033
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	7/7/2019 5:23:01 PM	46033
Toluene	ND	0.049		mg/Kg	1	7/7/2019 5:23:01 PM	46033
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 5:23:01 PM	46033
Xylenes, Total	ND	0.097		mg/Kg	1	7/7/2019 5:23:01 PM	46033
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	7/7/2019 5:23:01 PM	46033

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW 6
Project: Cypress 1
Collection Date: 7/2/2019 1:12:00 PM
Lab ID: 1907233-006 **Matrix:** SOIL **Received Date:** 7/5/2019 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	430	60		mg/Kg	20	7/11/2019 9:24:09 PM	46126
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/10/2019 3:24:35 PM	46087
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/10/2019 3:24:35 PM	46087
Surr: DNOP	83.5	70-130		%Rec	1	7/10/2019 3:24:35 PM	46087
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 5:45:41 PM	46033
Surr: BFB	100	73.8-119		%Rec	1	7/7/2019 5:45:41 PM	46033
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/7/2019 5:45:41 PM	46033
Toluene	ND	0.049		mg/Kg	1	7/7/2019 5:45:41 PM	46033
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 5:45:41 PM	46033
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 5:45:41 PM	46033
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	7/7/2019 5:45:41 PM	46033

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW 7
Project: Cypress 1
Collection Date: 7/2/2019 12:10:00 PM
Lab ID: 1907233-007 **Matrix:** SOIL **Received Date:** 7/5/2019 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	140	60		mg/Kg	20	7/11/2019 9:36:34 PM	46126
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/10/2019 3:46:48 PM	46087
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/10/2019 3:46:48 PM	46087
Surr: DNOP	83.2	70-130		%Rec	1	7/10/2019 3:46:48 PM	46087
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 6:08:19 PM	46033
Surr: BFB	100	73.8-119		%Rec	1	7/7/2019 6:08:19 PM	46033
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/7/2019 6:08:19 PM	46033
Toluene	ND	0.049		mg/Kg	1	7/7/2019 6:08:19 PM	46033
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 6:08:19 PM	46033
Xylenes, Total	ND	0.098		mg/Kg	1	7/7/2019 6:08:19 PM	46033
Surr: 4-Bromofluorobenzene	89.9	80-120		%Rec	1	7/7/2019 6:08:19 PM	46033

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW 8
Project: Cypress 1
Collection Date: 7/2/2019 12:50:00 PM
Lab ID: 1907233-008 **Matrix:** SOIL **Received Date:** 7/5/2019 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	86	60		mg/Kg	20	7/12/2019 12:23:53 PM	46150
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/12/2019 1:42:27 PM	46129
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/12/2019 1:42:27 PM	46129
Surr: DNOP	123	70-130		%Rec	1	7/12/2019 1:42:27 PM	46129
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2019 6:30:59 PM	46033
Surr: BFB	101	73.8-119		%Rec	1	7/7/2019 6:30:59 PM	46033
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/7/2019 6:30:59 PM	46033
Toluene	ND	0.050		mg/Kg	1	7/7/2019 6:30:59 PM	46033
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2019 6:30:59 PM	46033
Xylenes, Total	ND	0.10		mg/Kg	1	7/7/2019 6:30:59 PM	46033
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	7/7/2019 6:30:59 PM	46033

