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

April 24, 2019

#5E27950-BG4

NMOCD District 2
Mr. Mike Bratcher
811 S. First St.
Artesia, New Mexico 88210

SUBJECT: Remediation Closure Report for the Henry Grandi #1 Release (2RP-5281), Eddy County, New Mexico

Dear Mr. Bratcher:

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 Henry Grandi #1 site. The site is in Unit I, Section 26, Township 22S, 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	Henry Grandi #1	Company	Marathon Oil Permian LLC
API Number	30-015-34112	Location	32.3608055 -104.1551208
Incident Number	2RP-5281		
Estimated Date of Release	February 10, 2019	Date Reported to NMOCD	February 11, 2019
Land Owner	Private	Reported To	NMOCD
Source of Release	Tank		
Released Volume	25 bbls	Released Material	Condensate
Recovered Volume	25 bbls	Net Release	0 bbls
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	March 6, 21, 22, 2019		

1.0 Background

On February 10, 2019, a release was discovered at the Henry Grandi #1 site due to the well loading with fluid allowing the tank to overflow releasing 25 bbls of condensate into lined containment. Initial response activities were conducted by Marathon, and included fluid recovery activities, which recovered approximately 25 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 Henry Grandi #1 is located approximately 5 miles southeast of Carlsbad, New Mexico on privately-owned land at an elevation of approximately 3,085 feet above mean sea level (amsl).

Based upon USGS (Appendix B), depth to groundwater in the area is estimated to be forty-one (41) feet below grade surface (bgs). There are four (4) known water sources 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 4/10/2019), all with a recorded depth-to-water of less than 50 feet bgs. The nearest significant watercourse is an unnamed irrigation canal, located approximately 310 feet to the south. 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 less than 50 feet bgs. The site has been restored to meet the standards of Table I of 19.15.29.12 NMAC.

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

3.0 Release Characterization and Remediation Activities

On March 6, 2019, SMA personnel arrived on site in response to the release associated with Henry Grandi #1. SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly stained area. Soil samples were field-screened for chloride using an electrical conductivity (EC) meter and for hydrocarbon impacts using a calibrated MiniRAE 2000 photoionization detector (PID).

A total of two (2) sample locations (L1-L2) were investigated from within the containment area using a power auger, to depths up to fourteen (14) feet bgs. Three samples were collected at each sampling location and field-screened using the method above. A total of six (6) 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. Results indicated that TPH and chlorides exceeded the NMOCD closure Criteria to a minimum depth of 12-14 feet bgs.

On March 21-22, 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 and for hydrocarbon impacts using a calibrated MiniRAE 2000 photoionization detector (PID). The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met.

On March 21 and 22, 2019, SMA conducted confirmation sampling of the walls and base of the excavation. Confirmation samples were comprised of five-point composites of the base (CBH1-CBH3) and walls (CSW1-CSW10).

A total of thirteen (13) 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. Laboratory results are summarized in Table 3. Laboratory reports are included in Appendix D.

All results are below NMOCD Closure Criteria; SMA recommends no further action for release 2RP-5281. 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:

Ashley Maxwell
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

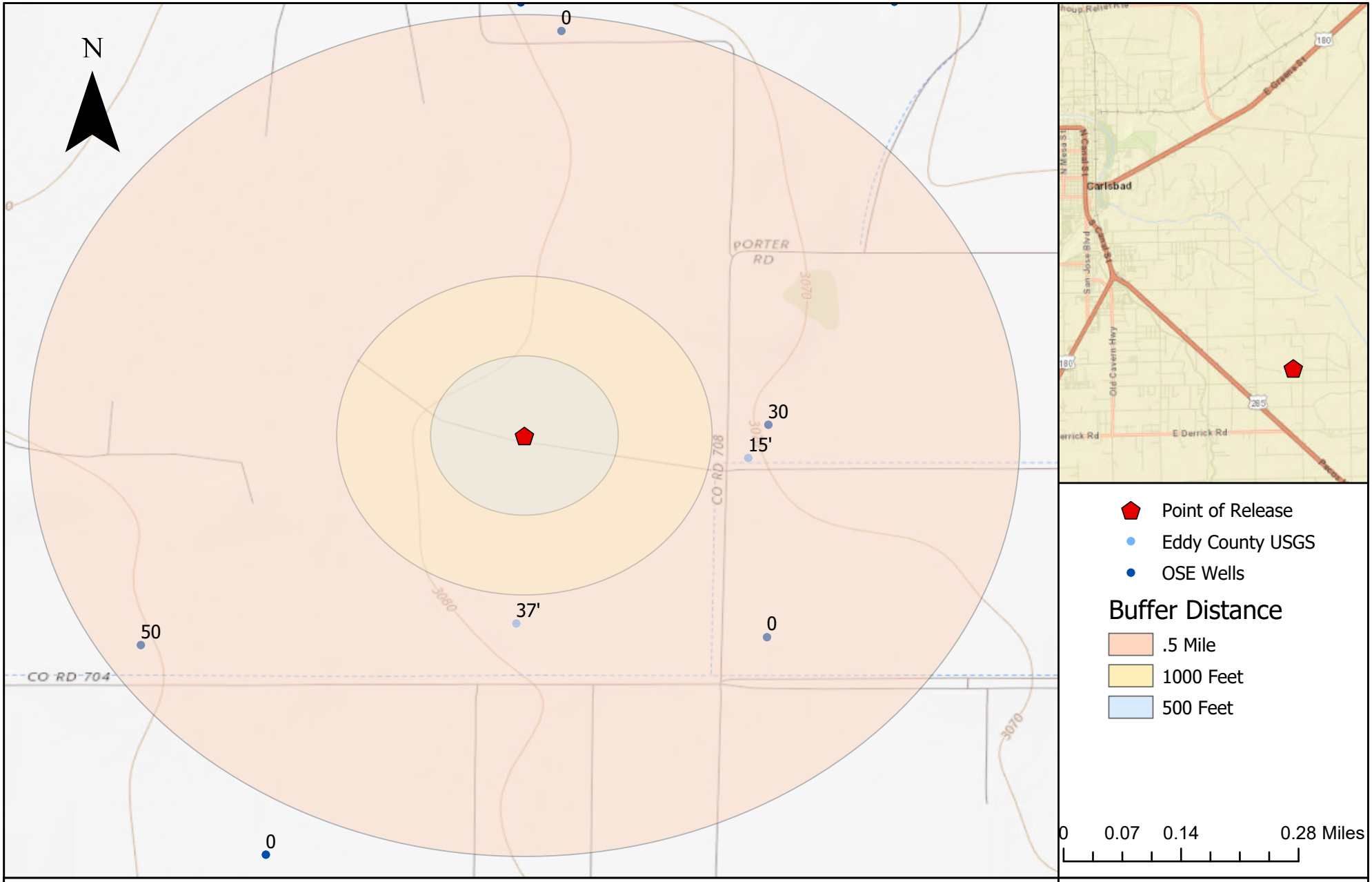
Tables:

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

Appendices:

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

FIGURES



Regional Vicinity & Wellhead Protection Map
Henry Grandi #1- Marathon
Sec 26 T22S R27E, New Mexico

