## E N S O L U M

September 12, 2023

**New Mexico Oil Conservation Division** New Mexico Energy, Minerals, and Natural Resources Department 1220 South St. Francis Drive Santa Fe, New Mexico 87505

#### Re: Closure Request MCA 351 Incident Number NAPP2302034681 Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Natural Resources, LLC (Maverick), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the MCA 351 (Site). The purpose of the assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a release of crude oil and produced water at the Site. Based on the excavation activities and laboratory analytical results from the soil sampling events, Maverick is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2302034681.

#### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit G, Section 26, Township 17 South, Range 32 East, in Lea County, New Mexico (32.80821° N, -103.73417° W) and is associated with oil and gas exploration and production operations on State Land managed by the New Mexico State Land Office (NMSLO).

On January 2, 2023, corrosion of a surface steel flow line resulted in the release of approximately 1.33 barrels (bbls) of crude oil and 7.81 bbls of produced water onto the surrounding pasture. No released fluids were recovered; however, a scrape of the saturated soil was completed during the initial spill response activities. Maverick reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on January 16, 2023. The release was assigned Incident Number NAPP2302034681.

#### SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 60 feet below ground surface (bgs) based on the nearest groundwater well data. A borehole (BH-4) was drilled approximately 0.5 miles northwest of the Site on March 23, 2020. The borehole was drilled during remediation activities

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associated with Incident Number NJXK1621825385 (closure was approved by NMOCD on October 26, 2022). The borehole was advanced to a depth of 60 bgs via air rotary drilling rig, and no groundwater was encountered. The boring log is included in Appendix A. The location of the borehole BH-4 is presented on Figure 1.

The closest continuously flowing or significant watercourse is greater than 300 feet from the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 10,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the pasture area that was impacted by the release, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation.

#### SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On March 17, 2023, Ensolum personnel were at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. An initial scrape of the saturated soil had been completed during spill response activities. Ensolum collected four assessment soil samples (SS01 through SS04) around the visible release extent at a depth of 0.5 feet bgs to confirm the lateral extent of the release. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

The assessment soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Eurofins Laboratories for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for assessment soil samples SS01 through SS04, collected around the release extent, indicated that all COC concentrations were compliant with the most stringent Table I Closure Criteria and defined the lateral extent of the release.



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#### **EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS**

Between August 3, 2023 and August 10, 2023, Ensolum personnel were at the Site to oversee excavation of impacted soil resulting from the January 2, 2023 release. To direct excavation activities, soil was field screened for volatile aromatic hydrocarbons (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach<sup>®</sup> chloride QuanTab<sup>®</sup> test strips. Excavation activities were performed utilizing a track-mounted backhoe and transport vehicles. The excavation was completed to depths ranging from 4 feet to 6 feet bgs.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS13, and FS11A were collected from the floor of the excavation at depths ranging from 4 feet to 6 feet bgs. Composite soil samples SW01 through SW09, and SW03A were collected from the sidewalls of the excavation at depths ranging from the ground surface to 5 feet bgs.

One pothole (PH01) was advanced within the open excavation to a depth of 11 feet bgs. Soil from the pothole was field screened at 1-foot intervals for VOCs and chloride. Final depth of the pothole was determined by field screening results indicating compliance with the most stringent Table I Closure Criteria. Field screening results and observations for the pothole were logged on a lithologic soil sampling log, which is included in Appendix C. Based on the field screening results, discrete delineation soil samples PH01B and PH01F, collected at depths of 7 feet and 11 feet bgs, were selected for laboratory analysis. The excavation and delineation soil samples were handled following the same procedures as described above and submitted to Cardinal Laboratories for analysis of BTEX, TPH, and chloride. The excavation extent and soil sample locations were mapped utilizing a handheld GPS and are presented on Figure 3.

Laboratory analytical results for excavation floor samples FS01 through FS10, FS11A, FS12, FS13 and excavation sidewall samples SW01, SW02, SW03A, and SW04 through SW09, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements for samples collected from the top four feet. Laboratory analytical results for excavation samples FS11 and SW03 initially exceeded the reclamation requirement for TPH or chloride; additional soil was removed from these areas and subsequent sidewall samples FS11A and SW03A were compliant.

