Received by OCD: 7/5/2023 9:53:36 AM State of New Mexico
Page 6 Oil Conservation Division

nAB160	1157221 & nAB <i>Rāgē 126f</i> 4	88
Incident ID		
District RP		
Facility ID		
Application ID		

Closure

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

Closure Report Attachment Checklist: Each of the following items in	must be included in the closure report.						
	MAC						
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 Dist	crict 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 and regulations all operators are required to report and/or file certain release may endanger public health or the environment. The acceptance of a C-1 should their operations have failed to adequately investigate and remediate human health or the environment. In addition, OCD acceptance of a C-1 compliance with any other federal, state, or local laws and/or regulations accordance with 19.15.29.13 NMAC including notification to the OCD we Printed Name: Melodie Sanjari Title:	ase notifications and perform corrective actions for releases which 141 report by the OCD does not relieve the operator of liability te contamination that pose a threat to groundwater, surface water, 41 report does not relieve the operator of responsibility for a The responsible party acknowledges they must substantially ons that existed prior to the release or their final land use in when reclamation and re-vegetation are complete. Environmental Professional						
OCD Only							
OCD Only Received by:	, human health, or the environment nor does not relieve the responsible						
Closure Approved by:	Date:07/20/2023						
Printed Name: Jocelyn Harimon	Title:Environmental Specialist						



CLOSURE REQUEST REPORT ADDENDUM

Site Location:

Shugart West 19 Fed #8 & #9 Eddy County, New Mexico Incident Numbers nAB1527326452 & NAB1601157221

June 21, 2023 Ensolum Project No. 03A2040004

Prepared for:

Marathon Oil Permian, LLC 4111 South Tidwell Road Carlsbad, New Mexico 88220 Attention: Melodie Sanjari

Prepared by:

Ashley N. Giovengo Senior Engineer Daniel R. Moir, PG Senior Managing Geologist

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2.0	SITE CHARACTERIZATION	
	DELINEATION ACTIVITIES	
	CLOSURE REQUEST	

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Figure 2: Site & Sampling Locations

Figure 3: Delineation Soil Sample Locations

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Table 1: Delineation Soil Sample Analytical Results

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Appendix A: C-141 Forms

Appendix B: Lithologic Soil Sampling Logs

Appendix C: Photographic Log

Appendix D: Laboratory Analytical Reports & Chain-of-Custody Documentation



1.0 INTRODUCTION

Ensolum, LLC (Ensolum) has prepared this *Closure Request Report* Addendum (CRRA) on behalf of Marathon Oil Permian, LLC, hereafter referred to as Marathon, regarding the crude oil and produced water releases at the Shugart West 19 Fed #8 & #9 (Site), located in Unit B, Section 19, Township 18 South, Range 31 East, in Eddy County, New Mexico (**Figure 1**). Global Positioning System (GPS) coordinates for the Site are as follows: North 32.734617 and West -103.907571. Surface owner of the Site is Federal Land managed by the Bureau of Land Management (BLM).

On October 24, 2019, A *Closure Request* (CR), authored by Souder, Miller & Associates (SMA), was submitted to the New Mexico Oil Conservation Division (NMOCD) for the releases associated with Incident Numbers nAB1527326452 & nAB1601157221; however, the request was denied. The original CR was submitted prior to the release of NMOCD's *Procedures for Implementation of the Spill Rule*, dated September 6, 2019, and as a result, it was determined lateral and vertical delineation to the strictest closure criteria per NMOCD Table I Closure Criteria would be required. This CRRA addresses additional delineation sampling to the strictest Closure Criteria associated with the crude oil and produced water releases (nAB1527326452 & nAB1601157221). Based on laboratory analytical results, Marathon respectfully requests no further action (NFA) for Incident Numbers nAB1527326452 & nAB1601157221. The original CR and other supporting documents can be viewed on the NMOCD web portal.

1.1 Background

On September 29, 2015, a release was discovered at Site due to internal corrosion of a 2x4 swage on an oil circulating line, approximately 40 barrels (bbls) of produced water was released inside the earthen containment. A total of 35 bbls was recovered during the initial response activities. The incident was reported to NMOCD by the previous operator Merit Energy Company (Merit) and assigned Incident Number nAB1527326452.

On January 11, 2016, a leaking tank bottom resulted in the release of 10 bbls of produced water and 6 bbls of crude oil at the Shugart West 19 Federal #9 Site. A total of 2 bbls of produced water and 1 bbl of crude oil was recovered from the earthen containment. The release was reported to the NMOCD and assigned Incident Number nAB1601157221.

2.0 SITE CHARACTERIZATION

The Site was assessed for applicability of Table I, Closure Criteria for Soils Impacted by a Release, from Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) during the original CR. Results from the characterization desktop review were presented in the October 2019 CR and are presented on page 3 of Form C-141 (**Appendix A**), Site Assessment/Characterization. Potential Site receptors are identified on **Figure 1**.

Based on the desktop review of nearby receptors and depth to groundwater determination at the Site, the following NMOCD Table I Closure Criteria (Closure Criteria) was applied:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total Petroleum Hydrocarbon (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- Total Petroleum Hydrocarbon (TPH): 2500 mg/kg



Page 2

Chloride: 20,000 mg/kg

3.0 DELINEATION ACTIVITIES

Beginning on May 17, 2023, Ensolum personnel arrived onsite to perform delineation soil sampling in the vicinity of sample locations CS3 and CS4 and SW4 through SW9, see **Figure 2**. Ensolum personnel collected 10 surface soil samples (SS01 through 10) to determine the lateral extent of the spill area's in accordance with the strictest Closure Criteria.

In order to determine the vertical extent of the releases, a pothole was advanced as the surface soil sample location SS09 via hand auger to a depth of 2 feet below ground surface (bgs).

Delineation soil samples were field screened for TPH using a PetroFLAG® analyzer system and for chloride utilizing the Mohr method titration. Field screening results and observations from the pothole were recorded on lithologic/soil sampling logs (**Appendix B**) and photographic documentation is included in **Appendix C**.

Delineation soil samples were properly packaged, preserved, and transported to Hall Environmental Analysis Laboratory, following proper chain-of-custody procedures and were analyzed for the following constituents of concern (COCs): TPH following United States Environmental Protection Agency (EPA) Method 8015D, BTEX following EPA Method 8021B, and chloride following EPA Method 300.0.

Laboratory analytical results indicated COC concentrations for all delineation samples associated with Incident Numbers nAB1527326452 & nAB1601157221 were in compliance with the strictest Closure Criteria per NMOCD Table I except for SS03B, which was recollected. Surface sample SS03B exceeded the strictest Closure Criteria; however, it is located in the area nearest the production tanks. Ensolum personnel returned to the Site on June 2, 2023 to recollect a lateral sample in the vicinity of SS03B. Sample SS03C was below the strictest Closure Criteria and void of elevated surface contamination associated with ongoing operations near the production tanks. Delineation soil sample locations are identified on **Figures 3**, laboratory analytical results are presented in **Table 1** and laboratory analytical reports are included in **Appendix D**.



4.0 CLOSURE REQUEST

On behalf of Marathon, Ensolum herby requests closure for the releases associated with Incident Numbers nAB1527326452 & nAB1601157221 based on the findings and conclusion listed below:

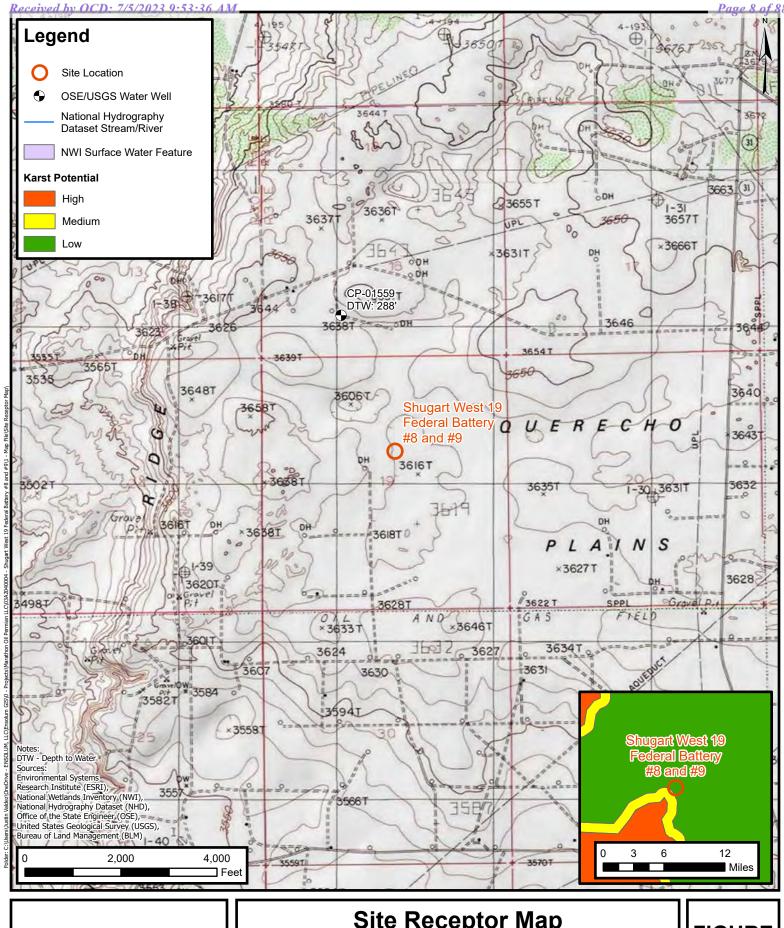
- Horizontal and vertical delineation sampling in the vicinity of soil sample locations CS3 and CS4 and SW4 through SW9 has been completed in accordance with the strictest Closure Criteria per NMOCD Table 1; and
- The lateral and vertical extents of the release have been adequately assessed as required in NMOCD's denial.

Remedial actions completed at the Site for Incident Numbers nAB1527326452 & nAB1601157221 have been protective of human health, the environment, and groundwater.





FIGURES



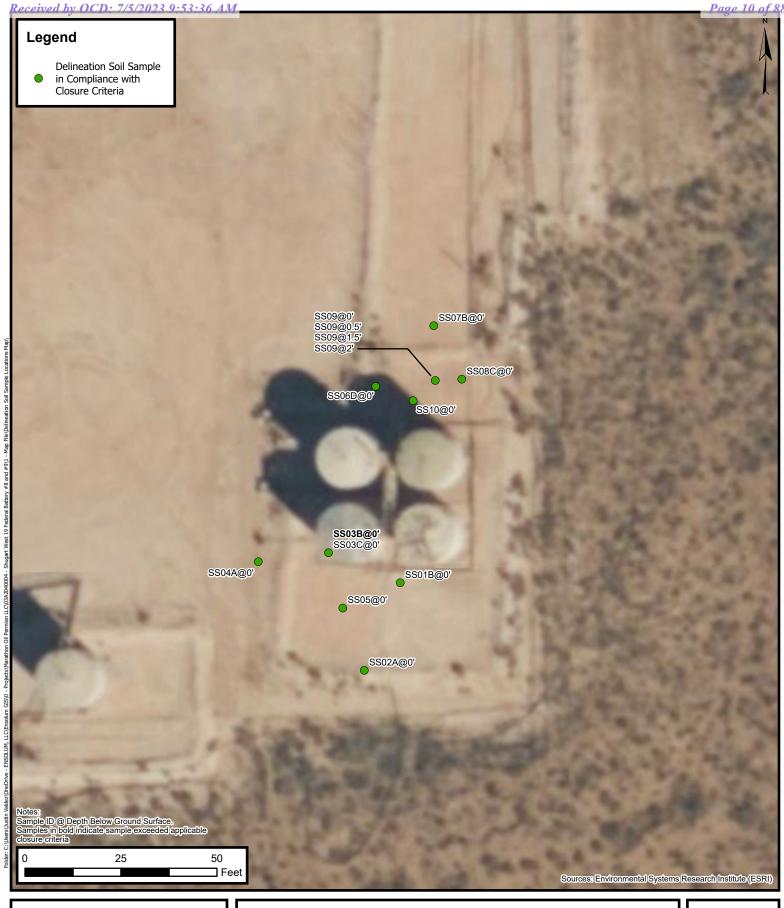


Site Receptor Map

Marathon Oil Permian LLC Shugart West 19 Fed Battery #8 and #9 Incident Number: NAB1527326452 / NAB1601157221 Unit B Sec 19 T18S R31E Eddy County, New Mexico

FIGURE

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Delineation Soil Sample Locations

Marathon Oil Permian LLC
Shugart West 19 Fed Battery #8 and #9
Incident Number: NAB1527326452NAB1601157221
Unit B Sec 19 T18S R31E
Eddy County, New Mexico

FIGURE 3

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TABLES



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Shugart West 19 Federal #8 and #9 Marathon Oil Permian LLC Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chlorid (mg/kg
NMOCD Table 1 Clo	osure Criteria (NMAC	2 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000
				Delineation	on Soil Samples					
SS01B	05/17/2023	0	<0.025	<0.10	<5.0	<8.4	<42	<8.9	<42	<60
SS02A	05/17/2023	0	<0.025	<0.10	<4.9	<9.3	<47	<9.3	<47	<60
SS03B	05/17/2023	0	<0.025	<0.10	<5.0	24	<49	24	24	2,20
SS03C	06/02/2023	0	<0.025	<0.10	<4.9	<9.9	<50	<10	<50	<59
SS04A	05/17/2023	0	<0.025	<0.10	<4.9	<9.7	<48	<9.7	<48	320
SS05	05/17/2023	0	<0.024	<0.10	<4.9	18	57	18	75	<60
SS06D	05/17/2023	0	<0.024	<0.10	<4.8	<10	<50	<10	<50	<60
SS07B	05/17/2023	0	<0.024	<0.10	<4.8	11	<49	11	11	180
SS08C	05/17/2023	0	<0.024	<0.10	<4.9	9.8	<47	9.8	9.8	<60
SS09	05/17/2023	0	<0.024	<0.10	<4.8	19	<48	19	19	84
SS09	05/17/2023	0.5	<0.024	<0.09	<4.7	18	<49	18	18	95
SS09	05/17/2023	1	<0.023	<0.09	<4.7	16	<50	16	16	<60
SS09	05/17/2023	2	<0.025	<0.10	<4.9	12	<44	12	<12	<60
SS10	05/17/2023	0	<0.024	<0.10	<4.9	<9.7	<48	<9.7	<48	<60