Figure 1

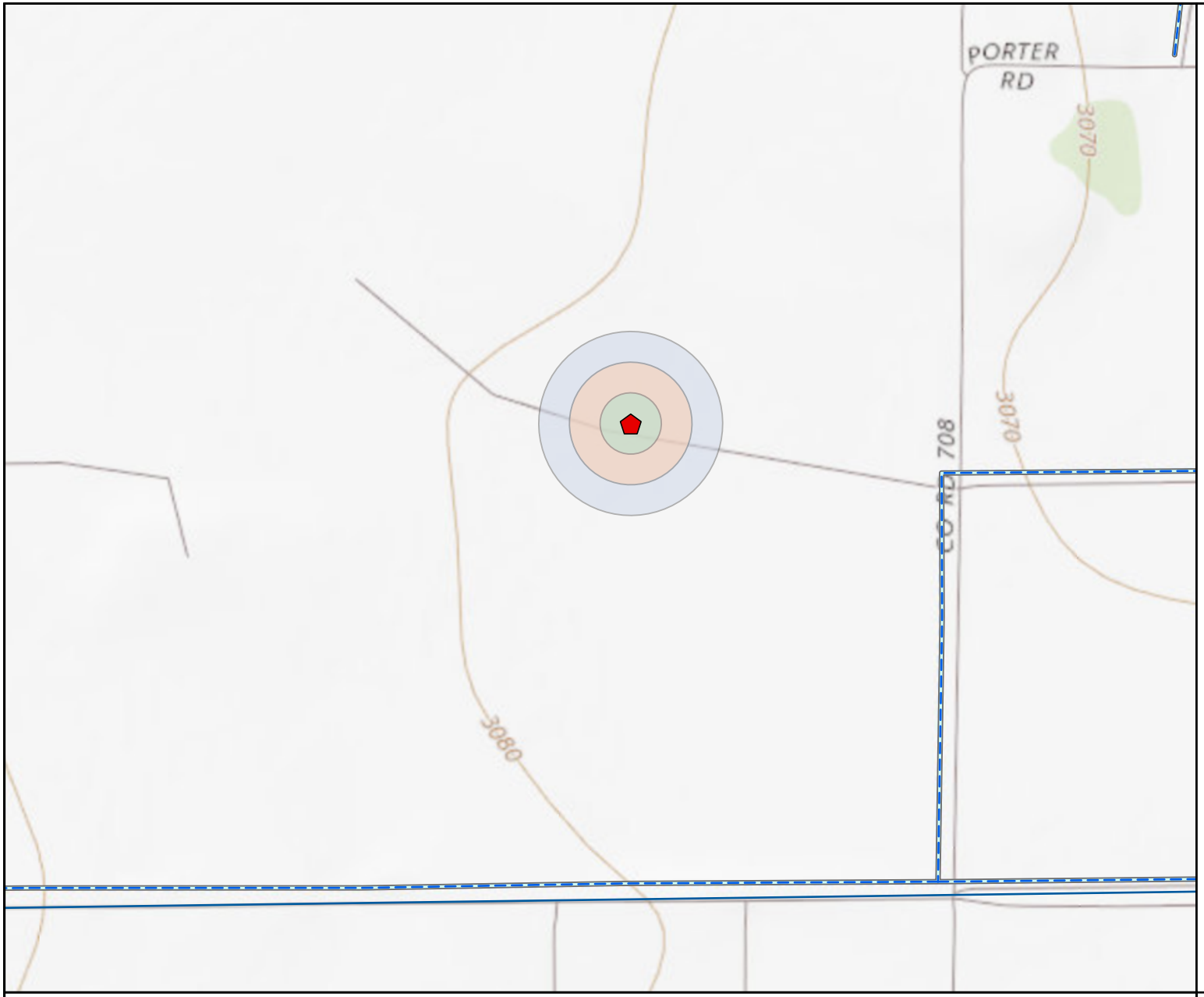
\\CBO10\Projects\5-Marathon MSA 2019 (5E27950)\GIS\ARCGIS\MARATHON_MIT.aprx

Date Saved: 2/21/2019

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

Drawn Heather Patterson
Date 2/21/2019
Checked _____
Approved _____

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



Legend

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

Buffer Distance

- 100 Feet
- 200 Feet
- 300 Feet

N

0 145 290 580 US Feet

Surface Water Protection Map
Henry Grandi #1- Marathon
Sec 26 T22S R27E, New Mexico

Figure 2

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

Date Saved: 2/21/2019

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

Drawn Heather Patterson
Date 2/21/2019
Checked
Approved

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

Legend

- Closure Samples
- Initial Samples
- Excavation

N

0 11.5 23 46 Feet

Site and Sample location Map
Henry Grandi #1- Marathon Oil
S 26-T22S-R27E, New Mexico

Figure 3

Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Date Saved: 5/5/2019

Drawn *Heather Patterson*
Date 5/5/2019
Checked
Approved

SMA

201 South Halaguena Street
Carlsbad, New Mexico 88221
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TABLES

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	41	Figure 1, NMOSE
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	Varies	Figure 1, NMOSE
Hortizontal Distance to Nearest Significant Watercourse (ft)	310	USGS 7.5 minute quadrangle map

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'		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 LLC
Henry Grandi #1 (2RP-5281)

Initial Samples

Sample ID	Sample Date	Depth (feet bgs)	Action Taken	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10	1000			100	600
L1	3/6/2019	2	excavated	93.3	<0.24	1300	4200	<470	5500	<60
	3/6/2019	6	excavated	103.0	<0.12	1400	7100	<500	8500	<60
	3/6/2019	12	excavated	<0.207	<0.023	<4.6	11	<47	11	<60
L2	3/6/2019	4	excavated	<0.211	<0.023	<4.7	<9.9	<50	<64.6	910
	3/6/2019	8	excavated	<0.225	<0.025	<5.0	140	<49	140	400
	3/6/2019	14	excavated	<0.207	<0.023	14	97	<49	111	1200

Closure Samples

Sample ID	Sample Date	Depth (feet bgs)	Action Taken	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10	1000			100	600
CBH1	3/21/2019	14	in-situ	<0.221	<0.025	<4.9	<9.8	<49	<63.7	63
CBH2	3/21/2019	14	in-situ	<0.211	<0.023	<4.7	<10	<50	<64.7	<60
CBH3	3/21/2019	10	in-situ	<0.216	<0.024	<4.8	<9.9	<50	<64.7	530
CSW1	3/21/2019	0-14	in-situ	<0.213	<0.024	<4.7	<9.6	<48	<62.3	76
CSW2	3/21/2019	0-14	in-situ	<0.216	<0.024	<4.8	<9.7	<49	<63.5	<60
CSW3	3/21/2019	0-14	in-situ	<0.215	<0.024	<4.8	<9.8	<49	<63.6	88
CSW4	3/21/2019	0-14	in-situ	<0.220	<0.024	<4.9	<9.8	<49	<63.7	88
CSW5	3/21/2019	0-10	in-situ	<0.213	<0.024	<4.7	<9.9	<50	<64.6	160
CSW6	3/21/2019	0-10	in-situ	<0.213	<0.024	<4.7	<9.8	<49	<63.5	<60
CSW7	3/21/2019	0-10	in-situ	<0.213	<0.024	<4.7	<9.7	<48	<62.4	<61
CSW8	3/22/2019	0-10	in-situ	<0.225	<0.025	<5.0	<9.6	<48	<62.6	250
CSW9	3/22/2019	0-14	in-situ	<0.220	<0.024	<4.9	<9.9	<49	<63.8	71
CSW10	3/22/2019	0-14	in-situ	<0.217	<0.024	<4.8	<9.7	<48	<62.5	450

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	NAB1906639764
District RP	2RP-5281
Facility ID	
Application ID	pAB1906635339

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)* NAB1906639764
Contact mailing address 4111 Tidwell Road, Carlsbad New Mexico, 88220	

Location of Release Source

Latitude 32.360757 Longitude -140.154318* -104.154318*

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Henry Grandi 1	Site Type Oil and gas drilling facility
Date Release Discovered 2/10/19	API# *(if applicable)* 30-015-34112

Unit Letter	Section	Township	Range	County
I	26	22S	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)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☑ Condensate	Volume Released (bbls) 25	Volume Recovered (bbls) 25
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The well loaded up with fluid, allowing the tank to overfill and release 25 bbls of condensate into containment.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1906639764
District RP	2RP-5281
Facility ID	
Application ID	pAB1906635339

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)?

Via email to Mike Bratcher, Robert Hamlet and Jim Griswold on 2/11/19 8:20 am.