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL 1
Project: Cypress 1
Collection Date: 7/2/2019 10:00:00 AM
Lab ID: 1907233-009
Matrix: SOIL
Received Date: 7/5/2019 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	12000	600		mg/Kg	200	7/12/2019 2:40:22 PM	46150
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	410	9.7		mg/Kg	1	7/12/2019 2:07:02 PM	46129
Motor Oil Range Organics (MRO)	130	49		mg/Kg	1	7/12/2019 2:07:02 PM	46129
Surr: DNOP	113	70-130		%Rec	1	7/12/2019 2:07:02 PM	46129
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/9/2019 2:10:46 PM	46057
Surr: BFB	98.9	73.8-119		%Rec	1	7/9/2019 2:10:46 PM	46057
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/9/2019 2:10:46 PM	46057
Toluene	ND	0.050		mg/Kg	1	7/9/2019 2:10:46 PM	46057
Ethylbenzene	ND	0.050		mg/Kg	1	7/9/2019 2:10:46 PM	46057
Xylenes, Total	ND	0.10		mg/Kg	1	7/9/2019 2:10:46 PM	46057
Surr: 4-Bromofluorobenzene	88.7	80-120		%Rec	1	7/9/2019 2:10:46 PM	46057

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL 3
Project: Cypress 1
Collection Date: 7/2/2019 10:10:00 AM
Lab ID: 1907233-010
Matrix: SOIL
Received Date: 7/5/2019 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	8600	300		mg/Kg	100	7/12/2019 2:52:46 PM	46150
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	16	9.6		mg/Kg	1	7/12/2019 2:31:52 PM	46129
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/12/2019 2:31:52 PM	46129
Surr: DNOP	114	70-130		%Rec	1	7/12/2019 2:31:52 PM	46129
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/9/2019 3:18:50 PM	46057
Surr: BFB	97.6	73.8-119		%Rec	1	7/9/2019 3:18:50 PM	46057
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/9/2019 3:18:50 PM	46057
Toluene	ND	0.050		mg/Kg	1	7/9/2019 3:18:50 PM	46057
Ethylbenzene	ND	0.050		mg/Kg	1	7/9/2019 3:18:50 PM	46057
Xylenes, Total	ND	0.10		mg/Kg	1	7/9/2019 3:18:50 PM	46057
Surr: 4-Bromofluorobenzene	86.5	80-120		%Rec	1	7/9/2019 3:18:50 PM	46057

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907233**

16-Jul-19

Client: Souder, Miller & Associates

Project: Cypress 1

Sample ID: **MB-46126**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **46126**	RunNo: **61343**							
Prep Date: **7/11/2019**	Analysis Date: **7/11/2019**	SeqNo: **2079410**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46126**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **46126**	RunNo: **61343**							
Prep Date: **7/11/2019**	Analysis Date: **7/11/2019**	SeqNo: **2079411**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.3	90	110			

Sample ID: **MB-46150**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **46150**	RunNo: **61355**							
Prep Date: **7/12/2019**	Analysis Date: **7/12/2019**	SeqNo: **2080349**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46150**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **46150**	RunNo: **61355**							
Prep Date: **7/12/2019**	Analysis Date: **7/12/2019**	SeqNo: **2080350**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.0	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907233**

16-Jul-19

Client: Souder, Miller & Associates

Project: Cypress 1

Sample ID: **LCS-46087**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **46087**	RunNo: **61294**							
Prep Date: **7/9/2019**	Analysis Date: **7/10/2019**	SeqNo: **2077836**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	74	10	50.00	0	149	63.9	124			S
Surr: DNOP	6.8		5.000		135	70	130			S

Sample ID: **MB-46087**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **46087**	RunNo: **61294**							
Prep Date: **7/9/2019**	Analysis Date: **7/10/2019**	SeqNo: **2077837**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	15		10.00		147	70	130			S

Sample ID: **LCS-46129**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **46129**	RunNo: **61332**							
Prep Date: **7/11/2019**	Analysis Date: **7/12/2019**	SeqNo: **2079788**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	120	63.9	124			
Surr: DNOP	5.7		5.000		114	70	130			

Sample ID: **MB-46129**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **46129**	RunNo: **61332**							
Prep Date: **7/11/2019**	Analysis Date: **7/12/2019**	SeqNo: **2079789**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		114	70	130			