Notes:

bgs: below ground surface mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

"<": Laboratory analytical results less than reportable limit

Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

Ensolum 1 of 1



APPENDIX A

C-141 Forms

1625 N. French Dr., Hobbs, NM 88240

District 1

NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141

State of New Mexico Energy Minerals and Natural Resources

SEP 2 9 2015

OIL CONCEDUATION DIVICION

Revised August 8, 2011

Page 14 of 88

District II	Admin NIM	00310		Energy Min	nerals	s and Natura	l Resources	SEP	2 9 ZU1.) R	evised A	August 8, 2011
District III 1000 Rio Brázo District IV	00 Rio Brázos Road, Aztec, NM 87410 strict IV 1220 South						eis Dr.	Sub RE	omit 1 Copy CEIVED	to appropria cordance wit	te Dist h 19.1.	rict Office in 5.29 NMAC.
			Rele				orrective A	ction	1			
N 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2								Final Report				
		erit Energy (<u> </u>	4591		Contact Ch			ALL LINE	ar report		· mai report
		Eunice, N.M.	4. 88231	40-71			No. 575-420-550	06				-
Facility Na							e Oil & Gas Pro		n battery			
Surface Ow	ner BLM			Mineral C)wner	BLM			API No	. 30015309	2300	
				-					1.221,0			
		T	1 _			ON OF RE		T = :		I -		
Unit Letter 19#8	sec	Township 18-S	Range 31-E	Feet from the 660'	Non.	h/South Line	Feet from the 2310'	East/	West Line	County Eddy		
B	19	10-3	31-6	000	INL		2510	FEL		Eddy		
		Latitude_	32D44'0	4.14"N		_ Longitude	103D54'26.82"	'W				
				NAT	URE	E OF REL	EASE					
Type of Rele							Release 40	Volume Recovered 35				
		uction tank on	19#8 tanl	k battery, 2x4 swa	ige on		Hour of Occurrence	e		Hour of Disc	overy	8:01 a.m.
back of tank Was Immedi		719				9-29-2015 If YES, To Whom?						
was immedi	ate Notice C		l Yes ∫	□ No □ Not		BLM and OCD						
Required		^_				Mike Bratcher - OCD & James Amos -BLM						
By Whom?	Chris Flore	S				Date and Hour 9-29-15 8:23 A.M BLM./ 8:08 a.m. A.M. OCD						
Was a Water	course Read					If YES, Volume Impacting the Watercourse.						
☐ Yes x☐ No					. NA							
If a Waterco	urse was Im	pacted, Descr	ibe Fully.	*								
NO												
		em and Reme			tank l	Removed and a	replaced all old or	bad fitt	ings on line	3		
internal Coll	oston on 2X	- awage on Ci	ivuiating i	me on oack of the	ιαIK, I	icomoveu anu i	opiaced an old of	Juu III	ingo on mi	··		
1												

Describe Area Affected and Cleanup Action Taken.*

Area around tanks inside firewall, leak was discovered around 8:01 A.M. on 9-29-2015. No leaking evident on previous day. All fluid was contained inside firewall, vacuumed and hauled off all standing fluid .Well follow up with further clean up.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Chris Flores	OIL CONSERVATION DIVISION
Printed Name: chris flores	Approved by Signed By Mile Describer
Title: field foreman	Approval Date: 9/30/15 Expiration Date: N/A
E-mail Address: chris.flores@meritenergy.com	Conditions of Approval:
Date: 9-29-2015 Phone: 575-420-5506	**mediation per O.C.D. Rules & Guideline ached []

Page 15 of 88 State of New Mexico

Incident ID	nAB1527326452
District RP	2RP-3304
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the resp Volume exceeded 25 bbls.	oonsible party consider this a major release?			
	ren to NMOCD on 05/02/2023 via websit	whom? When and by what means (phone, email, etc)? e.			
	Initial 1	Response			
The responsible	party must undertake the following actions immedia	tely unless they could create a safety hazard that would result in injury			
The source of the rele	ease has been stopped.				
The impacted area ha	s been secured to protect human health a	nd the environment.			
Released materials ha	ave been contained via the use of berms o	r dikes, absorbent pads, or other containment devices.			
All free liquids and re	ecoverable materials have been removed	and managed appropriately.			
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: <u>Isaac Cast</u>	ro	Title: Environmental Professional			
Signature: <u>Isaac C</u>	<u>Castro</u>	Date: <u>10/24/2019</u>			
email: <u>icastro@marathon</u>	oil.com	Telephone: <u>575-988-0561</u>			
OCD Only					
Received by:		_ Date:			

	Page 16 of	88
Incident ID	nAB1527326452	
District RP	2RP-3304	
Facility ID		
Application ID		

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	(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?					
Are the lateral extents of the release within a 100-year floodplain?					
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.					
<u>Characterization Report Checklist</u> : 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.

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Page 4 Oil Conservation Division

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Incident ID	nAB1527326452	
District RP	2RP-3304	
Facility ID		
Application ID		

regulations all operators are required to report and/or file certain relead public health or the environment. The acceptance of a C-141 report be failed to adequately investigate and remediate contamination that positive	to the best of my knowledge and understand that pursuant to OCD rules and use notifications and perform corrective actions for releases which may endanger by the OCD does not relieve the operator of liability should their operations have a threat to groundwater, surface water, human health or the environment. In ator of responsibility for compliance with any other federal, state, or local laws
Printed Name: Isaac Castro	Title: Environmental Professional
Signature: Asaac Castro	_ Date:10/24/19
email:icastro@marathonoil.com	Telephone:575-988-0561
OCD Only	
Received by:	Date:

re of New Mexico

Incident ID	nAB1527326452
District RP	2RP-3304
Facility ID	
Application ID	

Closure

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

Closure Report Attachment Checklist: Each of the following	items must be included in the closure report.
A scaled site and sampling diagram as described in 19.15.29	.11 NMAC
Photographs of the remediated site prior to backfill or photomust be notified 2 days prior to liner inspection)	os of the liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate Of	OC District office must be notified 2 days prior to final sampling)
□ Description of remediation activities	
and regulations all operators are required to report and/or file certa may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rehuman health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regularized rectain, and re-vegetate the impacted surface area to the confidence with 19.15.29.13 NMAC including notification to the Printed Name:	lations. The responsible party acknowledges they must substantially conditions that existed prior to the release or their final land use in OCD when reclamation and re-vegetation are complete.
OCD Only	
Received by:	_ Date:
	y of liability should their operations have failed to adequately investigate and e water, human health, or the environment nor does not relieve the responsible d/or regulations.
Closure Approved by:	Date:
Printed Name:	Title:

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<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240

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NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141:

JAN 11 2016

Revised August 8, 2011

State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr.

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

RECEIVED

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

			, INIVI 6/3	······	4 •				
000	Release Notific				ction				
NABITADI 157221						itial Report		Final Report	
Name of Company MERIT ENERG		Contact Chr						-	
Address: PO Box 1239, Eunice NM			No. 575-420-55						
Facility Name SHUGART WEST 19	1	засину тур	e: Tank Batter	гу					
Surface Owner BLM	Mineral C	wner B	LM/			API I	No.30-01530	92400	
			OF RE	LEASE					
	Range Feet from the 23E	North/S Line23		Feet from	East/W Line23		County Ed	ldy	
Latitud	e_32.734617		_			•	_		;
	NAT	<u>URE</u>		EASE 10 PA	U 600		2PW		<u>// </u>
Type of Release : Oil and water Source of Release	***			Release:16 lour of Occurrence	20		e Recovered: 3 Ind Hour of Dis		1-11-16
Oil Production Tank			1-11-16	iour or occurrent		Date at	id Hour of Dis	covery	1-11-10
Was Immediate Notice Given?			If YES, To		•				
x ☐ Required	Yes No Not		James Ame Mike Brate				v;	! · `•,	\$ <u>.</u>
By Whom? Chris Flores			James Ame	lour 1-11-16 os 8:09 am- left v			•		
Was a Watercourse Reached?				ther 8:13 am-lef flume Impacting					
	Yes x ☐ No		No	mine impacing					
If a Watercourse was Impacted, Describe NA	e Fully.*		l						
Describe Cause of Problem and Remedia Tank bottom started leaking over night, Call in vacuum trucks one with 100 barn	bad tank bottom : rels of fresh water one em				4		ð		
Pump fresh water then skim up all stand	ing fluid and empty out o	il tank to	begin repair	S.					
Describe Area Affected and Cleanup Ac Around tank battery contained inside ber Have crew extract oily dirt as soon as re	rm or firewall mop and sk	im up al	l standing flu	iid possible.			A.S.		
Scheduled to repair tank bottom								-	
I hereby certify that the information give regulations all operators are required to a public health or the environment. The ac- should their operations have failed to ad- or the environment. In addition, NMOC federal, state, or local laws and/or regular	report and/or file certain receptance of a C-141 repo equately investigate and re D acceptance of a C-141	elease no ort by the emediate	otifications a e NMOCD m e contaminati	nd perform corre- larked as "Final Fion that pose a the e the operator of	ctive acti Report" de reat to gre responsi	ons for oes not ound wa bility fo	releases which relieve the ope ater, surface w r compliance	may e rator o ater, hu with an	ndanger f liability ıman health
				OIL CON	SERV.	<u>ATIO</u>	<u>N DIVISI</u>	<u>NC</u>	
Signature: Chris Flores				A1	4	/ /	,		
Printed Name: Chris Flores		-	Approved by	Environmental S	pecialist	<u> </u>	KINGELLES		
Title: Field Foreman			Approval Da	te: 1/1/1/1/	I	Expirati	on Date: N	4	
E-mail Address:chris.flores@meritenerg	y.com		Conditions o					. —	
Date: 1-11-2016			SUBMIT I	lion per O.C.I REMEDIATIO				1 📙	
Phone: 575-420-5506 Attach Additional Sheets If Necessar	у		LATER TH	IAN: <i>A a</i>	1 <i> </i>		1	RO	- 5487

Page 20 of 88

Incident ID	nAB1601157221
District RP	2RP-3487
Facility ID	
Application ID	

Was this a major release as defined by	If YES, for what reason(s) does the resp Volume exceeded 25 bbls.	onsible party consider this a major release?
19.15.29.7(A) NMAC?		
⊠ Yes □ No		
If YES was immediate n	tice given to the OCD? By whom? To y	whom? When and by what means (phone, email, etc)?
	ven to NMOCD on 05/02/2023 via website	
	Initial l	Response
The responsible	party must undertake the following actions immedia	tely unless they could create a safety hazard that would result in injury
The source of the rele	ease has been stopped.	
The impacted area ha	as been secured to protect human health an	nd the environment.
Released materials ha	ave been contained via the use of berms of	dikes, absorbent pads, or other containment devices.
All free liquids and re	ecoverable materials have been removed a	and managed appropriately.
If all the actions describe	d above have <u>not</u> been undertaken, explai	n why:
has begun, please attach	a narrative of actions to date. If remedia	remediation immediately after discovery of a release. If remediation all efforts have been successfully completed or if the release occurred please attach all information needed for closure evaluation.
		e best of my knowledge and understand that pursuant to OCD rules and
public health or the environ	ment. The acceptance of a C-141 report by the	otifications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have
		reat to groundwater, surface water, human health or the environment. In of responsibility for compliance with any other federal, state, or local laws
Printed Name: <u>Isaac Cast</u>	ro	Title: Environmental Professional
Signature: <u>Isaac C</u>	<u>Castro</u>	Date: <u>10/24/2019</u>
email: icastro@marathon	oil.com	Telephone: <u>575-988-0561</u>
OCD Only		
Received by:		Date:

	Page 21 of	88
Incident ID	nAB1601157221	
District RP	2RP-3487	
Facility ID		
Application ID		

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	288 (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 ver contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.	tical extents of soil
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 well 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 	ls.

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.

Page 22 of 88

Incident ID	nAB1601157221
District RP	2RP-3487
Facility ID	
Application ID	

regulations all operators are required to report and/or file certain relea public health or the environment. The acceptance of a C-141 report b failed to adequately investigate and remediate contamination that pose	to the best of my knowledge and understand that pursuant to OCD rules and se notifications and perform corrective actions for releases which may endanger y the OCD does not relieve the operator of liability should their operations have e a threat to groundwater, surface water, human health or the environment. In ator of responsibility for compliance with any other federal, state, or local laws
Printed Name: Isaac Castro	Title: Environmental Professional
Signature: \(\saac Castro \)	_ Date:10/24/19
email:icastro@marathonoil.com	Telephone: 575-988-0561
OCD Only	
Received by:	Date:

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

	Page 23 of 8	88
Incident ID	nAB1601157221	
District RP	2RP-3487	
Facility ID		
Application ID		

Closure

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

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAG	C
Photographs of the remediated site prior to backfill or photos of the limust be notified 2 days prior to liner inspection)	ner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate ODC District	t 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 and regulations all operators are required to report and/or file certain release may endanger public health or the environment. The acceptance of a C-141 should their operations have failed to adequately investigate and remediate compliance with any other federal, state, or local laws and/or regulations. Trestore, reclaim, and re-vegetate the impacted surface area to the conditions accordance with 19.15.29.13 NMAC including notification to the OCD whee Printed Name: Signature: Saac Castro Date:	notifications and perform corrective actions for releases which report by the OCD does not relieve the operator of liability contamination that pose a threat to groundwater, surface water, report does not relieve the operator of responsibility for the responsible party acknowledges they must substantially that existed prior to the release or their final land use in n reclamation and re-vegetation are complete. Environmental Professional
OCD Only	
Received by: Closure approval by the OCD does not relieve the responsible party of liabili remediate contamination that poses a threat to groundwater, surface water, hu party of compliance with any other federal, state, or local laws and/or regular	iman health, or the environment nor does not relieve the responsible
Closure Approved by:	Date:
Printed Name:	Title:

									Sample Name: SS09	Date: 5/17/2023	
Ţ,				NI	-	~ .		B.4	Site Name: Shugart West 19 F		
L				N	3	O I	. U	V	Incident Numbers: NAB15273		
									Job Number: 03A2040004	3-,	
		ı	LITHOL	OGIC	: / SOIL 9	SAMPLING	LOG		Logged By: ANG	Method: Hand Auge	
าก	rdinate		.73457, -			, Liive			Hole Diameter: 3" Total Depth: 2'		
	ments		.,,	100.5	0743				note Diameter. 5		
				80	<u> </u>	Sample		ock 1			
ainisioivi	Content Chloride	(mdd)	Vapor (ppm)	Staining	Sample ID	Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic	Descriptions	
D			0.1	N	SS09	1 1 _	<u> </u>				
						-	- -	SM	(0.5-1'), SILTY SAND, dry no staining and no odor.	, red, fine,	
D			0.2	N	SS09	2	2	SM	(1-2'), SILTY SAND, dry, r no staining and no odor. Total depth at 2' bgs.	ed, fine,	
		I				_	-	TD	Total depth at 2' bgs.		