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: 2/25/19

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

OCD Only

Received by: Amalia Barrameda Date: 3/7/2019

State of New Mexico
Oil Conservation Division

Incident ID	NAB1906639764
District RP	2RP-5281
Facility ID	
Application ID	pAB1906635339

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?	41 (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	nAB1906639764
District RP	2RP-5281
Facility ID	
Application ID	pAB1906635339

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: ___5/6/2019_____

email: ___cnkarrigan@marathonoil.com_____ Telephone: ___575-297-0956_____

OCD Only

Received by: _____ Date**:** _____

State of New Mexico
Oil Conservation Division

Incident ID	NAB1906639764
District RP	2RP-5281
Facility ID	
Application ID	pAB1906635339

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: Callie Karrigan Title: HES Professional

Signature: Callie Karrigan Date: 5/6/2019

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

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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 00393		CUB	ED	3	1	3	25	22S	27E	579890	3580742*	399	200	30	170
C 00393 CLW198205	O	CUB	ED	3	1	3	25	22S	27E	579890	3580742*	399	193	37	156
C 00393 CLW198226	O	CUB	ED	3	1	3	25	22S	27E	579890	3580742*	399	200	40	160
C 00393 CLW223748	O	CUB	ED	3	1	3	25	22S	27E	579890	3580742*	399	200	30	170
C 00410 CLW195750	O	CUB	ED	3	4	4	26	22S	27E	579486	3580329*	414	209	41	168
C 00410		CUB	ED	4	4	3	26	22S	27E	578875	3580313*	750	150	50	100
C 03505 POD1		C	ED	3	2	2	26	22S	27E	579548	3581491	751	80		
C 00282		CUB	ED	3	2	2	26	22S	27E	579482	3581546*	802	125	50	75
C 00279		C	ED		2	2	26	22S	27E	579583	3581647*	908	160	48	112
C 02587	R	C	ED		2	2	26	22S	27E	579630	3581720	987	71	12	59
C 02536		C	ED	4	1	1	25	22S	27E	580088	3581552*	1005	120	20	100
C 02499		C	ED		1	1	25	22S	27E	579989	3581653*	1037	100	35	65
C 00436		C	ED		3	3	26	22S	27E	578371	3580407*	1168	88	48	40
C 00078		CUB	ED	3	1	3	26	22S	27E	578269	3580712*	1221	180		
C 00770 CLW202385	O	CUB	ED	1	3	4	25	22S	27E	580705	3580551*	1229	210	22	188
C 00770 S		CUB	ED	1	3	4	25	22S	27E	580705	3580551*	1229	210		
C 00770		CUB	ED	3	3	4	25	22S	27E	580705	3580351*	1276	200	44	156
C 00870		CUB	ED	3	3	1	36	22S	27E	579892	3579523*	1284	200	50	150
C 00825		CUB	ED	3	3	3	26	22S	27E	578270	3580306*	1296	132	68	64
C 00210		CUB	ED	3	3	2	35	22S	27E	579082	3579508*	1300	211		
C 00210 CLW193708	O	CUB	ED	3	3	2	35	22S	27E	579082	3579508*	1300	211		
C 00212 CLW193845	O	CUB	ED	1	1	1	35	22S	27E	578271	3580099*	1379			
C 00531		CUB	ED	1	1	1	35	22S	27E	578271	3580099*	1379	150	87	63
C 00562		C	ED	4	2	4	27	22S	27E	578063	3580706*	1427	150		
C 00467		C	ED		2	4	27	22S	27E	577964	3580807*	1527	200	74	126
C 02488		C	ED		4	4	27	22S	27E	577966	3580401*	1562	76	38	38

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

(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 00455	C	ED	2	2	2	34	22S	27E	578066	3580093*	1565	133		
C 00981	C	ED	2	2	2	34	22S	27E	578066	3580093*	1565	250	41	209
C 02458	CUB	ED	2	2	2	34	22S	27E	578066	3580093*	1565			
C 00077	CUB	ED	1	1	1	26	22S	27E	578266	3581726*	1570	118	40	78
C 01312	CUB	ED		3	1	35	22S	27E	578373	3579593*	1603	203	65	138

Average Depth to Water: **44 feet**

Minimum Depth: **12 feet**

Maximum Depth: **87 feet**

Record Count: 31

UTMNAD83 Radius Search (in meters):

Easting (X): 579490.49 **Northing (Y):** 3580743 **Radius:** 1610

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

APPENDIX C
FIELD NOTES &
PHOTO LOG

SMA Field Screening

Location Name: Henry Grandi

Date: 3-21-19

Sample Name:	Collection Time:	EC (mS)	Temp (°C)	PID Reading /PF	Soil Color	Primary Soil Type	Moisture Level	Other Remarks/Notes:
SW ~~W~~ W 6'				1221	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	(Dry) ~~Moist~~ Wet	Field Screens to help what on surface
SW W 8'				56.4	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	(Dry) ~~Moist~~ Wet	
SW W 14'				3.2	Light Dark; Tan Brown; Gray Olive; Yellow Red	Gravel Rock; Sand Silt; Clay	~~Dry~~ ~~Moist~~ Wet	
SW 12-8'	1020	0.36	12.2	40.6	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; Sand Silt; Clay	(~~Dry~~) ~~Moist~~ Wet	no Hc odor
SW 8-4'	1025	0.47	12.3	252	Light Dark; Tan Brown; Gray Olive; Yellow Red	Gravel Rock; Sand Silt; Clay	(~~Dry~~) ~~Moist~~ Wet	slight Hc odor
SW 12-8'	1040	0.38	12.3	3.8	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
SW 8'-4'	1047	0.48	12.5	12.4	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
* SW 1 ~~[illegible]~~	1131	0.55	12.7	6.3	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; Sand Silt; Clay	~~Dry~~ Moist Wet	No Hc odor
* SW 2 ~~[illegible]~~	1138	0.43	12.9	6.8	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; Sand Silt; Clay	~~Dry~~ Moist Wet	no Hc odor

Field Screening

Location Name: Henry Grandi **Date:** 3-21-19

Sample Name:	Collection Time:	EC (mS)	Temp (°C)	PID Reading /PF	Soil Color	Primary Soil Type	Moisture Level	Other Remarks/Notes:
* SW 7	1210	0.51	13.0	0.0	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
* SW6	1224	0.51	13.7	13.2	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; Sand Silt; Clay	~~Dry~~ Moist Wet	no Hc odor
* BH1 - 14'	1257	.30	13.0	3.1	Light Dark; Tan Brown; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	Dry ~~Moist~~ Wet	"
* BH2 - 14'	1044	0.45	12.9	16.3	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; Sand Silt; Clay	Dry ~~Moist~~ Wet	"
BH3 - 14'	1614	0.50	13.1	493	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	Dry ~~Moist~~ Wet	"
* SW3B-8'	1555	0.39	14.2	9.5 [illegible]	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	"
SW 3 8~4'	1552	0.43	14.3	[illegible] 1.8 [illegible]	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	"
SW4 B~8'		043	14.2	4.3	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	"
SW4 8~4'		.59	14.0	8.6	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	"

SMA Field Screening

Location Name: Henry Grandi

Date: 3-21-19

Sample Name:	Collection Time:	EC (mS)	Temp (°C)	PID Reading /PF	Soil Color	Primary Soil Type	Moisture Level	Other Remarks/Notes:
SWS B-8'		0.53	14.1	2.2	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	No HC odor
SWS 8-9'		0.90	14.1	0.7	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	Dry Moist Wet	"
SW 10 B-~~8~~'		0.99	14.0	0.0	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; Sand Silt; Clay	~~Dry~~ Moist Wet	"
SW 10 4-4'		0.85	14.0	23.6	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	"
SW 9 B-8'		0.50	13.8	8.3	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; Sand Silt; Clay	~~Dry~~ Moist Wet	"
SW 9 8-4'		0.65	13.8	13.5	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	"
SW 8 B-8'		0.64	13.7	1.0	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	"
SW 8 8-4'		0.80	13.8	16.0	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	"
* BH3 16'	1548	0.51	14.7	0.0	Light Dark; Tan ~~Brown~~; Gray Olive; Yellow Red	Gravel Rock; ~~Sand~~ Silt; Clay	~~Dry~~ Moist Wet	"