Sample ID: **1907233-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **SW1**	Batch ID: **46129**	RunNo: **61332**							
Prep Date: **7/11/2019**	Analysis Date: **7/12/2019**	SeqNo: **2080311**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	87	10	49.85	26.84	120	57	142			
Surr: DNOP	5.9		4.985		118	70	130			

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1907233**
16-Jul-19

Client: Souder, Miller & Associates
Project: Cypress 1

Sample ID: **1907233-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SW1** Batch ID: **46129** RunNo: **61332**
Prep Date: **7/11/2019** Analysis Date: **7/12/2019** SeqNo: **2080312** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	88	9.3	46.47	26.84	131	57	142	0.868	20	
Surr: DNOP	5.1		4.647		109	70	130	0	0	

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907233**

16-Jul-19

Client: Souder, Miller & Associates

Project: Cypress 1

Sample ID: **MB-46033**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **46033**	RunNo: **61190**
Prep Date: **7/6/2019**	Analysis Date: **7/7/2019**	SeqNo: **2074060** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		110	73.8	119			

Sample ID: **LCS-46033**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **46033**	RunNo: **61190**
Prep Date: **7/6/2019**	Analysis Date: **7/7/2019**	SeqNo: **2074061** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.1	80.1	123			
Surr: BFB	1200		1000		123	73.8	119			S

Sample ID: **MB-46057**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **46057**	RunNo: **61243**
Prep Date: **7/8/2019**	Analysis Date: **7/9/2019**	SeqNo: **2076306** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		105	73.8	119			

Sample ID: **LCS-46057**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **46057**	RunNo: **61243**
Prep Date: **7/8/2019**	Analysis Date: **7/9/2019**	SeqNo: **2076307** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.3	80.1	123			
Surr: BFB	1100		1000		112	73.8	119			

Sample ID: **1907233-009AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **CL 1**	Batch ID: **46057**	RunNo: **61243**
Prep Date: **7/8/2019**	Analysis Date: **7/9/2019**	SeqNo: **2076309** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.8	24.06	0	122	69.1	142			
Surr: BFB	1100		962.5		114	73.8	119			

Sample ID: **1907233-009AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **CL 1**	Batch ID: **46057**	RunNo: **61243**
Prep Date: **7/8/2019**	Analysis Date: **7/9/2019**	SeqNo: **2076310** Units: **mg/Kg**

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907233**

16-Jul-19

Client: Souder, Miller & Associates

Project: Cypress 1

Sample ID: **1907233-009AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **CL 1** Batch ID: **46057** RunNo: **61243**

Prep Date: **7/8/2019** Analysis Date: **7/9/2019** SeqNo: **2076310** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.9	24.61	0	117	69.1	142	1.82	20	
Surr: BFB	1100		984.3		112	73.8	119	0	0	

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907233**

16-Jul-19

Client: Souder, Miller & Associates

Project: Cypress 1

Sample ID: **MB-46033** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **46033** RunNo: **61190**

Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074086** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: **LCS-46033** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **46033** RunNo: **61190**

Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074087** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.5	80	120			
Toluene	0.97	0.050	1.000	0	97.0	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.1	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.7	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID: **1907233-001AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **SW1** Batch ID: **46033** RunNo: **61190**

Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074089** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9881	0	99.8	63.9	127			
Toluene	0.99	0.049	0.9881	0	100	69.9	131			
Ethylbenzene	0.98	0.049	0.9881	0	99.3	71	132			
Xylenes, Total	2.9	0.099	2.964	0	97.3	71.8	131			
Surr: 4-Bromofluorobenzene	0.94		0.9881		95.5	80	120			

Sample ID: **1907233-001AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **SW1** Batch ID: **46033** RunNo: **61190**

Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074090** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9921	0	99.3	63.9	127	0.131	20	
Toluene	1.0	0.050	0.9921	0	101	69.9	131	1.46	20	
Ethylbenzene	0.99	0.050	0.9921	0	100	71	132	1.26	20	
Xylenes, Total	2.9	0.099	2.976	0	96.9	71.8	131	0.0901	20	
Surr: 4-Bromofluorobenzene	0.92		0.9921		92.8	80	120	0	0	