APPENDIX C

Photographic Log

ENSOLUM

Photographic Log

Marathon Oil Permian LLC Shugart West 19 Federal #8 and #9 Incident Numbers: NAB1527326452 / NAB1601157221



\$\text{\$\}\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\tex

Photograph 1 Date: 05/17/23 Description: Delineation sampling activites

View: Southeast

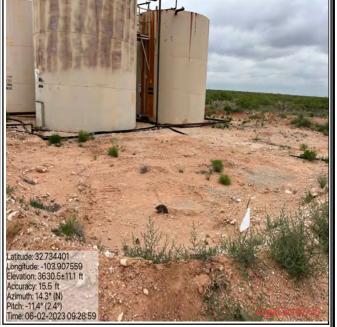
Photograph 2 Date: 05/17/23
Description: Delineation sampling activites

View: East



Photograph 3 Date: 06/02/23 Description: Delineation sampling activites

View: North



Photograph 4 Date: 06/02/23 Description: Delineation sampling activites

View: Northeast



APPENDIX D

Laboratory Analytical Reports & Chain-of-Custody Documentation



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

OrderNo.: 2305A93

May 30, 2023

Ashley Giovengo Marathon Oil Company 4111 Tidwell Road Carlsbad, NM 88220

TEL: (575) 297-0956

FAX:

RE: Shugart West 19 Federal CTB H

Dear Ashley Giovengo:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/20/2023 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

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report Lab Order 2305A93

Date Reported: 5/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS09-0.5'

 Project:
 Shugart West 19 Federal CTB H
 Collection Date: 5/17/2023 10:25:00 AM

 Lab ID:
 2305A93-001
 Matrix: SOIL
 Received Date: 5/20/2023 9:30:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR				Analyst: PRD	
Diesel Range Organics (DRO)	18	9.9	mg/Kg	1	5/23/2023 9:51:03 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/23/2023 9:51:03 PM
Surr: DNOP	106	69-147	%Rec	1	5/23/2023 9:51:03 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	5/25/2023 6:01:00 AM
Surr: BFB	85.1	15-244	%Rec	1	5/25/2023 6:01:00 AM
EPA METHOD 8021B: VOLATILES					Analyst: KMN
Benzene	ND	0.024	mg/Kg	1	5/25/2023 6:01:00 AM
Toluene	ND	0.047	mg/Kg	1	5/25/2023 6:01:00 AM
Ethylbenzene	ND	0.047	mg/Kg	1	5/25/2023 6:01:00 AM
Xylenes, Total	ND	0.094	mg/Kg	1	5/25/2023 6:01:00 AM
Surr: 4-Bromofluorobenzene	81.3	39.1-146	%Rec	1	5/25/2023 6:01:00 AM
EPA METHOD 300.0: ANIONS					Analyst: SNS
Chloride	95	60	mg/Kg	20	5/25/2023 1:07:27 AM

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 1 of 5

Hall Environmental Analysis Laboratory, Inc.

WO#: **2305A93** *30-May-23*

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: MB-75165 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 75165 RunNo: 97007

Prep Date: 5/24/2023 Analysis Date: 5/24/2023 SeqNo: 3520086 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-75165 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 75165 RunNo: 97007

Prep Date: 5/24/2023 Analysis Date: 5/24/2023 SeqNo: 3520088 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.2 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 5

Hall Environmental Analysis Laboratory, Inc.

Result

2305A93 30-May-23

Qual

WO#:

RPDLimit

%RPD

Client: Marathon Oil Company

Analyte

Project: Shugart West 19 Federal CTB H

Sample ID: LCS-75110 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 75110 RunNo: 96945 Units: mg/Kg Prep Date: 5/22/2023 Analysis Date: 5/23/2023 SeqNo: 3518232

SPK Ref Val

%REC

LowLimit

HighLimit Diesel Range Organics (DRO) 49 10 50.00 n 98.8 61.9 130 Surr: DNOP 5.0 5.000 101 69 147

SPK value

Sample ID: MB-75110 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 75110 RunNo: 96945

PQL

Prep Date: Analysis Date: 5/23/2023 5/22/2023 SeqNo: 3518236 Units: mg/Kg

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

Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50

Surr: DNOP 8.1 10.00 80.8 147 69

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 3 of 5

Hall Environmental Analysis Laboratory, Inc.

WO#: 2305A93 30-May-23

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: mb-75105 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

PBS Client ID: Batch ID: 75105 RunNo: 96984

Prep Date: 5/22/2023 Analysis Date: 5/24/2023 SeqNo: 3519769 Units: mg/Kg

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

Gasoline Range Organics (GRO) ND 5.0

Surr: BFB 850 1000 84.6 15 244

Sample ID: Ics-75105 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

1000

Client ID: LCSS Batch ID: 75105 RunNo: 96984

1900

Prep Date: Analysis Date: 5/24/2023 SeqNo: 3519770 5/22/2023 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 22 25.00 88.6 70

191

15

244

Qualifiers:

Surr: BFB

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 4 of 5

Hall Environmental Analysis Laboratory, Inc.

0.86

30-May-23

2305A93

WO#:

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: mb-75105 SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: 75105 RunNo: 96984

Prep Date: 5/22/2023 Analysis Date: 5/24/2023 SeqNo: 3519793 Units: mg/Kg

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

 Benzene
 ND
 0.025

 Toluene
 ND
 0.050

 Ethylbenzene
 ND
 0.050

 Xylenes, Total
 ND
 0.10

Surr: 4-Bromofluorobenzene 0.84 1.000 84.2 39.1 146

1.000

Sample ID: Ics-75105	Samp	S	Tes	TestCode: EPA Method 8021B: Volatiles										
Client ID: LCSS	Batcl	n ID: 751	105	F	RunNo: 96									
Prep Date: 5/22/2023	Analysis [Date: 5/2	24/2023	9	SeqNo: 3	519794	Units: mg/K	g						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Benzene	0.85	0.025	1.000	0	84.9	70	130							
Toluene	0.84	0.050	1.000	0	84.5	70	130							
Ethylbenzene	0.83	0.050	1.000	0	82.5	70	130							
Xylenes, Total	2.5	0.10	3.000	0	82.2	70	130							

86.2

39.1

146

Qualifiers:

Surr: 4-Bromofluorobenzene

Page 5 of 5

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit



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

Released to Imaging: 7/20/2023 3:10:56 PM

Client Name: Marathon Oil Company	Work Order Numb	per: 2305A93		RcptNo: 1	
Received By: Tracy Casarrubias	5/20/2023 9:30:00 A	AM			
Completed By: Tracy Casarrubias	5/20/2023 10:50:09	AM			
·					
Reviewed By: 1/22/23					
Chain of Custody					
1. Is Chain of Custody complete?		Yes 🗌	No 🗹	Not Present	
2. How was the sample delivered?		Courier			
<u>Log In</u>					
3. Was an attempt made to cool the samples	?	Yes 🗹	No 🗌	NA 🗌	
			No 🗌	🗖	
Were all samples received at a temperatur	e of >0° C to 6.0°C	Yes 🔽	NO L	NA \square	
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌		
G. Cufficient comple volume for indicated test	(0)2	Yes 🗸	No 🗌		
 Sufficient sample volume for indicated test Are samples (except VOA and ONG) proper 		Yes 🗹	No 🗆		
8. Was preservative added to bottles?	eny preserved:	Yes 🗆	No ✓	NA 🗆	
			8	_	
9. Received at least 1 vial with headspace <1	/4" for AQ VOA?	Yes 🗌	No 🗌	NA 🗹	
10. Were any sample containers received broken	ken?	Yes 📙	No 🔽	# of preserved	
11. Does paperwork match bottle labels?		Yes 🗸	No 🗌	bottles checked for pH:	
(Note discrepancies on chain of custody)		165 🖭	110	(<2 or >12 unle	ess noted)
12. Are matrices correctly identified on Chain of	of Custody?	Yes 🗹	No 🗌	Adjusted?	
13. Is it clear what analyses were requested?		Yes 🗹	No 🗌	Checked by: The	5/2/13
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No 🗆	Checked by: (IVL	SIWILI
Special Handling (if applicable) 15. Was client notified of all discrepancies with	h this order?	Yes 🗌	No 🗌	na 🗹	
			110	100	
Person Notified: By Whom:	Date: Via:	*	hone Fax	☐ In Person	
Regarding:	via.		none ax		
Client Instructions: Mailing address	s is missing on COC- TM	1C 5/20/23			
16. Additional remarks:					
Client did not relinquish chain of cus	tody				
17. Cooler Information					
	Seal Intact Seal No	Seal Date	Signed By		
1 5.3 Good Y	es Yogi				

HALL ENVIRONMENT of 88	ANALYSIS LABORATORY	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	ednest	SOS S	OOTE	ОЯ(())) () () () () () () () (1 / (88888) 1 / 4.1 1 / 828	(O o o o o o o o o o o o o o o o o o o o	icid hood leta MC A)	esti Meth yy 8 M 3r,	9081 PR 8081 PP 8081 PP	7							Remarks: Please cc msanjari@marathonoil.com, agiovengo@ensolum.com		.th Anntented data will be clearly notated on the analytical report.
Turn-Around Time: YC) 104 1	XStandard	Project Name: Shugart West 19 Federal CTB H	Shugart West 19 Federal 8/Shugart West 19 Federal 9	Project #: 03A2040004	MO Cost Center: 6629588000 (24)	Ashley Giovengo	575-988-0055	agiovengo@ensolum.com	Giovengo	Terres O No Mooi		Cooler Temp(Including CF): S.4 -0.1 = 5.3 -	Container Type Preservative HEAL No.		1 jar Ice (00)						Via: Date Time	Received by: ViaCourier Date Time	(13) Miss William Any sub-contracted data will be clearly notated on the analytical report.
Received 1984 Pr 201 20 21 Stocky Record		Melodie Saniari	s: On File		Phone #: 575-988-8753	0	io	Standard Level 4 (Full Validation)	Accreditation: Az Compliance		vpe)		Sample Name	2	5/17/2023 10:25 S SSUS-U.5						Date: Relinquished by: 05/19/2023	Date: Relinquished by:	Shalos Mos Warman



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

May 30, 2023

Ashley Giovengo Marathon Oil Company 4111 Tidwell Road Carlsbad, NM 88220

TEL: (575) 297-0956

FAX:

RE: Shugart West 19 Federal CTB H OrderNo.: 2305A94

Dear Ashley Giovengo:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/20/2023 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

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report Lab Order 2305A94

Date Reported: 5/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS09-1.0'

Project: Shugart West 19 Federal CTB H **Collection Date:** 5/17/2023 3:24:00 PM

Lab ID: 2305A94-001 **Matrix:** SOIL **Received Date:** 5/20/2023 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: PRD
Diesel Range Organics (DRO)	16	9.9	mg/Kg	1	5/23/2023 10:02:01 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/23/2023 10:02:01 PM
Surr: DNOP	113	69-147	%Rec	1	5/23/2023 10:02:01 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	5/25/2023 6:22:00 AM
Surr: BFB	85.4	15-244	%Rec	1	5/25/2023 6:22:00 AM
EPA METHOD 8021B: VOLATILES					Analyst: KMN
Benzene	ND	0.023	mg/Kg	1	5/25/2023 6:22:00 AM
Toluene	ND	0.047	mg/Kg	1	5/25/2023 6:22:00 AM
Ethylbenzene	ND	0.047	mg/Kg	1	5/25/2023 6:22:00 AM
Xylenes, Total	ND	0.093	mg/Kg	1	5/25/2023 6:22:00 AM
Surr: 4-Bromofluorobenzene	84.4	39.1-146	%Rec	1	5/25/2023 6:22:00 AM
EPA METHOD 300.0: ANIONS					Analyst: SNS
Chloride	ND	60	mg/Kg	20	5/25/2023 1:44:28 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 5

Hall Environmental Analysis Laboratory, Inc.

WO#: **2305A94** *30-May-23*

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: MB-75165 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 75165 RunNo: 97007

Prep Date: 5/24/2023 Analysis Date: 5/24/2023 SeqNo: 3520086 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-75165 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 75165 RunNo: 97007

Prep Date: 5/24/2023 Analysis Date: 5/24/2023 SeqNo: 3520088 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.2 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 5

Hall Environmental Analysis Laboratory, Inc.

2305A94 30-May-23

WO#:

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: LCS-75110 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS Batch ID: 75110 RunNo: 96945

Prep Date: 5/22/2023 Analysis Date: 5/23/2023 SeqNo: 3518232 Units: mg/Kg

PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte Result LowLimit Qual Diesel Range Organics (DRO) 49 10 50.00 n 98.8 61.9 130 Surr: DNOP 5.0 5.000 101 69 147

Sample ID: MB-75110 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 75110 RunNo: 96945

Prep Date: 5/22/2023 Analysis Date: 5/23/2023 SeqNo: 3518236 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

147

69

Surr: DNOP 8.1 10.00 80.8

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 5

Hall Environmental Analysis Laboratory, Inc.

WO#: **2305A94** *30-May-23*

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: mb-75105 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 75105 RunNo: 96984

Prep Date: 5/22/2023 Analysis Date: 5/24/2023 SeqNo: 3519769 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 850 1000 84.6 15 244

Sample ID: Ics-75105 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

1000

Client ID: LCSS Batch ID: 75105 RunNo: 96984

1900

Prep Date: 5/22/2023 Analysis Date: 5/24/2023 SeqNo: 3519770 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) 22 5.0 25.00 0 88.6 70 130

191

15

244

Qualifiers:

Surr: BFB

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 4 of 5

Hall Environmental Analysis Laboratory, Inc.