ASMA Field Screening

Location Name: Henry Grande

Date: 3-22-19

Sample Name:	Collection Time:	EC (mS)	Temp (°C)	PID Reading /PF	Soil Color	Primary Soil Type	Moisture Level	Other Remarks/Notes:
Sw 4	911	0.33	12.7	0.0	Light Dark Tan Brown Gray Olive Yellow Red	Gravel Rock Sand Silt Clay	Dry Moist Wet	
Sw 5	1001	0.37	13.1	10	Light Dark Tan Brown Gray Olive Yellow Red	Gravel Rock Sand Silt Clay	Dry Moist Wet	
Sw 8	1022	0.43	13.1	0	Light Dark Tan Brown Gray Olive Yellow Red	Gravel Rock Sand Silt Clay	Dry Moist Wet	
Sw 9	1027	0.45	13.2	0	Light Dark Tan Brown Gray Olive Yellow Red	Gravel Rock Sand Silt Clay	Dry Moist Wet	
Sw 10	1036	0.39	13.2	0	Light Dark Tan Brown Gray Olive Yellow Red	Gravel Rock Sand Silt Clay	Dry Moist Wet	
					Light Dark Tan Brown Gray Olive Yellow Red	Gravel Rock Sand Silt Clay	Dry Moist Wet	
					Light Dark Tan Brown Gray Olive Yellow Red	Gravel Rock Sand Silt Clay	Dry Moist Wet	
					Light Dark Tan Brown Gray Olive Yellow Red	Gravel Rock Sand Silt Clay	Dry Moist Wet	
					Light Dark Tan Brown Gray Olive Yellow Red	Gravel Rock Sand Silt Clay	Dry Moist Wet	

Photo Log

Photo Taken May 7, 2019

Facing west

32.36049, -104.15499

Photo Taken May 7, 2019

Facing south

32.36062, -104.15515

APPENDIX D

LABORATORY ANALYTICAL REPORTS

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

March 13, 2019

Heather Patterson

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

RE: Henry Grandi OrderNo.: 1903400

Dear Heather Patterson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 3/8/2019 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: L1-2
Project: Henry Grandi
Collection Date: 3/6/2019 9:47:00 AM
Lab ID: 1903400-001 **Matrix:** SOIL **Received Date:** 3/8/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	3/11/2019 6:45:55 PM	43603
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	4200	95	D	mg/Kg	10	3/11/2019 8:45:24 PM	43588
Motor Oil Range Organics (MRO)	ND	470	D	mg/Kg	10	3/11/2019 8:45:24 PM	43588
Surr: DNOP	0	70-130	SD	%Rec	10	3/11/2019 8:45:24 PM	43588
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	1300	47		mg/Kg	10	3/11/2019 7:38:14 PM	43577
Surr: BFB	613	73.8-119	S	%Rec	10	3/11/2019 7:38:14 PM	43577
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.24		mg/Kg	10	3/11/2019 7:38:14 PM	43577
Toluene	9.9	0.47		mg/Kg	10	3/11/2019 7:38:14 PM	43577
Ethylbenzene	4.4	0.47		mg/Kg	10	3/11/2019 7:38:14 PM	43577
Xylenes, Total	79	0.95		mg/Kg	10	3/11/2019 7:38:14 PM	43577
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	10	3/11/2019 7:38:14 PM	43577

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-6
Project: Henry Grandi
Collection Date: 3/6/2019 9:56:00 AM
Lab ID: 1903400-002 **Matrix:** SOIL **Received Date:** 3/8/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	3/11/2019 6:58:19 PM	43603
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	7100	99	D	mg/Kg	10	3/11/2019 9:58:09 PM	43588
Motor Oil Range Organics (MRO)	ND	500	D	mg/Kg	10	3/11/2019 9:58:09 PM	43588
Surr: DNOP	0	70-130	SD	%Rec	10	3/11/2019 9:58:09 PM	43588
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	1400	25		mg/Kg	5	3/11/2019 8:01:37 PM	43577
Surr: BFB	1070	73.8-119	S	%Rec	5	3/11/2019 8:01:37 PM	43577
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.12		mg/Kg	5	3/11/2019 8:01:37 PM	43577
Toluene	12	0.25		mg/Kg	5	3/11/2019 8:01:37 PM	43577
Ethylbenzene	5.0	0.25		mg/Kg	5	3/11/2019 8:01:37 PM	43577
Xylenes, Total	86	5.0		mg/Kg	50	3/12/2019 10:21:46 AM	43577
Surr: 4-Bromofluorobenzene	153	80-120	S	%Rec	5	3/11/2019 8:01:37 PM	43577

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-12
Project: Henry Grandi
Collection Date: 3/6/2019 10:17:00 AM
Lab ID: 1903400-003 **Matrix:** SOIL **Received Date:** 3/8/2019 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	3/12/2019 6:01:13 PM	43634
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	11	9.3		mg/Kg	1	3/11/2019 1:26:34 PM	43588
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/11/2019 1:26:34 PM	43588
Surr: DNOP	94.9	70-130		%Rec	1	3/11/2019 1:26:34 PM	43588
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/11/2019 8:25:05 PM	43577
Surr: BFB	116	73.8-119		%Rec	1	3/11/2019 8:25:05 PM	43577
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	3/11/2019 8:25:05 PM	43577
Toluene	ND	0.046		mg/Kg	1	3/11/2019 8:25:05 PM	43577
Ethylbenzene	ND	0.046		mg/Kg	1	3/11/2019 8:25:05 PM	43577
Xylenes, Total	ND	0.092		mg/Kg	1	3/11/2019 8:25:05 PM	43577
Surr: 4-Bromofluorobenzene	99.2	80-120		%Rec	1	3/11/2019 8:25:05 PM	43577

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-4
Project: Henry Grandi
Collection Date: 3/6/2019 10:35:00 AM
Lab ID: 1903400-004 **Matrix:** SOIL **Received Date:** 3/8/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	910	60		mg/Kg	20	3/12/2019 6:38:27 PM	43634
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/11/2019 1:50:32 PM	43588
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/11/2019 1:50:32 PM	43588
Surr: DNOP	97.9	70-130		%Rec	1	3/11/2019 1:50:32 PM	43588
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/11/2019 8:48:28 PM	43577
Surr: BFB	95.9	73.8-119		%Rec	1	3/11/2019 8:48:28 PM	43577
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	3/11/2019 8:48:28 PM	43577
Toluene	ND	0.047		mg/Kg	1	3/11/2019 8:48:28 PM	43577
Ethylbenzene	ND	0.047		mg/Kg	1	3/11/2019 8:48:28 PM	43577
Xylenes, Total	ND	0.094		mg/Kg	1	3/11/2019 8:48:28 PM	43577
Surr: 4-Bromofluorobenzene	98.5	80-120		%Rec	1	3/11/2019 8:48:28 PM	43577

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-8
Project: Henry Grandi
Collection Date: 3/6/2019 10:43:00 AM
Lab ID: 1903400-005 **Matrix:** SOIL **Received Date:** 3/8/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	400	60		mg/Kg	20	3/12/2019 6:50:51 PM	43634
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	140	9.8		mg/Kg	1	3/11/2019 2:14:32 PM	43588
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/11/2019 2:14:32 PM	43588
Surr: DNOP	99.8	70-130		%Rec	1	3/11/2019 2:14:32 PM	43588
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/11/2019 9:11:54 PM	43577
Surr: BFB	109	73.8-119		%Rec	1	3/11/2019 9:11:54 PM	43577
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	3/11/2019 9:11:54 PM	43577
Toluene	ND	0.050		mg/Kg	1	3/11/2019 9:11:54 PM	43577
Ethylbenzene	ND	0.050		mg/Kg	1	3/11/2019 9:11:54 PM	43577
Xylenes, Total	ND	0.10		mg/Kg	1	3/11/2019 9:11:54 PM	43577
Surr: 4-Bromofluorobenzene	97.5	80-120		%Rec	1	3/11/2019 9:11:54 PM	43577