Laboratory analytical results for pothole delineation samples PH01B and PH01F indicated all COC concentrations were compliant with the Site Closure Criteria. Additionally, delineation sample PH01F, collected at 11 feet bgs, was compliant with the most stringent Table I Closure Criteria and provided vertical delineation of the release. Laboratory analytical results are summarized on Table 1 and the complete laboratory analytical reports are included as Appendix D.

The excavation measured approximately 2,600 square feet in areal extent. A total of approximately 780 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Disposal Facility located in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

#### **CLOSURE REQUEST**

Site assessment and excavation activities were conducted at the Site to address the January 2, 2023, release of crude oil and produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site



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Closure Criteria and reclamation requirements, where applicable. Additionally, the release was laterally and vertically delineated to below the most stringent Table I Closure Criteria. Based on the laboratory analytical results, no further remediation is required. Maverick backfilled the excavation with material purchased locally and recontoured the Site to match pre-existing conditions.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 60 feet bgs within 0.5 miles of the Site and no sensitive receptors were identified near the release extent. Maverick believes the remedial actions completed are protective of human health, the environment, and groundwater and respectfully requests closure for Incident NAPP2302034681. NMOCD notifications are included in Appendix E and the final Form C-141 is included in Appendix F. A reclamation plan for NMSLO review is included as Appendix G.

If you have any questions or comments, please contact Ms. Aimee Cole at (720) 384-7365 or acole@ensolum.com.

Sincerely, Ensolum, LLC

é Cole

Aimee Cole Senior Managing Scientist

cc: Bryce Wagoner, Maverick Natural Resources New Mexico State Land Office

Appendices:

- Figure 1 Site Receptor Map
- Figure 2 Assessment Soil Sample Locations
- Figure 3 Excavation and Delineation Soil Sample Locations
- Table 1Soil Sample Analytical Results
- Appendix A Referenced Well Records
- Appendix B Photographic Log
- Appendix C Lithologic/Soil Sampling Log
- Appendix D Laboratory Analytical Reports & Chain of Custody Documentation
- Appendix E NMOCD Notifications
- Appendix F Final C-141
- Appendix G NMSLO Reclamation Plan





**FIGURES** 

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## TABLES

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					TABLE 1					
				May	LE ANALYTICA MCA 351 verick Permian, I County, New Me	LC				
Sample Designation	Date	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)	Chloride (mg/kg)
NMOCD Table 1	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	10,000
				Asse	ssment Soil San	nples				
SS01	8/18/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS02	3/17/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	51.1
SS03	3/17/2023	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	71.8
SS04	3/17/2023	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	77.3
				Excava	tion Floor Soil S	amples				
FS01	8/3/2023	4	<0.050	<0.300	<10.0	11.0	<10.0	11.0	11.0	32.0
FS02	8/3/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,360
FS03	8/3/2023	4	<0.050	<0.300	<10.0	116	22.9	116	138.9	1,180
FS04	8/3/2023	4	<0.050	<0.300	<10.0	107	41.4	107	148.4	1,200
FS05	8/3/2023	4	<0.050	<0.300	<10.0	469	124	469	593	656
FS06	8/3/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
FS07	8/3/2023	5	<0.050	<0.300	<10.0	130	35.6	130	165.6	208
FS08	8/3/2023	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS09	8/3/2023	5	<0.050	<0.300	<10.0	17.3	<10.0	17.3	17.3	5,440
FS10	8/3/2023	5	<0.050	<0.300	<10.0	181	44.9	181	225.9	4,800
FS11	8/3/2023	5	<0.050	<0.300	<10.0	503	151	503	654	10,000
FS11A	8/10/2023	6	<0.050	<0.300	<10.0	369	75.1	369	444	448
FS12	8/3/2023	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	912
FS13	8/3/2023	5	<0.050	<0.300	<10.0	95.0	29.1	95.0	124.1	1,200