0.86

WO#: **2305A94** *30-May-23*

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: mb-75105 SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: 75105 RunNo: 96984

Prep Date: 5/22/2023 Analysis Date: 5/24/2023 SeqNo: 3519793 Units: mg/Kg

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

 Benzene
 ND
 0.025

 Toluene
 ND
 0.050

 Ethylbenzene
 ND
 0.050

 Xylenes, Total
 ND
 0.10

Surr: 4-Bromofluorobenzene 0.84 1.000 84.2 39.1 146

1.000

Sample ID: Ics-75105	Samp	ype: LC	S	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batcl	n ID: 75 1	105	F	RunNo: 96	6984				
Prep Date: 5/22/2023	Analysis [Date: 5/ 2	24/2023	5	SeqNo: 3	519794	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.9	70	130			
Toluene	0.84	0.050	1.000	0	84.5	70	130			
Ethylbenzene	0.83	0.050	1.000	0	82.5	70	130			
Xylenes, Total	2.5	0.10	3.000	0	82.2	70	130			

86.2

39.1

146

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Surr: 4-Bromofluorobenzene

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 5 of 5



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

Released to Imaging: 7/20/2023 3:10:56 PM

Client Name: Marathon	n Oil Company	Work Order	Number: 230	5A94		RcptNo	o: 1
Received By: Tracy C	asarrubias	5/20/2023 9:3	0:00 AM				
Completed By: Tracy C	asarrubias	5/20/2023 10:	54:04 AM				
Reviewed By: 705	22/23						
Chain of Custody					_	_	
1. Is Chain of Custody cor	mplete?		Yes	; 🗌	No 🗹	Not Present	
2. How was the sample de	elivered?		Cou	<u>ırier</u>			
Log In 3. Was an attempt made t	o cool the sample	s?	Yes	. 🗸	No 🗌	NA □	
4. Were all samples receive	ed at a temperatu	re of >0° C to 6.0°	C Yes		No 🗌	na 🗆	
5. Sample(s) in proper cor	ntainer(s)?		Yes	· 🗸	No 🗌		
6. Sufficient sample volum	e for indicated tes	t(s)?	Yes	V	No 🗆		
7. Are samples (except VC	A and ONG) prop	erly preserved?	Yes	✓	No 🗌		
8. Was preservative added	I to bottles?		Yes		No 🗹	NA 🗌	
9. Received at least 1 vial	with headspace <	1/4" for AQ VOA?	Yes		No 🗌	NA 🗹	
10. Were any sample conta	iners received bro	ken?	Yes	; LJ	No 🔽	# of preserved	
11. Does paperwork match (Note discrepancies on			Yes	✓	No 🗆	bottles checked for pH:	or >12 unless noted)
12. Are matrices correctly ic	lentified on Chain	of Custody?	Yes	✓	No 🗌	Adjusted?	
13. Is it clear what analyses	were requested?		Yes	✓	No 🗌		cholo
14. Were all holding times a (If no, notify customer for			Yes	\checkmark	No 🗆	Checked by:	TML 5/10/13
Special Handling (if a	pplicable)				· .		
15. Was client notified of al	l discrepancies wi	th this order?	Yes	s 🗌	No 🗌	NA 🗹	
Person Notified:	account,		Date:	A STATE OF THE STA	HARTING THE NAME OF THE PARTY.		
By Whom:		The second second	Via: el	fail [] Phone 🗌 Fa	x 🔲 In Person	
Regarding:			and the second second second				
Client Instructions	s: Mailing addres	s is missing on CC	C- TMC 5/20/	23			
16. Additional remarks:							
Client did not reli	nquish chain of cu	stody					
17. Cooler Information		10					
Cooler No Temp		Seal Intact Seal	No Seal I	Date	Signed By		
1 5.3	Good	Yes Yogi					

Receive Obyland	12-14	720305	Receive Orner professor Stady Record	Turn-Around Time:	ä	170.1.69		-	IAI	Z	IR	Z	HALL ENVIRONMEN 43 of 88	ge 43 o	f 88
Client: Ma	arathor	Marathon Oil Company	npany	Standard	₩ Rush	5 Our		4	NAI	YSI	SLA	BO	ANALYSIS LABORATORY	DRY	
Melodie Sanjari	ıri			Project Name:	Shugart Wes	Shugart West 19 Federal CTB H			W	www.hallenvironmental.com	nviron	menta	I.com		
Mailing Address:		On File		Shugart West 19	Federal 8/Shu	9 Federal 8/Shugart West 19 Federal 9	46	01 Ha	4901 Hawkins NE	∀ - ≒	Nbudu	erque	- Albuquerque, NM 87109	109	
				Project #:	03A2040004		_	Tel. 505	505-345-3975	975	Fax	505-	Fax 505-345-4107		
Phone #: 57	575-988-8753	8753		MO Cost Center:	r. 🗢 29588000	(B)			An	Analysis Request	Redn	est			
a		msanjari	msanjari@marathonoil.com	Project Manager:	r: Ashley Giovengo	oĝu			5		·00		juəs		
QA/QC Package:					575-988-0055	ıΩ	(80) M \		SMIS		۰۵ ₄ ,		sdA'		
Standard			☐ Level 4 (Full Validation)		agiovengo@ensolum.com	ensolum.com		d 7			2، ا		дue		
Accreditation		□ Az Co	□ Az Compliance	Sampler:	Ashley Giovengo	oßu		808			ON	(rese		
□ NELAC		□ Other		On Ice:	re-Yes	□ No Coo.		3/S€		S	18,	ΑO	ا (b		
☐ EDD (Type)				# of Coolers:				oide		eta			mıc		
				Cooler Temp(including cF): 5	ng CF): 5.4-0	1.1-5.3		itsə		M 8			olifo		
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL NO. 2305 A94	X3T8	더 1808	M) BDB (M	АЯЭЯ	8260 (<i>V</i>	S) 0728	O lstoT		
5/17/2023 1	15:24	တ	\$509-1.0	1 jar	9 <u>0</u>	100	ダイ			\ \	J			-	
! -							-								
									_						
											_				
\top	Time:	Relinquished by:	led by:	Received by:	Via:	Date Time	Remar	(s: Ple	ase cc	msanj	ari@m	arath	Remarks: Please cc msanjari@marathonoil.com,	Ę,	1
05/19/2023				ž		23	agiovengo@ensolum.com -and churton@ensolum.com on results	ngo@e	nsolun Jensolu	n.com	on re	sults			
		Relinquished by:	ned by:	Received by: V	Via: Cours	Date Time)							
2/14/73	Damp	3	Ordinamas 1		V	05:10 62/02/5									I
If necessa	ary, sampl.	es submitted	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.	racted to other accredited	laboratories. This s	erves as notice of this possibility. Ar	ny sub-contr	acted dat	a will be o	learly not	ated on tr	ne anaı)	ticai report.		



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

May 30, 2023

Ashley Giovengo Marathon Oil Company 4111 Tidwell Road Carlsbad, NM 88220

TEL: (575) 297-0956

FAX:

RE: Shugart West 19 Federal CTB H OrderNo.: 2305A95

Dear Ashley Giovengo:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/20/2023 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

Indes

4901 Hawkins NE

Albuquerque, NM 87109

2305A95-001

Lab ID:

Analytical Report

Received Date: 5/20/2023 9:30:00 AM

Lab Order **2305A95**Date Reported: **5/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS09-2.0'

Matrix: SOIL

Project: Shugart West 19 Federal CTB H **Collection Date:** 5/17/2023 3:27:00 PM

Result **RL Qual Units** DF **Date Analyzed Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: PRD Diesel Range Organics (DRO) 12 8.7 mg/Kg 1 5/23/2023 10:23:49 PM Motor Oil Range Organics (MRO) ND 44 mg/Kg 1 5/23/2023 10:23:49 PM Surr: DNOP 107 69-147 %Rec 1 5/23/2023 10:23:49 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: KMN Gasoline Range Organics (GRO) ND 5/25/2023 6:44:00 AM 4.9 mg/Kg 1 Surr: BFB 89.8 15-244 %Rec 1 5/25/2023 6:44:00 AM **EPA METHOD 8021B: VOLATILES** Analyst: KMN Benzene ND 5/25/2023 6:44:00 AM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 5/25/2023 6:44:00 AM Ethylbenzene ND 0.049 mg/Kg 1 5/25/2023 6:44:00 AM Xylenes, Total ND 0.098 mg/Kg 1 5/25/2023 6:44:00 AM Surr: 4-Bromofluorobenzene 84.8 39.1-146 %Rec 1 5/25/2023 6:44:00 AM **EPA METHOD 300.0: ANIONS** Analyst: SNS Chloride mg/Kg ND 60 20 5/25/2023 1:56:49 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 5

Hall Environmental Analysis Laboratory, Inc.

WO#: **2305A95 30-May-23**

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: MB-75165 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 75165 RunNo: 97007

Prep Date: 5/24/2023 Analysis Date: 5/24/2023 SeqNo: 3520086 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-75165 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 75165 RunNo: 97007

Prep Date: 5/24/2023 Analysis Date: 5/24/2023 SeqNo: 3520088 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.2 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 5

Hall Environmental Analysis Laboratory, Inc.

Result

: 2305A95 30-May-23

Qual

WO#:

RPDLimit

Client: Marathon Oil Company

Analyte

Project: Shugart West 19 Federal CTB H

 Sample ID:
 LCS-75110
 SampType:
 LCS
 TestCode:
 EPA Method 8015M/D: Diesel Range Organics

 Client ID:
 LCSS
 Batch ID:
 75110
 RunNo:
 96945

 Prep Date:
 5/22/2023
 Analysis Date:
 5/23/2023
 SeqNo:
 3518232
 Units: mg/Kg

%REC

LowLimit

HighLimit

%RPD

SPK Ref Val

 Diesel Range Organics (DRO)
 49
 10
 50.00
 0
 98.8
 61.9
 130

 Surr: DNOP
 5.0
 5.000
 101
 69
 147

SPK value

Sample ID: MB-75110 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 75110 RunNo: 96945

PQL

Prep Date: 5/22/2023 Analysis Date: 5/23/2023 SeqNo: 3518236 Units: mg/Kg

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

Diesel Range Organics (DRO) ND 10
Motor Oil Range Organics (MRO) ND 50

Surr: DNOP 8.1 10.00 80.8 69 147

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 5

Hall Environmental Analysis Laboratory, Inc.

2305A95 30-May-23

WO#:

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: mb-75105 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 75105 RunNo: 96984

Prep Date: 5/22/2023 Analysis Date: 5/24/2023 SeqNo: 3519769 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 850 1000 84.6 15 244

Sample ID: Ics-75105 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

1000

Client ID: LCSS Batch ID: 75105 RunNo: 96984

1900

Prep Date: 5/22/2023 Analysis Date: 5/24/2023 SeqNo: 3519770 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) 22 5.0 25.00 0 88.6 70 130

191

15

244

Qualifiers:

Surr: BFB

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 4 of 5

Hall Environmental Analysis Laboratory, Inc.

0.86

WO#: **2305A95 30-May-23**

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: mb-75105 SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: 75105 RunNo: 96984

Prep Date: 5/22/2023 Analysis Date: 5/24/2023 SeqNo: 3519793 Units: mg/Kg

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

 Benzene
 ND
 0.025

 Toluene
 ND
 0.050

 Ethylbenzene
 ND
 0.050

 Xylenes, Total
 ND
 0.10

Surr: 4-Bromofluorobenzene 0.84 1.000 84.2 39.1 146

1.000

Sample ID: Ics-75105 SampType: LCS TestCode: EPA Method 8021B: Volatiles Client ID: LCSS Batch ID: 75105 RunNo: 96984 Analysis Date: 5/24/2023 Prep Date: SeqNo: 3519794 5/22/2023 Units: mg/Kg Analyte PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 1.000 70 Benzene 0.85 0.025 0 84.9 130 Toluene 0.84 0.050 1.000 0 84.5 70 130 Ethylbenzene 0.050 1.000 0 82.5 70 130 0.83 0 Xylenes, Total 2.5 0.10 3.000 82.2 70 130

86.2

39.1

146

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix

Surr: 4-Bromofluorobenzene

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 5



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107

Sample Log-In Check List

Released to Imaging: 7/20/2023 3:10:56 PM

				v.hallenvironm			
Client Name: Marathon O	il Company	Work	Order Num	ber: 2305A9 5	5	RcptN	o: 1
Received By: Tracy Case	arrubias	5/20/20	23 9:30:00	AM			
Completed By: Tracy Case	arrubias	5/20/20	23 10:57:19	AM			
•	22/23						
Chain of Custody				•			
1. Is Chain of Custody compl	ete?			Yes 🗌	No 🛂	Not Present	
2. How was the sample delive	ered?			Courier			
<u>Log In</u>					r	n ===	
3. Was an attempt made to c	ool the sample	es?		Yes 🗹	No [] NA 🗆	
4. Were all samples received	at a temperat	ure of >0° C	to 6.0°C	Yes 🗹	No [NA 🗆	
5. Sample(s) in proper contain	ner(s)?			Yes 🗹	No [
6 Sufficient sample volume for	or indicated te	st(s)?		Yes 🗸	No [
7. Are samples (except VOA a	and ONG) pro	perly preserve	ed?	Yes 🗹	No 🗆		
8. Was preservative added to	bottles?			Yes 🗌	No 🗹	NA 🗆	
9. Received at least 1 vial with	headspace <	<1/4" for AQ \	/OA?	Yes 🗌	No 🗆	NA 🗹	
10. Were any sample containe	rs received br	oken?		Yes	No 🗹	# of preserved bottles checked	
11. Does paperwork match bot (Note discrepancies on cha				Yes 🗹	No 🗆	for pH:	or >12 unless noted)
12. Are matrices correctly ident	ified on Chain	of Custody?		Yes 🗹	No 🗆	Adjusted?	
13. Is it clear what analyses we	re requested?	?		Yes 🗹	No 🗆		. 8
14. Were all holding times able (If no, notify customer for a				Yes 🗹	No	Checked by:	THU 5/20/2
Special Handling (if app	licable)						
15. Was client notified of all di		vith this order	?	Yes 🗌	No [na ✓	
Person Notified:			Date			-	
By Whom:		-	Via:	eMail	Phone F	ax 🗌 In Person	
Regarding:							
Client Instructions:	Mailing addre	ss is missing	on COC- TN	AC 5/20/23			
16. Additional remarks: Client did not relingu	ish chain of c	ustodv					
17. Cooler Information		 j					
Cooler No Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By		

HALL ENVIRONMENT SAL OF 88	ANALYSIS LABORATORY	<u></u>	4901 Hawkins NE - All	Tel. 505-345-3975 Fax 505-345-4107	Analysis Reduest	SI 8,2 8,2	SIWI SIWI	080 (1) 2703 1, .s.O	08/ ₂ 08/ ₂ N	O ³ -NC 10 G 10 G qea	ticio Net Net Net	orsing Section (Section)	### PAH:80 PAH:80	¥ >								Remarks: Please cc msanjari@marathonoil.com,	agiovengo@ensolum.com			Some contracted data will be clearly notated on the analytical report.
Turn-Around Time: パム・ハッチ・	Standard	Project Name: Shugart West 19 Federal CTB H	Shugart West 19 Federal 8/Shugart West 19 Federal 9	03A2040004	MO Cost Center: 60 29588000 (62)	Project Manager: Ashley Giovengo	575-988-0055		Sampler: Ashley Giove	On Ice: Thes I No rice:		Cooler Temp(including OP): S.4 . O.1 = 5.3*	Container Type Preservative New Type 2205895		1 jar lce 000								4 4 4	Via: Count Date	rhohz (Many and transfer data will be clearly notated on the analytical report.
Received Profile Total Stocky Record	Client: Marathon Oil Company	Malodia Sanjari	Mailing Address: On File		7. 575 000 8753	Phone #: 5/5-900-0/35	i	UA/UC Package. Capture Revel 4 (Full Validation)	- Az Cor		(90)		Time Matrix Sample Name	ואומרווע	5/17/2023 15:27 S SS09-2.0								Date: (197023 11116. 1970	Time: Relinquished by:		CONTRACTOR CONTRACTOR



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

May 30, 2023

Ashley Giovengo Marathon Oil Company 4111 Tidwell Road Carlsbad, NM 88220

TEL: (575) 297-0956

FAX:

RE: Shugart West 19 Federal CTB H OrderNo.: 2305A96

Dear Ashley Giovengo:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/20/2023 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

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Project:

Lab ID:

CLIENT: Marathon Oil Company

2305A96-001

Analytical Report

Lab Order **2305A96**Date Reported: **5/30/2023**

Hall Environmental Analysis Laboratory, Inc.