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-14
Project: Henry Grandi
Collection Date: 3/6/2019 10:58:00 AM
Lab ID: 1903400-006 **Matrix:** SOIL **Received Date:** 3/8/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	1200	60		mg/Kg	20	3/12/2019 7:03:16 PM	43634
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	97	9.8		mg/Kg	1	3/11/2019 2:38:36 PM	43588
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/11/2019 2:38:36 PM	43588
Surr: DNOP	99.9	70-130		%Rec	1	3/11/2019 2:38:36 PM	43588
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	14	4.6		mg/Kg	1	3/11/2019 11:08:50 PM	43577
Surr: BFB	190	73.8-119	S	%Rec	1	3/11/2019 11:08:50 PM	43577
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.023		mg/Kg	1	3/11/2019 11:08:50 PM	43577
Toluene	ND	0.046		mg/Kg	1	3/11/2019 11:08:50 PM	43577
Ethylbenzene	ND	0.046		mg/Kg	1	3/11/2019 11:08:50 PM	43577
Xylenes, Total	0.23	0.092		mg/Kg	1	3/11/2019 11:08:50 PM	43577
Surr: 4-Bromofluorobenzene	99.4	80-120		%Rec	1	3/11/2019 11:08:50 PM	43577

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1903400**

13-Mar-19

Client: Souder, Miller & Associates

Project: Henry Grandi

Sample ID: **MB-43603**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **43603**	RunNo: **58259**
Prep Date: **3/11/2019**	Analysis Date: **3/11/2019**	SeqNo: **1954599** Units: **mg/Kg**

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

Sample ID: **LCS-43603**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **43603**	RunNo: **58259**
Prep Date: **3/11/2019**	Analysis Date: **3/11/2019**	SeqNo: **1954600** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.3	90	110			

Sample ID: **MB-43634**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **43634**	RunNo: **58294**
Prep Date: **3/12/2019**	Analysis Date: **3/12/2019**	SeqNo: **1956171** Units: **mg/Kg**

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

Sample ID: **LCS-43634**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **43634**	RunNo: **58294**
Prep Date: **3/12/2019**	Analysis Date: **3/12/2019**	SeqNo: **1956172** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.9	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1903400**

13-Mar-19

Client: Souder, Miller & Associates

Project: Henry Grandi

Sample ID: **MB-43588**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **43588**	RunNo: **58263**
Prep Date: **3/8/2019**	Analysis Date: **3/11/2019**	SeqNo: **1954160** 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	10		10.00		100	70	130			

Sample ID: **LCS-43588**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **43588**	RunNo: **58263**
Prep Date: **3/8/2019**	Analysis Date: **3/11/2019**	SeqNo: **1954161** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.3	63.9	124			
Surr: DNOP	5.1		5.000		102	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1903400**

13-Mar-19

Client: Souder, Miller & Associates

Project: Henry Grandi

Sample ID: **MB-43577**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **43577**	RunNo: **58248**
Prep Date: **3/8/2019**	Analysis Date: **3/11/2019**	SeqNo: **1954251** 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	940		1000		94.0	73.8	119			

Sample ID: **LCS-43577**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **43577**	RunNo: **58248**
Prep Date: **3/8/2019**	Analysis Date: **3/11/2019**	SeqNo: **1954252** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.3	80.1	123			
Surr: BFB	1100		1000		108	73.8	119			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1903400**

13-Mar-19

Client: Souder, Miller & Associates

Project: Henry Grandi

Sample ID: **MB-43577**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **43577**	RunNo: **58248**
Prep Date: **3/8/2019**	Analysis Date: **3/11/2019**	SeqNo: **1954300** 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		99.8	80	120			

Sample ID: **LCS-43577**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **43577**	RunNo: **58248**
Prep Date: **3/8/2019**	Analysis Date: **3/11/2019**	SeqNo: **1954301** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	94.7	80	120			
Toluene	1.0	0.050	1.000	0	99.8	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.6	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **1903400** RcptNo: **1**

Received By: **Isaiah Ortiz** **3/8/2019 8:45:00 AM** I-OX

Completed By: **Victoria Zellar** **3/8/2019 9:14:21 AM** Victoria Zellar labeled by IO 3/8/19

Reviewed By: DD 3/8/19

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 ☑	IO 3/8/19
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? _____
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

Chain-of-Custody Record

Client: SNM 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

☐ Standard ☐ Rush

Project Name: Henry Grandi

Project #:

Project Manager: Heather Herron

Sampler: HMP

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.3 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. 1903400	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)						
3/6/19	9:47	Soil	L1-2	4oz		-001	X	X					X									
	9:56		L1-6			-002	X	X					X									
	10:17		L1-12			-003	X	X					X									
	10:35		L2-4			-004	X	X					X									
	10:43		L2-8			-005	X	X					X									
	10:58		L2-14			-006	X	X					X									

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
3-6-19	3:00	[signature]	[signature]		3/7/19	1400
3/7/19	1900	[signature]	[signature]	courier	3/8/19	0845

Remarks: Marilton

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

April 02, 2019

Heather Patterson

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

RE: Henry Grandi OrderNo.: 1903B79

Dear Heather Patterson:

Hall Environmental Analysis Laboratory received 13 sample(s) on 3/26/2019 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: CSW1
Project: Henry Grandi
Collection Date: 3/21/2019 11:31:00 AM
Lab ID: 1903B79-001 **Matrix:** SOIL
Received Date: 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	76	60		mg/Kg	20	3/28/2019 8:57:24 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/29/2019 6:07:59 AM	43874
Surr: BFB	107	70-130		%Rec	1	3/29/2019 6:07:59 AM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/27/2019 9:01:10 PM	43885
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/27/2019 9:01:10 PM	43885
Surr: DNOP	102	70-130		%Rec	1	3/27/2019 9:01:10 PM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	3/29/2019 6:07:59 AM	43874
Toluene	ND	0.047		mg/Kg	1	3/29/2019 6:07:59 AM	43874
Ethylbenzene	ND	0.047		mg/Kg	1	3/29/2019 6:07:59 AM	43874
Xylenes, Total	ND	0.095		mg/Kg	1	3/29/2019 6:07:59 AM	43874
Surr: 1,2-Dichloroethane-d4	84.0	70-130		%Rec	1	3/29/2019 6:07:59 AM	43874
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/29/2019 6:07:59 AM	43874
Surr: Dibromofluoromethane	88.8	70-130		%Rec	1	3/29/2019 6:07:59 AM	43874
Surr: Toluene-d8	93.3	70-130		%Rec	1	3/29/2019 6:07:59 AM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW2
Project: Henry Grandi
Collection Date: 3/21/2019 11:58:00 AM
Lab ID: 1903B79-002 **Matrix:** SOIL
Received Date: 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	3/28/2019 9:09:48 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/29/2019 7:33:43 AM	43874
Surr: BFB	106	70-130		%Rec	1	3/29/2019 7:33:43 AM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/27/2019 9:25:36 PM	43885
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/27/2019 9:25:36 PM	43885
Surr: DNOP	105	70-130		%Rec	1	3/27/2019 9:25:36 PM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	3/29/2019 7:33:43 AM	43874
Toluene	ND	0.048		mg/Kg	1	3/29/2019 7:33:43 AM	43874
Ethylbenzene	ND	0.048		mg/Kg	1	3/29/2019 7:33:43 AM	43874
Xylenes, Total	ND	0.096		mg/Kg	1	3/29/2019 7:33:43 AM	43874
Surr: 1,2-Dichloroethane-d4	87.1	70-130		%Rec	1	3/29/2019 7:33:43 AM	43874
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	3/29/2019 7:33:43 AM	43874
Surr: Dibromofluoromethane	89.3	70-130		%Rec	1	3/29/2019 7:33:43 AM	43874
Surr: Toluene-d8	89.6	70-130		%Rec	1	3/29/2019 7:33:43 AM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW3
Project: Henry Grandi
Collection Date: 3/21/2019 3:52:00 PM
Lab ID: 1903B79-003 **Matrix:** SOIL
Received Date: 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	88	60		mg/Kg	20	3/28/2019 9:22:13 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/29/2019 3:36:53 PM	43874
Surr: BFB	106	70-130		%Rec	1	3/29/2019 3:36:53 PM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/27/2019 9:50:12 PM	43885
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/27/2019 9:50:12 PM	43885
Surr: DNOP	114	70-130		%Rec	1	3/27/2019 9:50:12 PM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	3/29/2019 3:36:53 PM	43874
Toluene	ND	0.048		mg/Kg	1	3/29/2019 3:36:53 PM	43874
Ethylbenzene	ND	0.048		mg/Kg	1	3/29/2019 3:36:53 PM	43874
Xylenes, Total	ND	0.095		mg/Kg	1	3/29/2019 3:36:53 PM	43874
Surr: 1,2-Dichloroethane-d4	86.9	70-130		%Rec	1	3/29/2019 3:36:53 PM	43874
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	3/29/2019 3:36:53 PM	43874
Surr: Dibromofluoromethane	91.4	70-130		%Rec	1	3/29/2019 3:36:53 PM	43874
Surr: Toluene-d8	90.0	70-130		%Rec	1	3/29/2019 3:36:53 PM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW4
Project: Henry Grandi
Collection Date: 3/22/2019 9:11:00 AM
Lab ID: 1903B79-004 **Matrix:** SOIL **Received Date:** 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	88	60		mg/Kg	20	3/28/2019 9:34:38 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/29/2019 4:05:22 PM	43874
Surr: BFB	111	70-130		%Rec	1	3/29/2019 4:05:22 PM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/27/2019 10:14:39 PM	43885
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/27/2019 10:14:39 PM	43885
Surr: DNOP	96.3	70-130		%Rec	1	3/27/2019 10:14:39 PM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	3/29/2019 4:05:22 PM	43874
Toluene	ND	0.049		mg/Kg	1	3/29/2019 4:05:22 PM	43874
Ethylbenzene	ND	0.049		mg/Kg	1	3/29/2019 4:05:22 PM	43874
Xylenes, Total	ND	0.098		mg/Kg	1	3/29/2019 4:05:22 PM	43874
Surr: 1,2-Dichloroethane-d4	84.8	70-130		%Rec	1	3/29/2019 4:05:22 PM	43874
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	3/29/2019 4:05:22 PM	43874
Surr: Dibromofluoromethane	87.4	70-130		%Rec	1	3/29/2019 4:05:22 PM	43874
Surr: Toluene-d8	91.2	70-130		%Rec	1	3/29/2019 4:05:22 PM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW5
Project: Henry Grandi
Collection Date: 3/22/2019 10:01:00 AM
Lab ID: 1903B79-005 **Matrix:** SOIL
Received Date: 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	160	60		mg/Kg	20	3/28/2019 9:47:02 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/29/2019 4:33:51 PM	43874
Surr: BFB	107	70-130		%Rec	1	3/29/2019 4:33:51 PM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/27/2019 10:39:16 PM	43885
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/27/2019 10:39:16 PM	43885
Surr: DNOP	95.8	70-130		%Rec	1	3/27/2019 10:39:16 PM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	3/29/2019 4:33:51 PM	43874
Toluene	ND	0.047		mg/Kg	1	3/29/2019 4:33:51 PM	43874
Ethylbenzene	ND	0.047		mg/Kg	1	3/29/2019 4:33:51 PM	43874
Xylenes, Total	ND	0.095		mg/Kg	1	3/29/2019 4:33:51 PM	43874
Surr: 1,2-Dichloroethane-d4	82.6	70-130		%Rec	1	3/29/2019 4:33:51 PM	43874
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	3/29/2019 4:33:51 PM	43874
Surr: Dibromofluoromethane	86.1	70-130		%Rec	1	3/29/2019 4:33:51 PM	43874
Surr: Toluene-d8	89.1	70-130		%Rec	1	3/29/2019 4:33:51 PM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW6
Project: Henry Grandi
Collection Date: 3/21/2019 12:24:00 PM
Lab ID: 1903B79-006 **Matrix:** SOIL
Received Date: 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	3/28/2019 9:59:27 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/29/2019 5:02:18 PM	43874
Surr: BFB	108	70-130		%Rec	1	3/29/2019 5:02:18 PM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/27/2019 11:03:40 PM	43885
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/27/2019 11:03:40 PM	43885
Surr: DNOP	97.2	70-130		%Rec	1	3/27/2019 11:03:40 PM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	3/29/2019 5:02:18 PM	43874
Toluene	ND	0.047		mg/Kg	1	3/29/2019 5:02:18 PM	43874
Ethylbenzene	ND	0.047		mg/Kg	1	3/29/2019 5:02:18 PM	43874
Xylenes, Total	ND	0.095		mg/Kg	1	3/29/2019 5:02:18 PM	43874
Surr: 1,2-Dichloroethane-d4	83.9	70-130		%Rec	1	3/29/2019 5:02:18 PM	43874
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	3/29/2019 5:02:18 PM	43874
Surr: Dibromofluoromethane	87.1	70-130		%Rec	1	3/29/2019 5:02:18 PM	43874
Surr: Toluene-d8	88.7	70-130		%Rec	1	3/29/2019 5:02:18 PM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW7
Project: Henry Grandi
Collection Date: 3/21/2019 12:10:00 PM
Lab ID: 1903B79-007 **Matrix:** SOIL
Received Date: 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	61		mg/Kg	20	3/28/2019 10:11:52 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/29/2019 5:30:44 PM	43874
Surr: BFB	106	70-130		%Rec	1	3/29/2019 5:30:44 PM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/27/2019 11:28:16 PM	43885
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/27/2019 11:28:16 PM	43885