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				Mav	TABLE 1LE ANALYTICAMCA 351verick Permian, ICounty, New Me	-LC				
Sample Designation	Date	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)	Chloride (mg/kg)
NMOCD Table 1	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	10,000
		I		Excavatio	on Sidewall Soil	Samples				
SW01*	8/3/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW02*	8/3/2023	0-4	<0.050	<0.300	<10.0	21.4	<10.0	21.4	21.4	64.0
SW03*	8/3/2023	0-4	<0.050	<0.300	<10.0	194	44	194	238	16.0
SW03A*	8/10/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW04*	8/3/2023	0-4	<0.050	<0.300	<10.0	25.5	<10.0	25.5	25.5	32.0
SW05*	8/3/2023	0-5	<0.050	<0.300	<10.0	17.2	<10.0	17.2	17.2	32.0
SW06*	8/3/2023	0-5	<0.050	<0.300	<10.0	25.7	<10.0	25.7	25.7	16.0
SW07*	8/3/2023	0-5	<0.050	<0.300	<10.0	14.3	<10.0	14.3	14.3	16.0
SW08*	8/3/2023	0-5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW09*	8/3/2023	0-5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
				Delir	neation Soil Sam	ples				
PH01B	8/10/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,120
PH01F	8/10/2023	11	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32

#### Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

TPH: Total Petroleum Hydrocarbon

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

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

Grey text represents samples that have been excavated

\* indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard in the top 4 feet is 600 mg/kg for chloride and 100 mg/kg for TPH.

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## APPENDIX A

**Referenced Well Records** 

212	C-M	D-0	2067	T	t	ETRA	A TEC	н				LOG OF BORING BH-4	Page 1 of 3
Proje	ct N	am	e: MCA	A 123 Ir	nject	tion L	ine	Rele	ase				
Borel	hole	Lo	cation: (	GPS: 32	2.810	847°	, -103	3.743	217°			Surface Elevation: 3973 ft	
Borel	hole	Nu	mber: E	3H-4						E		ole eter (in.): 8 Date Started: 3/23/2020 Date Finished: 3/2	23/2020
			ريد ر	(u	۲ (%)	NT (%)			X			WATER LEVEL OBSERVATIONS While Drilling $\underline{\nabla}$ DRY ft Upon Completion of Drilling $\underline{\Psi}$ DRY ft Remarks:	t
DEPTH (ft)	OPERATION TYPE	SAMPLE	T CHLORIDE FIELD SCREENING (ppm)	UNC FIELD	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)		D PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	EMARKS
	$\rangle\rangle$	X	208	1.6								-SM- SILTY SAND; Brown, dense, dry, with no BH-4	(0'-1')
_	$\rangle\rangle$	$\square$											
_	$\rangle\rangle$	$\forall$	361	1.7								– – – – – – – – – – – – – – – – – – –	(2'-3')
_	$\rangle\rangle$	$\exists$	657	1.9									(3'-4')
5	$\rangle\rangle$	Â	2.0	2.1								SM SILTY SAND: Tap. dopso. dpv. with po.odor	(4'-5')
	$\left< \right>$	X	2.03	1.9								BH-4	(6'-7')
 10		X	1.95	2								BH-4	(9'-10')
 15		X	9.45	3.1									(14'-15')
 20		X	3.75	3.2								BH-4	(19'-20')
 25 Samp	oler s:		2.81			e Line	r C	)pera ypes				Hand Auger Notes:	(24'-25')
			Shelby Bulk Sample Grab Sample		′ane S Califor Test P				Muc Rota Con Fligi Was Rota	tinuou: nt Auge sh	s er	Analytical samples are snown in the "Remarks" colum Surface elevation is an estimated value.	

 Logger:
 Devin Dominguez
 Drilling Equipment: Air Rotary
 Driller:
 Scarborough Drilling