Shugart West 19 Federal CTB H

Client Sample ID: SS01B-0'

Collection Date: 5/17/2023 2:09:00 PM

Received Date: 5/20/2023 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: PRD
Diesel Range Organics (DRO)	ND	8.4	mg/Kg	1	5/23/2023 10:34:52 PM
Motor Oil Range Organics (MRO)	ND	42	mg/Kg	1	5/23/2023 10:34:52 PM
Surr: DNOP	103	69-147	%Rec	1	5/23/2023 10:34:52 PM
EPA METHOD 8015D: GASOLINE RANGE	<u> </u>				Analyst: KMN
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/25/2023 7:06:00 AM
Surr: BFB	87.9	15-244	%Rec	1	5/25/2023 7:06:00 AM
EPA METHOD 8021B: VOLATILES					Analyst: KMN
Benzene	ND	0.025	mg/Kg	1	5/25/2023 7:06:00 AM
Toluene	ND	0.050	mg/Kg	1	5/25/2023 7:06:00 AM
Ethylbenzene	ND	0.050	mg/Kg	1	5/25/2023 7:06:00 AM
Xylenes, Total	ND	0.099	mg/Kg	1	5/25/2023 7:06:00 AM
Surr: 4-Bromofluorobenzene	85.0	39.1-146	%Rec	1	5/25/2023 7:06:00 AM
EPA METHOD 300.0: ANIONS					Analyst: SNS
Chloride	ND	60	mg/Kg	20	5/25/2023 2:09:09 AM

Matrix: SOIL

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 11

2305A96-002

Lab ID:

Chloride

Analytical Report

Received Date: 5/20/2023 9:30:00 AM

Lab Order **2305A96**Date Reported: **5/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company Client Sample ID: SS02A-0'

Project: Shugart West 19 Federal CTB H **Collection Date:** 5/17/2023 1:42:00 PM

Matrix: SOIL

Result **RL Qual Units** DF **Date Analyzed Analyses** Analyst: PRD **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Diesel Range Organics (DRO) ND 9.3 mg/Kg 1 5/24/2023 5:37:19 PM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 5/24/2023 5:37:19 PM Surr: DNOP 69.5 69-147 %Rec 1 5/24/2023 5:37:19 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 5/24/2023 11:29:00 PM 4.9 mg/Kg 1 Surr: BFB 88.3 15-244 %Rec 1 5/24/2023 11:29:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: KMN Benzene ND 5/25/2023 1:32:00 PM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 5/25/2023 1:32:00 PM Ethylbenzene ND 0.049 mg/Kg 1 5/25/2023 1:32:00 PM Xylenes, Total ND 0.099 mg/Kg 1 5/25/2023 1:32:00 PM Surr: 4-Bromofluorobenzene 83.7 39.1-146 %Rec 1 5/25/2023 1:32:00 PM **EPA METHOD 300.0: ANIONS** Analyst: SNS

ND

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits

mg/Kg

20

5/25/2023 2:46:12 AM

60

- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 11

Analytical Report

Lab Order **2305A96**Date Reported: **5/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS03B-0

Project: Shugart West 19 Federal CTB H **Collection Date:** 5/17/2023 3:41:00 PM

Lab ID: 2305A96-003 **Matrix:** SOIL **Received Date:** 5/20/2023 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: PRD
Diesel Range Organics (DRO)	24	9.9	mg/Kg	1	5/24/2023 5:48:08 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/24/2023 5:48:08 PM
Surr: DNOP	91.5	69-147	%Rec	1	5/24/2023 5:48:08 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/24/2023 11:52:20 PM
Surr: BFB	72.1	15-244	%Rec	1	5/24/2023 11:52:20 PM
EPA METHOD 8021B: VOLATILES					Analyst: KMN
Benzene	ND	0.025	mg/Kg	1	5/25/2023 1:54:00 PM
Toluene	ND	0.050	mg/Kg	1	5/25/2023 1:54:00 PM
Ethylbenzene	ND	0.050	mg/Kg	1	5/25/2023 1:54:00 PM
Xylenes, Total	ND	0.10	mg/Kg	1	5/25/2023 1:54:00 PM
Surr: 4-Bromofluorobenzene	83.5	39.1-146	%Rec	1	5/25/2023 1:54:00 PM
EPA METHOD 300.0: ANIONS					Analyst: SNS
Chloride	2200	60	mg/Kg	20	5/25/2023 2:58:33 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2305A96-004

Lab ID:

Analytical Report

Received Date: 5/20/2023 9:30:00 AM

Lab Order **2305A96**Date Reported: **5/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company Client Sample ID: SS04A-0'

Project: Shugart West 19 Federal CTB H **Collection Date:** 5/17/2023 1:40:00 PM

Matrix: SOIL

Result **RL Qual Units** DF **Date Analyzed Analyses EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: PRD Diesel Range Organics (DRO) ND 9.7 mg/Kg 1 5/25/2023 6:02:59 PM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 5/25/2023 6:02:59 PM Surr: DNOP 85.3 69-147 %Rec 1 5/25/2023 6:02:59 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: JJP Gasoline Range Organics (GRO) ND 5/25/2023 12:15:38 AM 4.9 mg/Kg 1 Surr: BFB 74.7 15-244 %Rec 1 5/25/2023 12:15:38 AM **EPA METHOD 8021B: VOLATILES** Analyst: KMN Benzene ND 5/25/2023 2:15:00 PM 0.025 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 5/25/2023 2:15:00 PM Ethylbenzene ND 0.049 mg/Kg 1 5/25/2023 2:15:00 PM Xylenes, Total ND 0.098 mg/Kg 1 5/25/2023 2:15:00 PM Surr: 4-Bromofluorobenzene 84.5 39.1-146 %Rec 1 5/25/2023 2:15:00 PM **EPA METHOD 300.0: ANIONS** Analyst: SNS Chloride mg/Kg 320 60 20 5/25/2023 3:10:54 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Project:

Lab ID:

CLIENT: Marathon Oil Company

2305A96-005

Analytical Report

Lab Order **2305A96**Date Reported: **5/30/2023**

Hall Environmental Analysis Laboratory, Inc.

Shugart West 19 Federal CTB H

Client Sample ID: SS05-0'

Collection Date: 5/17/2023 9:36:00 AM

Received Date: 5/20/2023 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS				Analyst: PRD
Diesel Range Organics (DRO)	18	9.8	mg/Kg	1	5/24/2023 1:34:32 PM
Motor Oil Range Organics (MRO)	57	49	mg/Kg	1	5/24/2023 1:34:32 PM
Surr: DNOP	71.2	69-147	%Rec	1	5/24/2023 1:34:32 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/25/2023 12:39:01 AM
Surr: BFB	80.6	15-244	%Rec	1	5/25/2023 12:39:01 AM
EPA METHOD 8021B: VOLATILES					Analyst: KMN
Benzene	ND	0.024	mg/Kg	1	5/25/2023 2:37:00 PM
Toluene	ND	0.049	mg/Kg	1	5/25/2023 2:37:00 PM
Ethylbenzene	ND	0.049	mg/Kg	1	5/25/2023 2:37:00 PM
Xylenes, Total	ND	0.097	mg/Kg	1	5/25/2023 2:37:00 PM
Surr: 4-Bromofluorobenzene	84.5	39.1-146	%Rec	1	5/25/2023 2:37:00 PM
EPA METHOD 300.0: ANIONS					Analyst: SNS
Chloride	ND	60	mg/Kg	20	5/25/2023 3:23:15 AM

Matrix: SOIL

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 11

Hall Environmental Analysis Laboratory, Inc.

WO#: **2305A96** *30-May-23*

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: MB-75165 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 75165 RunNo: 97007

Prep Date: 5/24/2023 Analysis Date: 5/24/2023 SeqNo: 3520086 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-75165 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 75165 RunNo: 97007

Prep Date: 5/24/2023 Analysis Date: 5/24/2023 SeqNo: 3520088 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.2 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

SamnTyne: MS

2305A96 30-May-23

WO#:

TestCode: EDA Method 9015M/D: Diesal Pange Organics

Client: Marathon Oil Company

Sample ID: 2205A96-001AMS

Project: Shugart West 19 Federal CTB H

Sample ID: 2305A96-001AMS	Sampiype	e: MS	res	stCode: El	A Method	8015M/D: Die	sel Range	Organics	
Client ID: SS01B-0'	Batch ID): 75110	F	RunNo: 90	6945				
Prep Date: 5/22/2023	Analysis Date	e: 5/24/2023	;	SeqNo: 3	518228	Units: mg/K	(g		
Analyte	Result F	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	8.9 44.48	8.030	70.1	54.2	135			
Surr: DNOP	4.0	4.448		89.4	69	147			
Sample ID: 2305A96-001AMSD	SampType	e: MSD	Tes	stCode: El	PA Method	8015M/D: Die	sel Range	Organics	
Client ID: SS01B-0'	Batch ID): 75110	F	RunNo: 9	6945				
Prep Date: 5/22/2023	Analysis Date	e: 5/24/2023	;	SeqNo: 3	518229	Units: mg/K	(g		
Analyte	Result F	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	37	8.5 42.34	8.030	67.4	54.2	135	7.00	29.2	
Surr: DNOP	3.4	4.234		79.9	69	147	0	0	
Sample ID: LCS-75110	SampType	e: LCS	Tes	stCode: El	PA Method	8015M/D: Die	sel Range	Organics	
Client ID: LCSS	Batch ID): 75110	F	RunNo: 9	6945				
Prep Date: 5/22/2023	Analysis Date	e: 5/23/2023	;	SeqNo: 3	518232	Units: mg/K	(g		
Analyte	Result F	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10 50.00	0	98.8	61.9	130			
Surr: DNOP	5.0	5.000		101	69	147			
Sample ID: MB-75110	SampType	e: MBLK	Tes	stCode: El	PA Method	8015M/D: Die	sel Range	Organics	

Sample ID: MB-75110	SampT	ype: MB	LK	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics	
Client ID: PBS	Batch	ID: 751	10	F	RunNo: 96	6945				
Prep Date: 5/22/2023	Analysis D	ate: 5/2	23/2023	5	SeqNo: 35	518236	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.1		10.00		80.8	69	147			

Sample ID: LCS-75133	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics	
Client ID: LCSS	Batch	n ID: 75 1	133	F	RunNo: 97	7001				
Prep Date: 5/23/2023	Analysis D	oate: 5/ 2	24/2023	5	SeqNo: 3	519507	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	114	61.9	130			
Surr: DNOP	6.2		5.000		124	69	147			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Result

ND

ND

9.4

PQL

10

50

30-May-23

2305A96

WO#:

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: MB-75133	SampTy	ре: МВ	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics	
Client ID: PBS	Batch	ID: 751	133	R	RunNo: 97	7001				
Prep Date: 5/23/2023	Analysis Da	ate: 5/2	24/2023	S	SeqNo: 35	519510	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.5		10.00		94.9	69	147			
Sample ID: LCS-75177	SampTy	pe: LC	s	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics	
Client ID: LCSS	Batch	ID: 751	177	R	RunNo: 97	7035				
Prep Date: 5/25/2023	Analysis Da	ate: 5/2	25/2023	S	SeqNo: 35	521100	Units: mg/K	g		
'	•									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Result 46	PQL 10	SPK value 50.00	SPK Ref Val	%REC 92.0	LowLimit 61.9	HighLimit	%RPD	RPDLimit	Qual
Analyte								%RPD	RPDLimit	Qual
Analyte Diesel Range Organics (DRO)	46	10	50.00 5.000	0	92.0 87.2	61.9 69	130			Qual
Analyte Diesel Range Organics (DRO) Surr: DNOP	46 4.4 SampTy	10	50.00 5.000	0 Tes	92.0 87.2	61.9 69 PA Method	130 147			Qual

SPK value SPK Ref Val %REC

10.00

LowLimit

69

94.1

HighLimit

147

%RPD

RPDLimit

Qual

Qualifiers:

Analyte

Surr: DNOP

Diesel Range Organics (DRO)

Motor Oil Range Organics (MRO)

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2305A96** *30-May-23*

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: Ics-75127	SampType: L0	cs	Tes	tCode: EF	PA Method	8015D: Gaso	line Range	•	
Client ID: LCSS	Batch ID: 75	127	F	RunNo: 90	6974				
Prep Date: 5/23/2023	Analysis Date: 5	/24/2023	S	SeqNo: 3	519391	Units: mg/K	(g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23 5.0	25.00	0	92.3	70	130			
Surr: BFB	5000	1000		496	15	244			S
Sample ID: mb-75127	SampType: M	BLK	Tes	tCode: EF	PA Method	8015D: Gaso	line Range	•	
Client ID: PBS	Batch ID: 75	127	F	RunNo: 90	6974				
Prop Data: Elasianas	Analysis Data: F	12412022		SoaNo: 31	540202	Unite: ma/K	·		

Client ID: PBS	Batch	n ID: 751	127	F	RunNo: 96	6974				
Prep Date: 5/23/2023	Analysis D)ate: 5/2	24/2023	٤	SeqNo: 35	519392	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0					_			
Surr: BFB	910		1000		90.8	15	244			

Sample ID: mb-75105	SampT	ype: MB	LK	Tes	tCode: EF	PA Method	8015D: Gasol	ine Range		
Client ID: PBS	Batch	n ID: 751	05	F	RunNo: 96	6984				
Prep Date: 5/22/2023	Analysis D	ate: 5/2	24/2023	5	SeqNo: 3	519769	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	850		1000		84.6	15	244			

Sample ID: Ics-75105	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015D: Gaso	line Range		
Client ID: LCSS	Batch	1D: 75 1	105	F	RunNo: 90	6984				
Prep Date: 5/22/2023	Analysis D	ate: 5/ 2	24/2023	5	SeqNo: 3	519770	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.6	70	130			
Surr: BFB	1900		1000		191	15	244			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

SampType: I CS

30-May-23

2305A96

WO#:

Client: Marathon Oil Company

Sample ID: 1 CS-75127

Project: Shugart West 19 Federal CTB H

SampType: L(58	I es	(Code: El	'A Method	8021B: Volati	iles		
Batch ID: 75	127	F	RunNo: 90	6974				
Analysis Date: 5	/24/2023	5	SeqNo: 3	519397	Units: mg/K	(g		
Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
0.85 0.025	1.000	0	85.2	70	130			
0.88 0.050	1.000	0	87.9	70	130			
0.89 0.050	1.000	0	89.0	70	130			
2.7 0.10	3.000	0	89.2	70	130			
0.99	1.000		99.1	39.1	146			
SampType: M	BLK	Tes	tCode: EF	PA Method	8021B: Volati	iles		
Batch ID: 75	127	F	RunNo: 90	6974				
Analysis Date: 5	/24/2023	5	SeqNo: 3	519398	Units: mg/K	(g		
Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
ND 0.025								
ND 0.050								
ND 0.050								
ND 0.10								
0.96	1.000		95.9	39.1	146			
SampType: M	BLK	Tes	tCode: EF	PA Method	8021B: Volati	iles	·	·
Batch ID: 75	105	F	RunNo: 90	6984				
			S N	-40700	Unito: mar/l/	·		
Analysis Date: 5	/24/2023	3	seqino: 3	519793	Units: mg/K	.g		
	Batch ID: 75 Analysis Date: 5. Result PQL 0.85 0.025 0.88 0.050 0.89 0.050 2.7 0.10 0.99 SampType: M Batch ID: 75 Analysis Date: 5. Result PQL ND 0.025 ND 0.050 ND 0.050 ND 0.10 0.96 SampType: M Batch ID: 75	0.85	Batch ID: 75127 Analysis Date: 5/24/2023 Result PQL SPK value SPK Ref Val 0.85 0.025 1.000 0 0.88 0.050 1.000 0 0.89 0.050 1.000 0 2.7 0.10 3.000 0 0.99 1.000 SampType: MBLK Tes Batch ID: 75127 F Analysis Date: 5/24/2023 Result PQL SPK value SPK Ref Val ND 0.025 ND 0.050 ND 0.050 ND 0.10 0.96 1.000 SampType: MBLK Tes Batch ID: 75105	Batch ID: 75127 RunNo: 96 Analysis Date: 5/24/2023 SeqNo: 38 Result PQL SPK value SPK Ref Val %REC 0.85 0.025 1.000 0 85.2 0.88 0.050 1.000 0 89.0 2.7 0.10 3.000 0 89.2 0.99 1.000 99.1 SampType: MBLK TestCode: Ef Batch ID: 75127 RunNo: 96 Analysis Date: 5/24/2023 SeqNo: 38 Result PQL SPK value SPK Ref Val %REC ND 0.025 ND 0.050 ND 0.050 ND 0.050 ND 0.10 95.9 SampType: MBLK TestCode: Ef Batch ID: 75105 RunNo: 96	Batch ID: 75127 RunNo: 96974 Analysis Date: 5/24/2023 SeqNo: 3519397 Result PQL SPK value SPK Ref Val %REC LowLimit 0.85 0.025 1.000 0 85.2 70 0.88 0.050 1.000 0 87.9 70 0.89 0.050 1.000 0 89.0 70 2.7 0.10 3.000 0 89.2 70 0.99 1.000 99.1 39.1 SampType: MBLK TestCode: EPA Method Batch ID: 75127 RunNo: 96974 Analysis Date: 5/24/2023 SeqNo: 3519398 Result PQL SPK value SPK Ref Val %REC LowLimit ND 0.050 ND 0.050 ND 0.50 ND 0.050 ND 0.10 O.96 1.000 95.9 39.1 SampType: MBLK TestCode: EPA	Batch ID: 75127 RunNo: 96974 Analysis Date: 5/24/2023 SeqNo: 3519397 Units: mg/K Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit 0.85 0.025 1.000 0 85.2 70 130 0.88 0.050 1.000 0 89.0 70 130 0.89 0.050 1.000 0 89.2 70 130 2.7 0.10 3.000 0 89.2 70 130 0.99 1.000 99.1 39.1 146 SampType: MBLK Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit HighLimit FextCode: EPA Method 8021B: Volati ND 0.025 ND 0.050 ND 0.050 ND 0.050 ND 0.050 ND 0.050 ND 0.050 SampType: MBLK TestCode: EPA Method 8021B: Volati RunNo: 96984 TestCode: EPA Method 8021B: Volati RunNo: 96984 TestCode: EPA Method 8021B: Volati RunNo: 96984 TestCode: EPA Method 8021B: Volati RunNo: 96984	RunNo: 96974 Analysis Date: 5/24/2023 SeqNo: 3519397 Units: mg/Ky Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD 0.85 0.025 1.000 0 85.2 70 130	Batch ID: 75127 RunNo: 96974 Analysis Date: 5/2 J/2023 SeqNo: 3519397 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit 0.85 0.025 1.000 0 85.2 70 130

TestCode: EDA Mothod 9021B: Volatilos

Client ID. FB3	Daic	11D. 131	03		turiivo. 30) 304				
Prep Date: 5/22/2023	Analysis [Date: 5/2	24/2023	5	SeqNo: 3	519793	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.84		1.000		84.2	39.1	146			

Sample ID: Ics-75105	SampT	ype: LC	s	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batcl	n ID: 751	05	F	RunNo: 96	6984				
Prep Date: 5/22/2023	Analysis D	Date: 5/2	24/2023	SeqNo: 3519794 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.9	70	130			
Toluene	0.84	0.050	1.000	0	84.5	70	130			
Ethylbenzene	0.83	0.050	1.000	0	82.5	70	130			
Xylenes, Total	2.5	0.10	3.000	0	82.2	70	130			
Surr: 4-Bromofluorobenzene	0.86		1.000		86.2	39.1	146			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

0.87

WO#: **2305A96** *30-May-23*

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: mb-75127 SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: 75127 RunNo: 97020

Prep Date: 5/23/2023 Analysis Date: 5/25/2023 SeqNo: 3520527 Units: mg/Kg

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

 Benzene
 ND
 0.025

 Toluene
 ND
 0.050

 Ethylbenzene
 ND
 0.050

 Xylenes, Total
 ND
 0.10

Surr: 4-Bromofluorobenzene 0.86 1.000 86.1 39.1 146

1.000

Sample ID: Ics-75127	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8021B: Volati	les		
Client ID: LCSS	Batcl	n ID: 751	127	F	RunNo: 97	7020				
Prep Date: 5/23/2023	Analysis D	Date: 5/2	25/2023	5	SeqNo: 3	520528	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	86.7	70	130			
Toluene	0.87	0.050	1.000	0	86.5	70	130			
Ethylbenzene	0.84	0.050	1.000	0	84.5	70	130			
Xylenes, Total	2.5	0.10	3.000	0	83.9	70	130			

86.5

39.1

146

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix

Surr: 4-Bromofluorobenzene

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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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

Released to Imaging: 7/20/2023 3:10:56 PM

Client Name: N	Marathon O	il Company	Work	Order Numb	er: 2305A96		RcptNo	o: 1
Received By:	Tracy Cas	arrubias	5/20/20	23 9:30:00 <i>F</i>	λM			
Completed By:	Tracy Cas	arrubias	5/20/20	23 10:59:56	AM			
Reviewed By:	in 5-12	2/23						
Chain of Custo	ody							
1. Is Chain of Cus	tody compl	ete?			Yes 🗌	No 🗹	Not Present	
2. How was the sa	ample delive	ered?			Courier			
<u>Log In</u> 3. Was an attemp	t mada ta a	aal tha aamanl	2		Yes 🗹	No 🗆	na 🗆	
o. was an allemp	t made to c	ooi the sampi	es?		res 💌	NO 🗀	IVA 🗀	
4. Were all sample	es received	at a temperat	cure of >0° C	to 6.0°C	Yes 🗹	No 🗌	na 🗆	
5. Sample(s) in pr	oper contai	ner(s)?			Yes 🗹	No 🗌		
6. Sufficient samp	le volume fo	or indicated te	st(s)?		Yes 🗹	No 🗌		
7. Are samples (ex	cept VOA	and ONG) pro	perly preserve	ed?	Yes 🗹	No 🗌		
8. Was preservativ	e added to	bottles?			Yes 🗌	No 🗹	NA 🗌	
9. Received at least	st 1 vial witl	h headspace	<1/4" for AQ V	OA?	Yes 🗌	No 🗆	na 🗹	
10. Were any samp	ole containe	ers received be	roken?		Yes \square	No 🗹	# of preserved	
11. Does paperwork	c match bot	tle labels?			Yes 🗹	No 🗌	bottles checked for pH:	
(Note discrepan		• /				., П	(<2 o	or >12 unless noted)
12. Are matrices co13. Is it clear what a					Yes ✓ Yes ✓	No □ No □	/ilguolou:	
14. Were all holding			ŗ.		res ✓ Yes ✓	No □	Checked by:	THE 5/10/17
(If no, notify cus								
Special Handlir	ng (if app	licable)						
15. Was client noti	fied of all di	screpancies v	vith this order?	•	Yes 🗌	No 🗌	NA 🗹	
Person N	lotified:			Date:				
By Whon	ո:			Via:	eMail	Phone Fax	☐ In Person	
Regardin								
Client Ins	structions:	Mailing addre	ess is missing	on COC- TM	IC 5/20/23			
16. Additional rem								
		ish chain of c	ustody					
17. Cooler Inform Cooler No	4	Condition	Cool Intest	Cool No	Cool Data	Cionad Du		
1	Temp °C 5.3	Condition Good	Seal Intact Yes	Seal No Yogi	Seal Date	Signed By		

Client: Ma			Received to promit 172/20/20/20/20/20/20/20/20/20/20/20/20/20						ENATE		-	HALL ENVIRONMENT Several oo
	arathor	Marathon Oil Company	pany	Standard	M Rush	5 Daw		ANAL	ANALYSIS LABORATORY	ABO	ORA	TORY
Melodie Sanjari	ari			Project Name:	Shugart Wes	Shugart West 19 Federal CTB H		WW	www.hallenvironmental.com	onmer	ital.com	_
Mailing Address:		On File		Vest 19	Federal 8/Shu	Federal 8/Shugart West 19 Federal 9	4901 H	4901 Hawkins NE	1	dnerdı	Albuquerque, NM 87109	87109
				Project #:	03A2040004		Tel. 5	505-345-3975		1x 505	Fax 505-345-4107	107
Phone #: 57	575-988-8753	-8753		MO Cost Center: 60 29588000	50 29588000	(3)		An	Analysis Request	quest	1	
1 '6		msanjari(msanjari@marathonoil.com	Project Manager: Ashley Giovengo	Ashley Giove) obu	ОЯ		os '		uəs	-
QA/QC Package:	ä				575-988-0055	ıΩ	W/		ʻ [†] Oc		dA∖	
Standard			☐ Level 4 (Full Validation)		agiovengo@e	agiovengo@ensolum.com		(J ' ² (<u></u>	uəs	
Accreditation		□ Az Cor	□ Az Compliance	Sampler:	Ashley Giovengo	ingo	<u>a</u> /0	1.4	NC			
□ NELAC		□ Other		On Ice:	☑ Yes	□ No closs	SEC	09		/0/		
EDD (Type)	(e)			# of Coolers:			5)C	pou	N			
,				Cooler Temp(including CF).	2.4	0,1:5.3%	1910	βəΝ	Br,			
Date T	Time	Matrix	Sample Name	Container Type and #	Preservative Type	2305PAC	X3T8 8:H9T 1 1808	EDB (ВСКА СПF,	0928	Total	
5/17/2023	14:09	တ	SS01B-0'	1 jar	lce	100	<i>+</i>		7			
-	13:42	S	SS02A-0'	1 jar	lce	200	7		1			
	15:41	S	SS03B-0,	1 jar	lce	003	ナナ		/ ;	-		
5/17/2023	13:40	S	SS04A-0'	1 jar	<u>8</u>	F00	ナナナ		,	+	1	
 	9:36	တ	SS05-0'	1 jar	<u>8</u>	500	ナ ナ		7	-		
							+			+		
								+		+	+	
											+	
Date:	Time:	Relinquished by:	led by:	Received by:	Via:	Date Time	Remarks: Please cc msanjari@marathonoil.com,	lease cc	msanjari(@	@mara	athonoil	.com,
9/2023				Orannan	,	23	agiovengo@ensolum.com and cburton@ensolum.com on results	gensolun ງ@ensolu	n.com um.com or	n resul	ţ	
	Time:	Relinquished by:	ned by:		Via: Count	Date Time 9:35)				
SMIR	Z.	A. A.A.	A. MANAMANA			5/26/13						

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



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

OrderNo.: 2305A97

May 30, 2023

Ashley Giovengo Marathon Oil Company 4111 Tidwell Road Carlsbad, NM 88220 TEL: (575) 297-0956

FAX:

RE: Shugart West 19 Federal CTB H

Dear Ashley Giovengo:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/20/2023 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

Indes

4901 Hawkins NE

Albuquerque, NM 87109

CLIENT: Marathon Oil Company

Analytical Report

Lab Order **2305A97**Date Reported: **5/30/2023**

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: SS06D-0'

Project: Shugart West 19 Federal CTB H **Collection Date:** 5/17/2023 3:28:00 PM

Lab ID: 2305A97-001 **Matrix:** SOIL **Received Date:** 5/20/2023 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE (ORGANICS				Analyst: PRD
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/24/2023 9:38:25 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/24/2023 9:38:25 PM
Surr: DNOP	105	69-147	%Rec	1	5/24/2023 9:38:25 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/25/2023 4:04:00 PM
Surr: BFB	91.5	15-244	%Rec	1	5/25/2023 4:04:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: KMN
Benzene	ND	0.024	mg/Kg	1	5/25/2023 4:04:00 PM
Toluene	ND	0.048	mg/Kg	1	5/25/2023 4:04:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	5/25/2023 4:04:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	5/25/2023 4:04:00 PM
Surr: 4-Bromofluorobenzene	88.2	39.1-146	%Rec	1	5/25/2023 4:04:00 PM
EPA METHOD 300.0: ANIONS					Analyst: SNS
Chloride	ND	60	mg/Kg	20	5/25/2023 3:35:34 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Not in Range ...mit Page 1 of 11

CLIENT: Marathon Oil Company

Analytical Report

Lab Order **2305A97**Date Reported: **5/30/2023**

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: SS07B-0'

Project: Shugart West 19 Federal CTB H **Collection Date:** 5/17/2023 12:05:00 PM

Lab ID: 2305A97-002 **Matrix:** SOIL **Received Date:** 5/20/2023 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst: PRD
Diesel Range Organics (DRO)	11	9.9	mg/Kg	1	5/24/2023 9:49:20 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/24/2023 9:49:20 PM
Surr: DNOP	99.2	69-147	%Rec	1	5/24/2023 9:49:20 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/25/2023 5:09:00 PM
Surr: BFB	87.8	15-244	%Rec	1	5/25/2023 5:09:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: KMN
Benzene	ND	0.024	mg/Kg	1	5/25/2023 5:09:00 PM
Toluene	ND	0.048	mg/Kg	1	5/25/2023 5:09:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	5/25/2023 5:09:00 PM
Xylenes, Total	ND	0.096	mg/Kg	1	5/25/2023 5:09:00 PM
Surr: 4-Bromofluorobenzene	84.7	39.1-146	%Rec	1	5/25/2023 5:09:00 PM
EPA METHOD 300.0: ANIONS					Analyst: SNS
Chloride	180	60	mg/Kg	20	5/25/2023 3:47:55 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 11

Analytical Report

Lab Order **2305A97**Date Reported: **5/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS08C-0

 Project:
 Shugart West 19 Federal CTB H
 Collection Date: 5/17/2023 3:41:00 PM

 Lab ID:
 2305A97-003
 Matrix: SOIL
 Received Date: 5/20/2023 9:30:00 AM

Result **RL Qual Units** DF **Date Analyzed Analyses** Analyst: PRD **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Diesel Range Organics (DRO) 9.8 9.4 mg/Kg 1 5/24/2023 10:00:16 PM Motor Oil Range Organics (MRO) ND 47 mg/Kg 1 5/24/2023 10:00:16 PM Surr: DNOP 106 69-147 %Rec 1 5/24/2023 10:00:16 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: KMN Gasoline Range Organics (GRO) ND 5/25/2023 6:58:00 PM 4.9 mg/Kg 1 Surr: BFB 90.3 15-244 %Rec 1 5/25/2023 6:58:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: KMN Benzene ND 5/25/2023 6:58:00 PM 0.024 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 5/25/2023 6:58:00 PM Ethylbenzene ND 0.049 mg/Kg 1 5/25/2023 6:58:00 PM Xylenes, Total ND 0.097 mg/Kg 1 5/25/2023 6:58:00 PM Surr: 4-Bromofluorobenzene 85.6 39.1-146 %Rec 1 5/25/2023 6:58:00 PM **EPA METHOD 300.0: ANIONS** Analyst: SNS Chloride mg/Kg 5/25/2023 4:00:16 AM ND 60 20