Surr: DNOP	96.7	70-130		%Rec	1	3/27/2019 11:28:16 PM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	3/29/2019 5:30:44 PM	43874
Toluene	ND	0.047		mg/Kg	1	3/29/2019 5:30:44 PM	43874
Ethylbenzene	ND	0.047		mg/Kg	1	3/29/2019 5:30:44 PM	43874
Xylenes, Total	ND	0.095		mg/Kg	1	3/29/2019 5:30:44 PM	43874
Surr: 1,2-Dichloroethane-d4	85.0	70-130		%Rec	1	3/29/2019 5:30:44 PM	43874
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/29/2019 5:30:44 PM	43874
Surr: Dibromofluoromethane	88.2	70-130		%Rec	1	3/29/2019 5:30:44 PM	43874
Surr: Toluene-d8	89.0	70-130		%Rec	1	3/29/2019 5:30:44 PM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW8
Project: Henry Grandi
Collection Date: 3/22/2019 10:22:00 AM
Lab ID: 1903B79-008 **Matrix:** SOIL
Received Date: 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	250	60		mg/Kg	20	3/28/2019 10:24:16 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/29/2019 5:59:18 PM	43874
Surr: BFB	107	70-130		%Rec	1	3/29/2019 5:59:18 PM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/27/2019 11:52:43 PM	43885
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/27/2019 11:52:43 PM	43885
Surr: DNOP	100	70-130		%Rec	1	3/27/2019 11:52:43 PM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	3/29/2019 5:59:18 PM	43874
Toluene	ND	0.050		mg/Kg	1	3/29/2019 5:59:18 PM	43874
Ethylbenzene	ND	0.050		mg/Kg	1	3/29/2019 5:59:18 PM	43874
Xylenes, Total	ND	0.10		mg/Kg	1	3/29/2019 5:59:18 PM	43874
Surr: 1,2-Dichloroethane-d4	83.6	70-130		%Rec	1	3/29/2019 5:59:18 PM	43874
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/29/2019 5:59:18 PM	43874
Surr: Dibromofluoromethane	86.7	70-130		%Rec	1	3/29/2019 5:59:18 PM	43874
Surr: Toluene-d8	87.4	70-130		%Rec	1	3/29/2019 5:59:18 PM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW9
Project: Henry Grandi
Collection Date: 3/22/2019 10:27:00 AM
Lab ID: 1903B79-009 **Matrix:** SOIL
Received Date: 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	71	60		mg/Kg	20	3/28/2019 10:36:41 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/29/2019 6:28:04 PM	43874
Surr: BFB	109	70-130		%Rec	1	3/29/2019 6:28:04 PM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/28/2019 12:17:21 AM	43885
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/28/2019 12:17:21 AM	43885
Surr: DNOP	96.5	70-130		%Rec	1	3/28/2019 12:17:21 AM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	3/29/2019 6:28:04 PM	43874
Toluene	ND	0.049		mg/Kg	1	3/29/2019 6:28:04 PM	43874
Ethylbenzene	ND	0.049		mg/Kg	1	3/29/2019 6:28:04 PM	43874
Xylenes, Total	ND	0.098		mg/Kg	1	3/29/2019 6:28:04 PM	43874
Surr: 1,2-Dichloroethane-d4	84.3	70-130		%Rec	1	3/29/2019 6:28:04 PM	43874
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/29/2019 6:28:04 PM	43874
Surr: Dibromofluoromethane	89.6	70-130		%Rec	1	3/29/2019 6:28:04 PM	43874
Surr: Toluene-d8	91.0	70-130		%Rec	1	3/29/2019 6:28:04 PM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CSW10
Project: Henry Grandi
Collection Date: 3/22/2019 10:36:00 AM
Lab ID: 1903B79-010 **Matrix:** SOIL
Received Date: 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	450	60		mg/Kg	20	3/28/2019 10:49:05 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/29/2019 6:56:34 PM	43874
Surr: BFB	104	70-130		%Rec	1	3/29/2019 6:56:34 PM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/28/2019 12:41:45 AM	43885
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/28/2019 12:41:45 AM	43885
Surr: DNOP	96.0	70-130		%Rec	1	3/28/2019 12:41:45 AM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	3/29/2019 6:56:34 PM	43874
Toluene	ND	0.048		mg/Kg	1	3/29/2019 6:56:34 PM	43874
Ethylbenzene	ND	0.048		mg/Kg	1	3/29/2019 6:56:34 PM	43874
Xylenes, Total	ND	0.097		mg/Kg	1	3/29/2019 6:56:34 PM	43874
Surr: 1,2-Dichloroethane-d4	85.6	70-130		%Rec	1	3/29/2019 6:56:34 PM	43874
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	3/29/2019 6:56:34 PM	43874
Surr: Dibromofluoromethane	89.5	70-130		%Rec	1	3/29/2019 6:56:34 PM	43874
Surr: Toluene-d8	88.0	70-130		%Rec	1	3/29/2019 6:56:34 PM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CBH1
Project: Henry Grandi
Collection Date: 3/21/2019 12:57:00 PM
Lab ID: 1903B79-011 **Matrix:** SOIL
Received Date: 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	63	60		mg/Kg	20	3/28/2019 11:26:19 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/29/2019 7:24:59 PM	43874
Surr: BFB	106	70-130		%Rec	1	3/29/2019 7:24:59 PM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/28/2019 1:06:15 AM	43885
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/28/2019 1:06:15 AM	43885
Surr: DNOP	97.8	70-130		%Rec	1	3/28/2019 1:06:15 AM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.025		mg/Kg	1	3/29/2019 7:24:59 PM	43874
Toluene	ND	0.049		mg/Kg	1	3/29/2019 7:24:59 PM	43874
Ethylbenzene	ND	0.049		mg/Kg	1	3/29/2019 7:24:59 PM	43874
Xylenes, Total	ND	0.098		mg/Kg	1	3/29/2019 7:24:59 PM	43874
Surr: 1,2-Dichloroethane-d4	83.4	70-130		%Rec	1	3/29/2019 7:24:59 PM	43874
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	3/29/2019 7:24:59 PM	43874
Surr: Dibromofluoromethane	88.0	70-130		%Rec	1	3/29/2019 7:24:59 PM	43874
Surr: Toluene-d8	87.6	70-130		%Rec	1	3/29/2019 7:24:59 PM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CBH2
Project: Henry Grandi
Collection Date: 3/21/2019 1:04:00 PM
Lab ID: 1903B79-012 **Matrix:** SOIL **Received Date:** 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	3/28/2019 11:38:44 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/29/2019 7:53:37 PM	43874
Surr: BFB	107	70-130		%Rec	1	3/29/2019 7:53:37 PM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/28/2019 1:30:36 AM	43885
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/28/2019 1:30:36 AM	43885
Surr: DNOP	99.5	70-130		%Rec	1	3/28/2019 1:30:36 AM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.023		mg/Kg	1	3/29/2019 7:53:37 PM	43874
Toluene	ND	0.047		mg/Kg	1	3/29/2019 7:53:37 PM	43874
Ethylbenzene	ND	0.047		mg/Kg	1	3/29/2019 7:53:37 PM	43874
Xylenes, Total	ND	0.094		mg/Kg	1	3/29/2019 7:53:37 PM	43874
Surr: 1,2-Dichloroethane-d4	82.8	70-130		%Rec	1	3/29/2019 7:53:37 PM	43874
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	3/29/2019 7:53:37 PM	43874
Surr: Dibromofluoromethane	87.6	70-130		%Rec	1	3/29/2019 7:53:37 PM	43874
Surr: Toluene-d8	88.9	70-130		%Rec	1	3/29/2019 7:53:37 PM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: CBH3
Project: Henry Grandi
Collection Date: 3/21/2019 3:48:00 PM
Lab ID: 1903B79-013 **Matrix:** SOIL
Received Date: 3/26/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	530	60		mg/Kg	20	3/28/2019 11:51:09 PM	43959
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/29/2019 8:22:16 PM	43874
Surr: BFB	106	70-130		%Rec	1	3/29/2019 8:22:16 PM	43874
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/28/2019 1:55:03 AM	43885
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/28/2019 1:55:03 AM	43885
Surr: DNOP	93.3	70-130		%Rec	1	3/28/2019 1:55:03 AM	43885
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	3/29/2019 8:22:16 PM	43874
Toluene	ND	0.048		mg/Kg	1	3/29/2019 8:22:16 PM	43874
Ethylbenzene	ND	0.048		mg/Kg	1	3/29/2019 8:22:16 PM	43874
Xylenes, Total	ND	0.096		mg/Kg	1	3/29/2019 8:22:16 PM	43874
Surr: 1,2-Dichloroethane-d4	83.5	70-130		%Rec	1	3/29/2019 8:22:16 PM	43874
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	3/29/2019 8:22:16 PM	43874
Surr: Dibromofluoromethane	86.4	70-130		%Rec	1	3/29/2019 8:22:16 PM	43874
Surr: Toluene-d8	90.2	70-130		%Rec	1	3/29/2019 8:22:16 PM	43874