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907233**

16-Jul-19

Client: Souder, Miller & Associates

Project: Cypress 1

Sample ID: **MB-46057** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **46057** RunNo: **61243**

Prep Date: **7/8/2019** Analysis Date: **7/9/2019** SeqNo: **2076314** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		95.5	80	120			

Sample ID: **LCS-46057** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **46057** RunNo: **61243**

Prep Date: **7/8/2019** Analysis Date: **7/9/2019** SeqNo: **2076315** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.0	80	120			
Toluene	0.91	0.050	1.000	0	91.1	80	120			
Ethylbenzene	0.90	0.050	1.000	0	90.3	80	120			
Xylenes, Total	2.7	0.10	3.000	0	88.9	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID: **1907233-010AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **CL 3** Batch ID: **46057** RunNo: **61243**

Prep Date: **7/8/2019** Analysis Date: **7/9/2019** SeqNo: **2076318** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.3	0.025	0.9823	0	134	63.9	127			S
Toluene	1.3	0.049	0.9823	0	132	69.9	131			S
Ethylbenzene	1.3	0.049	0.9823	0	134	71	132			S
Xylenes, Total	3.9	0.098	2.947	0	132	71.8	131			S
Surr: 4-Bromofluorobenzene	0.94		0.9823		95.5	80	120			

Sample ID: **1907233-010AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **CL 3** Batch ID: **46057** RunNo: **61243**

Prep Date: **7/8/2019** Analysis Date: **7/9/2019** SeqNo: **2076319** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.3	63.9	127	36.3	20	R
Toluene	1.2	0.050	1.000	0	116	69.9	131	11.7	20	
Ethylbenzene	1.2	0.050	1.000	0	117	71	132	11.5	20	
Xylenes, Total	3.4	0.10	3.000	0	115	71.8	131	11.9	20	
Surr: 4-Bromofluorobenzene	0.95		1.000		95.5	80	120	0	0	

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **1907233** RcptNo: **1**

Received By: **Desiree Dominguez** **7/5/2019 7:30:00 AM** DD

Completed By: **Erin Melendrez** **7/5/2019 9:00:04 AM** [signature]

Reviewed By: ENM 7/5/19

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: DAD 7/5/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

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

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.6	Good	Yes			

Chain-of-Custody Record

Client: SMA CARLSBAD

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 5 DAY TURN

Project Name: CYPRESS 1

Project #:

Project Manager: HEATHER PATTERSON

Sampler: HAP / JI

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.6 +0.0 = 4.6 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1907233	(BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(Cl) F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
7/2/19	9:35	soil	SW 1	4oz		-001	X	X					X			
	0930		SW 2			-002	X	X					X			
	0950		SW 3			-003	X	X					X			
	1100		SW 4			-004	X	X					X			
	1115		SW 5			-005	X	X					X			
	1312		SW 6			-006	X	X					X			
	1210		SW 7			-007	X	X					X			
	1250		SW 8			-008	X	X					X			
	1000		CL 1			-009	X	X					X			
↓	1010	↓	CL 3	↓		-010	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
7/3	12:00				7/3/19	1200
7/3/19	1900			Courier	7/5/19	7:30

Remarks: Marathon.