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

orting Limit Page 3 of 11

Analytical Report

Lab Order 2305A97

Date Reported: 5/30/2023

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: SS09-0' **CLIENT:** Marathon Oil Company

Shugart West 19 Federal CTB H **Project: Collection Date:** 5/17/2023 10:23:00 AM 2305A97-004 Lab ID: Matrix: SOIL **Received Date:** 5/20/2023 9:30:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst: PRD
Diesel Range Organics (DRO)	19	9.6	mg/Kg	1	5/24/2023 10:11:14 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/24/2023 10:11:14 PM
Surr: DNOP	108	69-147	%Rec	1	5/24/2023 10:11:14 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/25/2023 7:19:00 PM
Surr: BFB	90.9	15-244	%Rec	1	5/25/2023 7:19:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: KMN
Benzene	ND	0.024	mg/Kg	1	5/25/2023 7:19:00 PM
Toluene	ND	0.048	mg/Kg	1	5/25/2023 7:19:00 PM
Ethylbenzene	ND	0.048	mg/Kg	1	5/25/2023 7:19:00 PM
Xylenes, Total	ND	0.095	mg/Kg	1	5/25/2023 7:19:00 PM
Surr: 4-Bromofluorobenzene	87.2	39.1-146	%Rec	1	5/25/2023 7:19:00 PM
EPA METHOD 300.0: ANIONS					Analyst: SNS
Chloride	84	60	mg/Kg	20	5/25/2023 4:12:37 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value Ε
- J Analyte detected below quantitation limits
- Sample pH Not In Range
- RL

Reporting Limit

Page 4 of 11

Analytical Report Lab Order 2305A97

Date Reported: 5/30/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company Client Sample ID: SS10-0'

 Project:
 Shugart West 19 Federal CTB H
 Collection Date: 5/17/2023 10:29:00 AM

 Lab ID:
 2305A97-005
 Matrix: SOIL
 Received Date: 5/20/2023 9:30:00 AM

Result **RL Qual Units** DF **Date Analyzed Analyses** Analyst: PRD **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Diesel Range Organics (DRO) ND 9.7 mg/Kg 1 5/24/2023 10:22:12 PM Motor Oil Range Organics (MRO) ND 48 mg/Kg 1 5/24/2023 10:22:12 PM Surr: DNOP 109 69-147 %Rec 1 5/24/2023 10:22:12 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: KMN Gasoline Range Organics (GRO) ND 5/25/2023 7:41:00 PM 4.9 mg/Kg 1 Surr: BFB 89.7 15-244 %Rec 1 5/25/2023 7:41:00 PM **EPA METHOD 8021B: VOLATILES** Analyst: KMN Benzene ND 5/25/2023 7:41:00 PM 0.024 mg/Kg 1 Toluene ND 0.049 mg/Kg 1 5/25/2023 7:41:00 PM Ethylbenzene ND 0.049 mg/Kg 1 5/25/2023 7:41:00 PM Xylenes, Total ND 0.097 mg/Kg 1 5/25/2023 7:41:00 PM Surr: 4-Bromofluorobenzene 86.4 39.1-146 %Rec 1 5/25/2023 7:41:00 PM **EPA METHOD 300.0: ANIONS** Analyst: SNS Chloride mg/Kg ND 60 20 5/25/2023 4:49:39 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 11

Hall Environmental Analysis Laboratory, Inc.

WO#: **2305A97** *30-May-23*

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: MB-75165 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 75165 RunNo: 97007

Prep Date: 5/24/2023 Analysis Date: 5/24/2023 SeqNo: 3520086 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-75165 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 75165 RunNo: 97007

Prep Date: 5/24/2023 Analysis Date: 5/24/2023 SeqNo: 3520088 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.2 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 6 of 11

Hall Environmental Analysis Laboratory, Inc.

2305A97 30-May-23

WO#:

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: 2305A97-001AMS	SampTyr	SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics									
Client ID: SS06D-0'	Batch I	ID: 75 1	146	F	RunNo: 97	7001					
Prep Date: 5/24/2023	Analysis Dat	te: 5/ 2	25/2023	5	SeqNo: 3	519455	Units: mg/K	g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	42	9.6	47.89	0	86.7	54.2	135				
Surr: DNOP	4.7		4.789		98.5	69	147				
Sample ID: 2305A97-001AMS	SD SampTyp	pe: MS	SD .	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics		
Client ID: SS06D-0'	Batch I	ID: 75 1	146	F	RunNo: 97	7001					
Prep Date: 5/24/2023	Analysis Dat	te: 5/ 2	25/2023	5	SeqNo: 3	519456	Units: mg/K	g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	43	9.6	47.76	0	89.1	54.2	135	2.44	29.2	_	
Surr: DNOP	4.8		4.776		99.9	69	147	0	0		
Sample ID: LCS-75133	SampTyp	pe: LC	S	Tes	PA Method	8015M/D: Die	sel Range	Organics			
Client ID: LCSS	Batch I	ID: 75 1	· · · · · · · · · · · · · · · · · · ·								
Client ID: LCSS Prep Date: 5/23/2023	Batch I Analysis Dat				RunNo: 9 7 SeqNo: 3 8		Units: %Red	;			
	Analysis Dat		24/2023				Units: %Red HighLimit	; %RPD	RPDLimit	Qual	
Prep Date: 5/23/2023	Analysis Dat	te: 5/ 2	24/2023	5	SeqNo: 3	519507			RPDLimit	Qual	
Prep Date: 5/23/2023 Analyte	Analysis Dat	te: 5/ 2	24/2023 SPK value 5.000	SPK Ref Val	SeqNo: 3: %REC 124	519507 LowLimit 69	HighLimit	%RPD		Qual	
Prep Date: 5/23/2023 Analyte Surr: DNOP	Analysis Dat Result 6.2	PQL	24/2023 SPK value 5.000	SPK Ref Val	SeqNo: 3: %REC 124	LowLimit 69 PA Method	HighLimit 147	%RPD		Qual	
Prep Date: 5/23/2023 Analyte Surr: DNOP Sample ID: LCS-75146	Analysis Dat Result 6.2 SampTyp	PQL PQL pe: LC	24/2023 SPK value 5.000 S	SPK Ref Val Tes	SeqNo: 38 %REC 124 tCode: EF	LowLimit 69 PA Method 7001	HighLimit 147	%RPD		Qual	
Prep Date: 5/23/2023 Analyte Surr: DNOP Sample ID: LCS-75146 Client ID: LCSS	Analysis Dat Result 6.2 SampTyr Batch I Analysis Dat	PQL PQL pe: LC	24/2023 SPK value 5.000 S 146 24/2023	SPK Ref Val Tes	SeqNo: 39 %REC 124 tCode: EFRunNo: 97	LowLimit 69 PA Method 7001	HighLimit 147 8015M/D: Die	%RPD		Qual	
Prep Date: 5/23/2023 Analyte Surr: DNOP Sample ID: LCS-75146 Client ID: LCSS Prep Date: 5/24/2023	Analysis Dat Result 6.2 SampTyr Batch I Analysis Dat	PQL PQL pe: LC ID: 751 te: 5/2	24/2023 SPK value 5.000 S 146 24/2023	SPK Ref Val Tes	SeqNo: 38 %REC 124 tCode: EF RunNo: 97 SeqNo: 38	LowLimit 69 PA Method 7001 519508	HighLimit 147 8015M/D: Die Units: mg/K	%RPD sel Range	Organics		
Prep Date: 5/23/2023 Analyte Surr: DNOP Sample ID: LCS-75146 Client ID: LCSS Prep Date: 5/24/2023 Analyte	Analysis Dat Result 6.2 SampTyp Batch I Analysis Dat Result	PQL pe: LC ID: 751 te: 5/2	24/2023 SPK value 5.000 S 146 24/2023 SPK value	SPK Ref Val Tes F SPK Ref Val	SeqNo: 38 %REC 124 tCode: EF RunNo: 97 SeqNo: 38 %REC	End of the second secon	HighLimit 147 8015M/D: Die Units: mg/K HighLimit	%RPD sel Range	Organics		

Campic ID. 1010-73133	Campiy	PC. IVID	LIX	100	toode. Li	A MELITOU	OU I SIVI/D. DIES	ei italige	Organics	
Client ID: PBS	Batch	ID: 751	33	F	RunNo: 97	7001				
Prep Date: 5/23/2023	Analysis Da	ite: 5/2	24/2023	5	SeqNo: 35	519510	Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.5		10.00		94.9	69	147			•

Sample ID: MB-75146	SampT	ype: MB	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	sel Range	Organics	
Client ID: PBS	Batch	ID: 751	146	F	RunNo: 97	7001				
Prep Date: 5/24/2023	Analysis D	ate: 5/2	24/2023	5	SeqNo: 3	519511	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)										

Diesel Range Organics (DRO) ND 10

Motor Oil Range Organics (MRO) ND 50

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 7 of 11

Hall Environmental Analysis Laboratory, Inc.

WO#: **2305A97** *30-May-23*

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: MB-75146 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 75146 RunNo: 97001

Prep Date: 5/24/2023 Analysis Date: 5/24/2023 SeqNo: 3519511 Units: mg/Kg

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

Surr: DNOP 11 10.00 106 69 147

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 8 of 11

Hall Environmental Analysis Laboratory, Inc.

30-May-23

2305A97

WO#:

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: mb-75132 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: 75132 RunNo: 97020 Prep Date: 5/23/2023 Analysis Date: 5/25/2023 SeqNo: 3521524 Units: mq/Kq SPK Ref Val %RPD **RPDLimit** Analyte Result PQL SPK value %REC LowLimit HighLimit Qual

Gasoline Range Organics (GRO) ND 5.0

Surr: BFB 900 1000 90.2 15 244

Sample ID: Ics-75132 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 75132 RunNo: 97020

Prep Date: 5/23/2023 Analysis Date: 5/25/2023 SeqNo: 3521525 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 20 25.00 70 Surr: BFB 1900 1000 190 15 244

Sample ID: 2305A97-001ams SampType: MS TestCode: EPA Method 8015D: Gasoline Range

Client ID: **\$\$06D-0'** Batch ID: **75132** RunNo: **97020**

Prep Date: 5/23/2023 Analysis Date: 5/25/2023 SeqNo: 3521527 Units: mg/Kg

SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result **PQL** LowLimit HighLimit Qual Gasoline Range Organics (GRO) 21 4.8 23.95 86.8 70 130 Surr: BFB 2000 957.9 204 15 244

Sample ID: 2305A97-001amsd SampType: MSD TestCode: EPA Method 8015D: Gasoline Range

Client ID: \$\$06D-0' Batch ID: 75132 RunNo: 97020

Prep Date: 5/23/2023 Analysis Date: 5/25/2023 SeqNo: 3521528 Units: mg/Kg

Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 22 4.8 24.25 89.8 70 130 4.74 20 Surr: BFB 1900 969.9 201 15 244 0 0

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 9 of 11

Hall Environmental Analysis Laboratory, Inc.

WO#: 2305A97 30-May-23

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: mb-75127 SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: 75127 RunNo: 97020

Prep Date: 5/23/2023 Analysis Date: 5/25/2023 SeqNo: 3520527 Units: %Rec

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

Surr: 4-Bromofluorobenzene 0.86 1.000 86.1 39 1 146

Sample ID: Ics-75127 SampType: LCS TestCode: EPA Method 8021B: Volatiles

Client ID: LCSS Batch ID: 75127 RunNo: 97020

Prep Date: 5/23/2023 Analysis Date: 5/25/2023 SeqNo: 3520528 Units: %Rec

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

Surr: 4-Bromofluorobenzene 0.87 1.000 86.5 39.1 146

Sample ID: mb-75132 SampType: MBLK TestCode: EPA Method 8021B: Volatiles Client ID: PBS Batch ID: 75132 RunNo: 97020

Prep Date: Analysis Date: 5/25/2023 Units: mg/Kg 5/23/2023 SeqNo: 3521548

POI SPK value SPK Ref Val %REC %RPD **RPDLimit** Qual Analyte Result I owl imit HighLimit 0.025 Benzene ND Toluene ND 0.050 Ethylbenzene ND 0.050

Xylenes, Total ND 0.10 Surr: 4-Bromofluorobenzene 0.86 1.000 86.2

39.1 146

Sample ID: Ics-75132 SampType: LCS TestCode: EPA Method 8021B: Volatiles Client ID: LCSS Batch ID: 75132 RunNo: 97020

Prep Date: Analysis Date: 5/25/2023 SeqNo: 3521549 Units: mg/Kg 5/23/2023 SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result **PQL** LowLimit HighLimit Qual Benzene 0.87 0.025 1.000 0 86.9 70 130 1.000 0 87.1 70 130 Toluene 0.87 0.050 0.050 0 85.6 Ethylbenzene 0.86 1.000 70 130 Xylenes, Total 3.000 0 85.1 70 2.6 0.10 130 Surr: 4-Bromofluorobenzene 0.87 1.000 86.8 39.1 146

Sample ID: 2305A97-002ams SampType: MS TestCode: EPA Method 8021B: Volatiles

Client ID: SS07B-0' Batch ID: 75132 RunNo: 97020

Prep Date: Analysis Date: 5/25/2023 SeqNo: 3521552 5/23/2023 Units: mg/Kg LowLimit Analyte Result **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Benzene 0.81 0.024 0.9775 0 83.4 70 130 Toluene 0.83 0.049 0.9775 0 85.0 70 130 Ethylbenzene 0.83 0.049 0.9775 0 84.6 70 130 0 83.8 Xylenes, Total 2.5 0.098 2.933 70 130

Qualifiers:

Value exceeds Maximum Contaminant Level

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

POL Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated.

Analyte detected in the associated Method Blank

Above Quantitation Range/Estimated Value

Analyte detected below quantitation limits

Sample pH Not In Range

RL Reporting Limit Page 10 of 11

Hall Environmental Analysis Laboratory, Inc.