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1903B79**

02-Apr-19

Client: Souder, Miller & Associates

Project: Henry Grandi

Sample ID: **MB-43959**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **43959**	RunNo: **58732**
Prep Date: **3/28/2019**	Analysis Date: **3/28/2019**	SeqNo: **1973322** Units: **mg/Kg**

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

Sample ID: **LCS-43959**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **43959**	RunNo: **58732**
Prep Date: **3/28/2019**	Analysis Date: **3/28/2019**	SeqNo: **1973323** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.6	90	110			

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1903B79**

02-Apr-19

Client: Souder, Miller & Associates

Project: Henry Grandi

Sample ID: **LCS-43885**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **43885**	RunNo: **58623**
Prep Date: **3/26/2019**	Analysis Date: **3/27/2019**	SeqNo: **1970688** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.5	63.9	124			
Surr: DNOP	4.8		5.000		96.6	70	130			

Sample ID: **MB-43885**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **43885**	RunNo: **58623**
Prep Date: **3/26/2019**	Analysis Date: **3/27/2019**	SeqNo: **1970689** 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	10		10.00		101	70	130			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903B79**
02-Apr-19

Client: Souder, Miller & Associates
Project: Henry Grandi

Sample ID: **1903b79-002ams** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **CSW2** Batch ID: **43874** RunNo: **58734**
Prep Date: **3/26/2019** Analysis Date: **3/29/2019** SeqNo: **1972874** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	0.9930	0	83.1	68.9	131			
Toluene	0.98	0.050	0.9930	0.02365	96.5	64.3	137			
Ethylbenzene	0.98	0.050	0.9930	0	98.7	70	130			
Xylenes, Total	3.0	0.099	2.979	0	99.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.4965		87.7	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.4965		103	70	130			
Surr: Dibromofluoromethane	0.45		0.4965		90.0	70	130			
Surr: Toluene-d8	0.46		0.4965		92.8	70	130			

Sample ID: **1903b79-002amsd** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **CSW2** Batch ID: **43874** RunNo: **58734**
Prep Date: **3/26/2019** Analysis Date: **3/29/2019** SeqNo: **1972875** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.023	0.9302	0	87.1	68.9	131	1.88	0	
Toluene	0.93	0.047	0.9302	0.02365	97.4	64.3	137	5.47	0	
Ethylbenzene	0.94	0.047	0.9302	0	101	70	130	4.67	0	
Xylenes, Total	2.9	0.093	2.791	0	103	70	130	3.64	0	
Surr: 1,2-Dichloroethane-d4	0.40		0.4651		85.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.47		0.4651		101	70	130	0	0	
Surr: Dibromofluoromethane	0.42		0.4651		89.9	70	130	0	0	
Surr: Toluene-d8	0.42		0.4651		89.9	70	130	0	0	

Sample ID: **lcs-43874** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **43874** RunNo: **58734**
Prep Date: **3/26/2019** Analysis Date: **3/29/2019** SeqNo: **1972876** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.0	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Ethylbenzene	1.0	0.050	1.000	0	100	70	130			
Xylenes, Total	3.0	0.10	3.000	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	0.43		0.5000		85.3	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.43		0.5000		86.4	70	130			
Surr: Toluene-d8	0.46		0.5000		91.3	70	130			

Qualifiers:

H Holding times for preparation or analysis exceeded
PQL Practical Quanitative Limit
S % Recovery outside of range due to dilution or matrix
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903B79**
02-Apr-19

Client: Souder, Miller & Associates
Project: Henry Grandi

Sample ID: **mb-43874** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **43874** RunNo: **58734**
Prep Date: **3/26/2019** Analysis Date: **3/29/2019** SeqNo: **1972877** 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: 1,2-Dichloroethane-d4	0.44		0.5000		87.6	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.1	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		91.3	70	130			
Surr: Toluene-d8	0.44		0.5000		89.0	70	130			

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **R58745** RunNo: **58745**
Prep Date: Analysis Date: **3/29/2019** SeqNo: **1973859** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.8	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			
Surr: Dibromofluoromethane	0.41		0.5000		82.5	70	130			
Surr: Toluene-d8	0.44		0.5000		88.8	70	130			

Sample ID: **rb** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **R58745** RunNo: **58745**
Prep Date: Analysis Date: **3/29/2019** SeqNo: **1973863** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.40		0.5000		79.9	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		106	70	130			
Surr: Dibromofluoromethane	0.40		0.5000		80.1	70	130			
Surr: Toluene-d8	0.47		0.5000		93.1	70	130			

Qualifiers:

H Holding times for preparation or analysis exceeded
PQL Practical Quanitative Limit
S % Recovery outside of range due to dilution or matrix
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903B79**
02-Apr-19

Client: Souder, Miller & Associates
Project: Henry Grandi

Sample ID: **1903b79-001ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **CSW1** Batch ID: **43874** RunNo: **58734**
Prep Date: **3/26/2019** Analysis Date: **3/29/2019** SeqNo: **1973085** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.8	23.81	0	81.3	68.2	135			
Surr: BFB	520		476.2		109	70	130			

Sample ID: **1903b79-001amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **CSW1** Batch ID: **43874** RunNo: **58734**
Prep Date: **3/26/2019** Analysis Date: **3/29/2019** SeqNo: **1973088** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.7	23.61	0	80.8	68.2	135	1.49	20	
Surr: BFB	500		472.1		107	70	130	0	0	

Sample ID: **lcs-43874** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **43874** RunNo: **58734**
Prep Date: **3/26/2019** Analysis Date: **3/29/2019** SeqNo: **1973094** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.8	70	130			
Surr: BFB	530		500.0		106	70	130			

Sample ID: **mb-43874** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **43874** RunNo: **58734**
Prep Date: **3/26/2019** Analysis Date: **3/29/2019** SeqNo: **1973097** 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	520		500.0		104	70	130			

Sample ID: **2.5ug gro lcs** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **R58745** RunNo: **58745**
Prep Date: Analysis Date: **3/29/2019** SeqNo: **1973867** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	540		500.0		108	70	130			

Sample ID: **rb** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **R58745** RunNo: **58745**
Prep Date: Analysis Date: **3/29/2019** SeqNo: **1973868** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	530		500.0		107	70	130			

Qualifiers:

H Holding times for preparation or analysis exceeded
PQL Practical Quanitative Limit
S % Recovery outside of range due to dilution or matrix
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

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: **1903B79** RcptNo: **1**

Received By: **Desiree Dominguez** **3/26/2019 9:05:00 AM** DD

Completed By: **Leah Baca** **3/26/2019 9:21:12 AM** Leah SBaca

Reviewed By: ENM 3/26/19

Labeled by YG 3/26/19

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 ☑	# of preserved bottles checked for pH: (<2 or >12 unless noted)
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 ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: YG 3/26/19

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	3.8	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~~ 4 day

Project Name: Henry Grandi

Project #:

Project Manager: Heather Patterson

Sampler: Lynn A. Acosta

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.8°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. 1903B79	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)
3-21-19	1131	Soil	CSW1	4oz		-001	X	X					X			
3-21-19	1158		CSW 2			-002	X	X					X			
3-21-19	352		CSW 3			-003	X	X					X			
3-22-19	911		CSW 4			-004	X	X					X			
3-22-19	1001		CSW 5			-005	X	X					X			
3-21-19	1224		CSW 6			-006	X	X					X			
3-21-19	1210		CSW 7			-007	X	X					X			
3-22-19	1022		CSW 8			-008	X	X					X			
3-22-19	1027		CSW 9			-009	X	X					X			
3-22-19	1036		CSW 10			-010	X	X					X			
							X	X					X			

Date	Time	Relinquished by	Received by	Via	Date	Time
3-25-19	11:00	Samantha Watson			3/25/19	1402
3/26/19	1940			courier	3/26/19	9:05

Remarks: Marathon Oil

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 4 to 5 day

Project Name: Henry Grandi

Project #:

Project Manager: Heather Patterson

Sampler: Lynn A. Acosta

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.8°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. 1903879	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)
3-21-19	1257	Soil	CBH1	4oz		-011	X	X					X			
1	104	1	CBH2	1		-012	X	X					X			
1	348	1	CBH3	1		-013	X	X					X			

Analysis Request

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
3-25-19	11:00	Samantha Watson			3/25/19	1400
3/25/19	1900		IDS	courier	3/26/19	9:05

Remarks: Marathon 0:1

2 of 2