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 17, 2019

Heather Patterson

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

RE: Cypress 1 OrderNo.: 1907369

Dear Heather Patterson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 7/9/2019 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL2
Project: Cypress 1
Collection Date: 7/4/2019 3:55:00 PM
Lab ID: 1907369-001
Matrix: SOIL
Received Date: 7/9/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	5100	300		mg/Kg	100	7/16/2019 12:15:57 PM	46175
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/11/2019 10:17:40 PM	46097
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/11/2019 10:17:40 PM	46097
Surr: DNOP	85.4	70-130		%Rec	1	7/11/2019 10:17:40 PM	46097
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/10/2019 6:46:57 PM	46088
Surr: BFB	101	73.8-119		%Rec	1	7/10/2019 6:46:57 PM	46088
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	7/10/2019 6:46:57 PM	46088
Toluene	ND	0.048		mg/Kg	1	7/10/2019 6:46:57 PM	46088
Ethylbenzene	ND	0.048		mg/Kg	1	7/10/2019 6:46:57 PM	46088
Xylenes, Total	ND	0.096		mg/Kg	1	7/10/2019 6:46:57 PM	46088
Surr: 4-Bromofluorobenzene	89.7	80-120		%Rec	1	7/10/2019 6:46:57 PM	46088

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL4
Project: Cypress 1
Collection Date: 7/4/2019 4:09:00 PM
Lab ID: 1907369-002 **Matrix:** SOIL **Received Date:** 7/9/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	12000	610		mg/Kg	200	7/16/2019 12:28:22 PM	46175
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/11/2019 10:39:54 PM	46097
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/11/2019 10:39:54 PM	46097
Surr: DNOP	51.4	70-130	S	%Rec	1	7/11/2019 10:39:54 PM	46097
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/10/2019 7:09:39 PM	46088
Surr: BFB	100	73.8-119		%Rec	1	7/10/2019 7:09:39 PM	46088
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/10/2019 7:09:39 PM	46088
Toluene	ND	0.049		mg/Kg	1	7/10/2019 7:09:39 PM	46088
Ethylbenzene	ND	0.049		mg/Kg	1	7/10/2019 7:09:39 PM	46088
Xylenes, Total	ND	0.099		mg/Kg	1	7/10/2019 7:09:39 PM	46088
Surr: 4-Bromofluorobenzene	87.7	80-120		%Rec	1	7/10/2019 7:09:39 PM	46088

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL5
Project: Cypress 1
Collection Date: 7/4/2019 1:30:00 PM
Lab ID: 1907369-003
Matrix: SOIL
Received Date: 7/9/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	7/15/2019 5:53:03 PM	46175
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/11/2019 11:02:20 PM	46097
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/11/2019 11:02:20 PM	46097
Surr: DNOP	97.7	70-130		%Rec	1	7/11/2019 11:02:20 PM	46097
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/11/2019 4:03:35 PM	46100
Surr: BFB	109	73.8-119		%Rec	1	7/11/2019 4:03:35 PM	46100
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	7/11/2019 4:03:35 PM	46100
Toluene	ND	0.049		mg/Kg	1	7/11/2019 4:03:35 PM	46100
Ethylbenzene	ND	0.049		mg/Kg	1	7/11/2019 4:03:35 PM	46100
Xylenes, Total	ND	0.097		mg/Kg	1	7/11/2019 4:03:35 PM	46100
Surr: 4-Bromofluorobenzene	97.0	80-120		%Rec	1	7/11/2019 4:03:35 PM	46100

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL6
Project: Cypress 1
Collection Date: 7/4/2019 1:35:00 PM
Lab ID: 1907369-004
Matrix: SOIL
Received Date: 7/9/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	7/15/2019 6:05:27 PM	46175
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/11/2019 11:24:32 PM	46097
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/11/2019 11:24:32 PM	46097
Surr: DNOP	58.7	70-130	S	%Rec	1	7/11/2019 11:24:32 PM	46097
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/11/2019 5:12:03 PM	46100
Surr: BFB	105	73.8-119		%Rec	1	7/11/2019 5:12:03 PM	46100
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/11/2019 5:12:03 PM	46100
Toluene	ND	0.050		mg/Kg	1	7/11/2019 5:12:03 PM	46100
Ethylbenzene	ND	0.050		mg/Kg	1	7/11/2019 5:12:03 PM	46100
Xylenes, Total	ND	0.10		mg/Kg	1	7/11/2019 5:12:03 PM	46100
Surr: 4-Bromofluorobenzene	94.1	80-120		%Rec	1	7/11/2019 5:12:03 PM	46100