0.85

2305A97 30-May-23

WO#:

Client: Marathon Oil Company

Project: Shugart West 19 Federal CTB H

Sample ID: 2305A97-002ams SampType: MS TestCode: EPA Method 8021B: Volatiles

Client ID: SS07B-0' Batch ID: 75132 RunNo: 97020

Prep Date: 5/23/2023 Analysis Date: 5/25/2023 SeqNo: 3521552 Units: mq/Kq

0.9718

SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Analyte Result LowLimit Surr: 4-Bromofluorobenzene 0.86 0.9775 87.7 39.1 146

Sample ID: 2305A97-002amsd SampType: MSD TestCode: EPA Method 8021B: Volatiles Client ID: SS07B-0' Batch ID: 75132 RunNo: 97020 Prep Date: 5/23/2023 Analysis Date: 5/25/2023 SeqNo: 3521553 Units: mg/Kg SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte Result PQL LowLimit Qual Benzene 0.83 0.024 0.9718 0 85.4 70 130 1.82 20 Toluene 0.85 0.049 0.9718 0 87.5 70 130 2.31 20 0 Ethylbenzene 0.85 0.049 0.9718 87.1 70 130 2.36 20 Xylenes, Total 2.5 0.097 2.915 0 86.3 70 130 2.41 20 0

88.0

39.1

146

0

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix

Surr: 4-Bromofluorobenzene

- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Е Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 11 of 11



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

Released to Imaging: 7/20/2023 3:10:56 PM

and and			neosne. www.	hallenvironmen	iar.com		
Client Name:	Marathon Oil Comp	a ny Work	Order Numb	er: 2305A97		RcptNo	o: 1
Received By:	Tracy Casarrubias	5/20/20	23 9:30:00 A	.M			
Completed By:	Tracy Casarrubias	5/20/20	23 11:06:39	АМ			
Reviewed By:	7ns/22/2						
Chain of Cus	<u>tody</u>						
1. Is Chain of Co	ustody complete?			Yes 🗌	No 🗹	Not Present	
2. How was the	sample delivered?			Courier			
<u>Log In</u>						_	
Was an attern	pt made to cool the s	amples?		Yes 🗹	No 📙	NA 🗌	
4. Were all samp	oles received at a tem	perature of >0° C	to 6.0°C	Yes 🗹	No 🗌	na 🗆	
5. Sample(s) in p	proper container(s)?			Yes 🗹	No 🗌		
6. Sufficient sam	ple volume for indica	ed test(s)?		Yes 🗹	No 🗌		
7. Are samples (except VOA and ONG	6) properly preserve	ed?	Yes 🗹	No 🗆		
8. Was preserva	tive added to bottles?			Yes 🗌	No 🗹	NA 🗌	
9. Received at le	ast 1 vial with headsp	pace <1/4" for AQ \	/OA?	Yes 🗌	No 🗌	NA 🗹	
10. Were any san	nple containers receiv	red broken?		Yes 📙	No 🗹	# of preserved	
	ork match bottle labels ancies on chain of cus			Yes 🗹	No 🗆	bottles checked for pH:	or >12 unless noted)
12. Are matrices o	correctly identified on	Chain of Custody?		Yes 🗹	No 🗌	Adjusted?	
3. Is it clear what	t analyses were reque	ested?		Yes 🗹	No 🗌		THE 5/20/L
	ng times able to be mustomer for authorizat			Yes 🗹	No 🗆	Checked by:	THIL STEP
	ing (if applicable	,					
	tified of all discrepand	_	?	Yes 🗌	No 🛚	NA 🗹	
Person	Notified:	A STATE OF THE STA	Date:		Y		
By Who	om:		Via:	eMail [Phone Fax	☐ In Person	
Regardi	ing:						
Client Ir	nstructions: Mailing	address is missing	on COC- TM	C 5/20/23			
16. Additional re	marks:						
Client d	id not relinquish chair	of custody					
17. Cooler Infor	1001	ra [0-11 c :		Control	Cincol D	1141	
Cooler No	Temp ⁰C Cond 5.3 Good	tion Seal Intact Yes	Seal No	Seal Date	Signed By		
	J.J G000	169	Yogi				

ived & PCPITY	ENIC BOULD	Received & Patity Loging States to any Record	Turn-Around Time.				HALL	ENVIR	ONM	HALL ENVIRONMENTER OF STATE OF
Client: Marath	Marathon Oil Company	npany	Standard Standard	M Rush	6 Davi		ANAL	YSIS L	ABOR	ANALYSIS LABORATORY
Melodie Sanjari			Project Name:	Shugart West	Shugart West 19 Federal CTB H	1	WWW	www.hallenvironmental.com	nmental.	com
Mailing Address:	On File		Shugart West 19		Federal 8/Shugart West 19 Federal 9	4901	4901 Hawkins NE -	E - Albuq	uerque, l	Albuquerque, NM 87109
			Project #:	03A2040004		Tel. 8	505-345-3975		Fax 505-345-4107	5-4107
Phone #: 575-98	575-988-8753		MO Cost Center:	0029588000	3		Ana	Analysis Request		
9	msanjari	msanjari@marathonoil.com	Project Manager: Ashley Giovengo	Ashley Giover	oĝu	ОЯ		os	uəs	
QA/QC Package:				575-988-0055	10	W/		' [†] Oc		201.11
Standard		☐ Level 4 (Full Validation)		agiovengo@ensolum.com	ensolum.com	ОЯ	(,s, F	tue:	
Accreditation:	□ Az Co	□ Az Compliance	Sampler:	Ashley Giove	ngo	a / 0	1.4	ON		
NELAC	□ Other			R Yes ON	ON O CASO	ОЯ	09			
□ EDD (Tvpe)			# of Coolers:	-)		9)(pol	ON	V-İſ	
			\simeq	Including CF): 5-4 -0	-2.2 = 1.0-]9 L	ljəl	Br,	นอร	
Date Time	Matrix	Sample Name	Container Type and #	Preservative Type	130SPQ167	4TEX) 08:H9T 9 1808	EDB (A	RCRA CI, F,	7) 0328 3) 0728 3 lefoT	O lstoT
023	$\overline{}$	SS06D-0'	1 jar	lce	100 l	7 7		4		
-	S S	SS07B-0'	1 jar	lce	200	ナナ		7		
5/17/2023 15:41	ر د	'0-2808S	1 jar	<u>e</u>	5003	ナナ		7		
	S 8	,0-60SS	1 jar	eo	900	ナナ		X		
5/17/2023 10:29		SS10-0,	1 jar	<u>9</u>	200	ナナ		7		
Date: Time: 05/19/2023	Relinquished by:	hed by:	Received by:	Via:	Date Time	Remarks:	Remarks: Please cc msan agiovengo@ensolum.com	Remarks: Please cc msanjari@marathonoil.com, agiovengo@ensolum.com	maratho	noil.com,
Date: Time:	- Re	hed by:		Via: Country	Date Time 9:36					
5	_	TABLALA A A A A A A A A A A A A A A A A A	1	1	200					



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

OrderNo.: 2306489

June 20, 2023

Melodie Sanjari Marathon Oil Company 4111 Tidwell Road Carlsbad, NM 88220

TEL: (575) 297-0956

FAX

RE: Sugart West 19 Federal CTB H

(Shugart West 19)(Federal 8/Federal 9)

Dear Melodie Sanjari:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/9/2023 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

Indes

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report Lab Order 2306489

Date Reported: 6/20/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS03C-0'

 Project:
 Sugart West 19 Federal CTB H
 Collection Date: 6/2/2023 9:30:00 AM

 Lab ID:
 2306489-001
 Matrix: SOIL
 Received Date: 6/9/2023 7:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/13/2023 11:47:08 AM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	6/13/2023 11:47:08 AM
Surr: DNOP	101	69-147	%Rec	1	6/13/2023 11:47:08 AM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/14/2023 9:55:57 PM
Surr: BFB	103	15-244	%Rec	1	6/14/2023 9:55:57 PM
EPA METHOD 8021B: VOLATILES					Analyst: JJP
Benzene	ND	0.025	mg/Kg	1	6/14/2023 9:55:57 PM
Toluene	ND	0.049	mg/Kg	1	6/14/2023 9:55:57 PM
Ethylbenzene	ND	0.049	mg/Kg	1	6/14/2023 9:55:57 PM
Xylenes, Total	ND	0.099	mg/Kg	1	6/14/2023 9:55:57 PM
Surr: 4-Bromofluorobenzene	89.7	39.1-146	%Rec	1	6/14/2023 9:55:57 PM
EPA METHOD 300.0: ANIONS					Analyst: SNS
Chloride	ND	59	mg/Kg	20	6/15/2023 1:19:15 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- $ND \qquad Not \ Detected \ at \ the \ Reporting \ Limit$
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 5

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306489 20-Jun-23**

Client: Marathon Oil Company

Project: Sugart West 19 Federal CTB H

Sample ID: MB-75617 SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 75617 RunNo: 97494

Prep Date: 6/15/2023 Analysis Date: 6/15/2023 SeqNo: 3542499 Units: mg/Kg

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

Chloride ND 1.5

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 5

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306489**

20-Jun-23

Client: Marathon Oil Company

Project: Sugart West 19 Federal CTB H

Sample ID: LCS-75540 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS Batch ID: 75540 RunNo: 97392

Prep Date: 6/12/2023 Analysis Date: 6/13/2023 SeqNo: 3538144 Units: mg/Kg

PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte Result LowLimit Qual Diesel Range Organics (DRO) 10 0 47 50.00 94.0 61.9 130

Surr: DNOP 5.0 5.000 99.8 69 147

Sample ID: MB-75540 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 75540 RunNo: 97392

Prep Date: 6/12/2023 Analysis Date: 6/13/2023 SeqNo: 3538146 Units: mg/Kg

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

Diesel Range Organics (DRO) ND 10
Motor Oil Range Organics (MRO) ND 50

Surr: DNOP 9.3 10.00 93.0 69 147

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 5

Hall Environmental Analysis Laboratory, Inc.

#: 2306489 20-Jun-23

WO#:

Client: Marathon Oil Company

Project: Sugart West 19 Federal CTB H

Sample ID: Ics-75536 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 75536 RunNo: 97399

Prep Date: 6/12/2023 Analysis Date: 6/13/2023 SeqNo: 3538745 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
 99.8
 70
 130

 Surr: BFB
 2100
 1000
 208
 15
 244

Sample ID: mb-75536 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 75536 RunNo: 97399

Prep Date: 6/12/2023 Analysis Date: 6/13/2023 SeqNo: 3538746 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 970 1000 97.4 15 244

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 4 of 5

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306489 20-Jun-23**

Client: Marathon Oil Company

Project: Sugart West 19 Federal CTB H

Sample ID: LCS-75536	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Batcl	n ID: 75 !	536	F	RunNo: 9	7399				
Prep Date: 6/12/2023	Analysis D	Date: 6/	13/2023	\$	SeqNo: 3	538747	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.025	1.000	0	79.8	70	130			
Toluene	0.81	0.050	1.000	0	81.3	70	130			
Ethylbenzene	0.81	0.050	1.000	0	81.0	70	130			
Xylenes, Total	•						130			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.2	39.1	146			

Sample ID: mb-75536	Sampl	уре: МЕ	BLK	Tes						
Client ID: PBS	Batcl	h ID: 75	536	F	RunNo: 9	7399				
Prep Date: 6/12/2023	Analysis D	Date: 6/	13/2023	\$	SeqNo: 3	538748	Units: mg/K	(g		
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										
Surr: 4-Bromofluorobenzene		85.4	39.1	146						

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 5

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

Released to Imaging: 7/20/2023 3:10:56 PM

Client Name:	Marathon O	il Company	Work	Order Number	: 23064	89		RcptNo:	1
Received By:	Juan Roja	5	6/9/202	3 7:45:00 AM		He	andal	prof.	
Completed By:	Cheyenne		6/9/202	3 8:49:00 AM		1	and f		
Reviewed By:	,								
Chain of Cus	todv								
1. Is Chain of C		ete?			Yes	<u>/</u>	No 🗌	Not Present	
2. How was the	sample delive	ered?			Client				
Log In						_			
Was an attern	pt made to c	ool the samp	les?		Yes	<u>Z</u> i t	No 🗌	na 🗌	
4. Were all samp	oles received	at a tempera	ture of >0° C	to 6.0°C	Yes [<u> </u>	No 🗆	na 🗆	
5. Sample(s) in	proper contai	ner(s)?			Yes [<u> </u>	N o 🗆		
6. Sufficient sam	ple volume fo	or indicated te	est(s)?		Yes 🖪	<u> </u>	10 🗆		
7. Are samples (except VOA	and ONG) pro	perly preserve	ed?	Yes 🖪	1	lo 🗌		
8. Was preserva	tive added to	bottles?			Yes [] ,	10 V	NA 🗌	/
9. Received at le	ast 1 vial with	n headspace	<1/4" for AQ \	/OA?	Yes [_	lo 🗆	na 🗹	1501
10. Were any sar	nple containe	rs received b	roken?		Yes L	_} _ [Vo ✓	# of preserved bottles checked	00/00
11. Does paperwo			`		Yes 🛚		10 🗆	for pH:	>12 unless noted)
(Note discrepa		-			Yes 🖸	7 N	lo 🗌	Adjusted?	TE dinoco notody
3. Is it clear what	•		•		Yes 1		10 🗆		
4. Were all holdi	ng times able	to be met?			Yes 🛚		1o 🗆	Checked by:	
(If no, notify co Special Handl		,							
15. Was client no			with this order	?	Yes []	No 🗆	NA 🗹	
Person	Notified:			Date:			-		
By Who	om:	**************		Via: [eMai	Phone	☐ Fax	☐ In Person	
Regard	ing:							N. A. Marine Deliveration of the Control of the Con	
Client I	nstructions:								
16. Additional re	marks:								
17. Cooler Infor	mation								
Cooler No		Condition	Seal Intact		Seal Dat	e Sign	ed By		
1	0.9	Good	Not Present	Yogi		i			

	ANALYSIS LABORATORY	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	√nal	†O:	PCB's	S808\; (1.40 (1.40)728 10 ,20N	(GR)	dethores of the section of the secti	BTEX) 8081 P RCRA 6 8260 (A 8260 (A 8260 (A) X	The second second of the second secon	The second secon	Company of the Compan	the second of th				Annual to an extra book of the state of the	Remarks: its Ut S on Email to:	agiovergo@ensolum com	dona
Turn-Around Time:	X Standard W Rush (Scauge)	Project Name: Shugard West 19		Project #: 60 03 A1 0 400 4	110 Cost Center: 0029588000	Ashle	2	370	olers:	Cooler Temp(including CF): 0.9-0.20.9 (°C)	Container Preservative HEAL No. Type and # Type	I.a 00			e segonali e e e			300 per 150	The state of the second of the second of		Received by: Via: PRIME Time	Via: Date	J course 6/9/2
Chain-of-Custody Record	3		Mailing Address: On FIL		Phone #: 5 75 - 858 - 8755	#: M San Jar i ama rathonal com	☐ Level 4 (Full Validation)	Accreditation: Az Compliance	ype)		Date Time Matrix Sample Name	30830 5						И			Date: Time: Relinquished by:	Date: Time: Relinquished by:	13 1900

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.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. **Santa Fe, NM 87505**

CONDITIONS

Action 235900

CONDITIONS

Operator:	OGRID:
MARATHON OIL PERMIAN LLC	372098
990 Town & Country Blvd.	Action Number:
Houston, TX 77024	235900
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

Created By		Condition Date
jharimon	Please note that, when the well or facility is plugged or abandoned, the final remediation and reclamation shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the site is no longer being used for oil and gas operations.	7/20/2023