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CL7
Project: Cypress 1
Collection Date: 7/4/2019 1:45:00 PM
Lab ID: 1907369-005
Matrix: SOIL
Received Date: 7/9/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	370	60		mg/Kg	20	7/15/2019 6:17:51 PM	46175
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/11/2019 11:46:45 PM	46097
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/11/2019 11:46:45 PM	46097
Surr: DNOP	56.5	70-130	S	%Rec	1	7/11/2019 11:46:45 PM	46097
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/11/2019 6:20:21 PM	46100
Surr: BFB	106	73.8-119		%Rec	1	7/11/2019 6:20:21 PM	46100
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	7/11/2019 6:20:21 PM	46100
Toluene	ND	0.048		mg/Kg	1	7/11/2019 6:20:21 PM	46100
Ethylbenzene	ND	0.048		mg/Kg	1	7/11/2019 6:20:21 PM	46100
Xylenes, Total	ND	0.096		mg/Kg	1	7/11/2019 6:20:21 PM	46100
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	7/11/2019 6:20:21 PM	46100

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1907369**
17-Jul-19

Client: Souder, Miller & Associates
Project: Cypress 1

Sample ID: **MB-46175**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **46175**	RunNo: **61386**							
Prep Date: **7/15/2019**	Analysis Date: **7/15/2019**	SeqNo: **2080970**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46175**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **46175**	RunNo: **61386**							
Prep Date: **7/15/2019**	Analysis Date: **7/15/2019**	SeqNo: **2080971**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.5	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907369**

17-Jul-19

Client: Souder, Miller & Associates

Project: Cypress 1

Sample ID: **LCS-46097** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **46097** RunNo: **61303**

Prep Date: **7/10/2019** Analysis Date: **7/11/2019** SeqNo: **2079685** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	109	63.9	124			
Surr: DNOP	4.8		5.000		95.8	70	130			

Sample ID: **MB-46097** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **46097** RunNo: **61303**

Prep Date: **7/10/2019** Analysis Date: **7/11/2019** SeqNo: **2079686** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		120	70	130			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907369**

17-Jul-19

Client: Souder, Miller & Associates

Project: Cypress 1

Sample ID: **MB-46088**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **46088**	RunNo: **61286**
Prep Date: **7/9/2019**	Analysis Date: **7/10/2019**	SeqNo: **2077620** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		105	73.8	119			

Sample ID: **LCS-46088**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **46088**	RunNo: **61286**
Prep Date: **7/9/2019**	Analysis Date: **7/10/2019**	SeqNo: **2077621** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.6	80.1	123			
Surr: BFB	1200		1000		116	73.8	119			

Sample ID: **MB-46100**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **46100**	RunNo: **61324**
Prep Date: **7/10/2019**	Analysis Date: **7/11/2019**	SeqNo: **2078716** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	73.8	119			

Sample ID: **LCS-46100**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **46100**	RunNo: **61324**
Prep Date: **7/10/2019**	Analysis Date: **7/11/2019**	SeqNo: **2078717** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.0	80.1	123			
Surr: BFB	1100		1000		115	73.8	119			

Sample ID: **1907369-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **CL5**	Batch ID: **46100**	RunNo: **61324**
Prep Date: **7/10/2019**	Analysis Date: **7/11/2019**	SeqNo: **2078719** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	23.90	0	114	69.1	142			
Surr: BFB	1200		956.0		122	73.8	119			S

Sample ID: **1907369-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **CL5**	Batch ID: **46100**	RunNo: **61324**
Prep Date: **7/10/2019**	Analysis Date: **7/11/2019**	SeqNo: **2078720** Units: **mg/Kg**

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907369**

17-Jul-19

Client: Souder, Miller & Associates

Project: Cypress 1

Sample ID: **1907369-003AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **CL5** Batch ID: **46100** RunNo: **61324**

Prep Date: **7/10/2019** Analysis Date: **7/11/2019** SeqNo: **2078720** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	69.1	142	0.252	20	
Surr: BFB	1200		1000		119	73.8	119	0	0	S

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907369**

17-Jul-19

Client: Souder, Miller & Associates

Project: Cypress 1

Sample ID: **MB-46088**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **46088**	RunNo: **61286**
Prep Date: **7/9/2019**	Analysis Date: **7/10/2019**	SeqNo: **2077639** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.5	80	120			

Sample ID: **LCS-46088**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **46088**	RunNo: **61286**
Prep Date: **7/9/2019**	Analysis Date: **7/10/2019**	SeqNo: **2077640** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.3	80	120			
Toluene	0.90	0.050	1.000	0	90.3	80	120			
Ethylbenzene	0.89	0.050	1.000	0	89.2	80	120			
Xylenes, Total	2.6	0.10	3.000	0	87.5	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	80	120			

Sample ID: **MB-46100**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **46100**	RunNo: **61324**
Prep Date: **7/10/2019**	Analysis Date: **7/11/2019**	SeqNo: **2078739** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		93.4	80	120			

Sample ID: **LCS-46100**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **46100**	RunNo: **61324**
Prep Date: **7/10/2019**	Analysis Date: **7/11/2019**	SeqNo: **2078740** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.9	80	120			
Toluene	0.93	0.050	1.000	0	92.7	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.1	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.1	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907369**

17-Jul-19

Client: Souder, Miller & Associates

Project: Cypress 1

Sample ID: **1907369-004AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **CL6** Batch ID: **46100** RunNo: **61324**

Prep Date: **7/10/2019** Analysis Date: **7/11/2019** SeqNo: **2078743** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9560	0	115	63.9	127			
Toluene	1.1	0.048	0.9560	0	118	69.9	131			
Ethylbenzene	1.1	0.048	0.9560	0	117	71	132			
Xylenes, Total	3.3	0.096	2.868	0	116	71.8	131			
Surr: 4-Bromofluorobenzene	0.97		0.9560		102	80	120			

Sample ID: **1907369-004AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **CL6** Batch ID: **46100** RunNo: **61324**

Prep Date: **7/10/2019** Analysis Date: **7/11/2019** SeqNo: **2078744** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9560	0	109	63.9	127	4.80	20	
Toluene	1.1	0.048	0.9560	0	111	69.9	131	6.24	20	
Ethylbenzene	1.1	0.048	0.9560	0	110	71	132	5.74	20	
Xylenes, Total	3.1	0.096	2.868	0	109	71.8	131	6.39	20	
Surr: 4-Bromofluorobenzene	0.96		0.9560		100	80	120	0	0	

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **1907369** RcptNo: **1**

Received By: **Leah Baca** **7/9/2019 8:45:00 AM** Leah Baca

Completed By: **Erin Melendrez** **7/9/2019 11:59:30 AM**

Reviewed By: 7/9/19

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: YG 7/9/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

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

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.5	Good	Yes			

Chain-of-Custody Record

Client: SMA Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 5 day

Project Name: CYPRESS #1

Project #:

Project Manager: Heather Patterson

Sampler: HAP

On Ice: ☒ Yes ☐ No

# of Coolers: (1)

Cooler Temp(including CF): 4.0 - 0.5 = 3.5C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No 1907369	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
7/4/19	1555	Soil	CL2	4oz		-001	X	X					X			
	1609		CL4			-002										
	1330		CL5			-003										
	1335		CL6			-004										
	1345		CL7			-005	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
7/5/19	1800	Henryetta Price			7/8/19	1400
7/8/19	1900			Courier	7/9/19	0845

Remarks: Marathon
email Copy to: henryetta.price@soudermiller.com

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