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	: MCA	123 Ir	nject	ion L	ine	Rele	ase								
Loc	ation: G	6PS: 32	.810	847°,	, -103	8.7432	217°			Surface Elevation:	3973 ft				
Nur	nber: B	H-4						B	oreh iame	ble ter (in.): 8	ate Started	1: 3/23/2020	Date F	inishe	d: 3/23/2020
	pm)	(mq	:RY (%)	ENT (%)	f)		DEX			WA				Ţ	DRY_ft
SAMPLE		U VOC FIELD	SAMPLE RECOVE	MOISTURE CONT	DRY DENSITY (pc		PLASTICITY IN	MINUS NO. 200 (%	GRAPHIC LOG	MATER	AL DESC	CRIPTION		DEPTH (ft)	REMARKS
X	1.87	1.7								-SM- SILTY SAN with no staining.	ID; Tan, d	ense, dry, with no	odor,	_	BH-4 (29'-30')
X															BH-4 (34'-35')
X	1.67	1.8								-CL- CLAYSTON with no odor, with	IE; Red, n no stainir	noderately hard, r ng.	noist,	  	BH-4 (39'-40')
	Shelby	<b>–</b>			T T	Dpera ypes	Mud Rota			Hand Auger Notes: Air Rotary Surfac	ical sampl	les are shown in t on is an estimated	he "Rema value.	-  -  -  -	BH-4 (49'-50') column.
		1.87	Image: Second system       Image: Second system <td< td=""><td>Image: Second state of the second s</td><td>Image: Split Sample       1.67       1.8       Image: Split Spoon       Acetate Liner         Split Sample       Split California       California</td><td>Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)         Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)         Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)         Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)         Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)         Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)         Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)         Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)         Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)       Image: Second content (%)         Image: Second content (%)       Image: Second content (%)       <td< td=""><td>Image: second second</td><td>Image: Split Sylver       Split Sylver       Image: Split Sylver</td><td>Number:       D1-4       California         Imper:       D1-4       Imper:       Imper:</td><td>Number:       D144       Diame         Image: D144       Image: D144       Diame         Image: D144       Image: D144       Image: D144         Image: D144       Image: D144</td><td>Number         Diameter (in.):         O         Value           Image: Second state constraints         Image: Second state constraints</td><td>Value       Diameter (in.): 0       Understate         Image: Second state       WATER LEV         WATER LEV       WATER LEV         Water Second state       WATER LEV         Water Second state       Water Second state         Image: Second stat</td><td>United:     Diameter (n.): 0       Image: I</td><td>United.     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Dimeter (in): 0     Dimete</td><td>United:       Directer (in);       United Auge       Notes:         1.67       1.8       Avenue       Operation Types: Top       Image: Top       Status       Pictor       Pictor</td></td<>	Image: second	Image: Split Sylver       Split Sylver       Image: Split Sylver	Number:       D1-4       California         Imper:       D1-4       Imper:       Imper:	Number:       D144       Diame         Image: D144       Image: D144       Diame         Image: D144       Image: D144       Image: D144         Image: D144       Image: D144	Number         Diameter (in.):         O         Value           Image: Second state constraints         Image: Second state constraints	Value       Diameter (in.): 0       Understate         Image: Second state       WATER LEV         WATER LEV       WATER LEV         Water Second state       WATER LEV         Water Second state       Water Second state         Image: Second stat	United:     Diameter (n.): 0       Image: I	United.     Dimeter (in): 0     Dimete	United:       Directer (in);       United Auge       Notes:         1.67       1.8       Avenue       Operation Types: Top       Image: Top       Status       Pictor       Pictor

 Logger:
 Devin Dominguez
 Drilling Equipment: Air Rotary
 Drillen

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Project N	ame: N			tion (	lina	Rolo	250				3 of 3
		GPS:	-							Surface Elevation: 3973 ft	
Borehole					,			B			3/2020
			RY (%)	ENT (%)	(j		DEX			WATER LEVEL OBSERVATIONS While Drilling $\underline{\nabla}$ DRY ft Upon Completion of Drilling $\underline{\Psi}$ DRY ft Remarks:	
DEPTH (ft) OPERATION TYPE	SAMPLE CHLORIDE FIELD		SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)			MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	MARKS
	49										59'-60')
										Bottom of borehole at 60.0 feet.	
					(	Dnera	tion			Hand Auger Notes:	
Sampler Types:	Spi Spi Sha Bul Sau Sau Sau Sau	elby	Acetat Vane : Califor Test F	Shear mia			Muc Rota	tinuous nt Auge sh		Air Rotary Air Rotary Direct Push	

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## APPENDIX B

Photographic Log

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APPENDIX C

Lithologic Soil Sampling Logs

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								Sample Name: PH01	Date: 8/10/23
		•		<b>C</b> /					
				2 (	U L	. U		Incident Number: NAPP23020346	81
								Job Number: 03D2057065	-
	LIT	HOLOG	SIC /	SOIL SA		OG		Logged By: Ronni Hayes	Method: Trackhoe
Coordi	nates: 32.8081							Hole Diameter: ~3'	Total Depth: 11 ft bgs
					ACH Chloride	e Test Strips	and PID fo	or chloride and vapor, respectively.	
	4 dilution facto								·
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Des	scriptions
								Excavation	
D	2,441.6	3.8	N	PH01A	6	2 3 4 6	SP	SAND, poorly graded gravel abundant limestone gravel, strong odor	l with sand, white-tan color,
D	2,811.2	4.5	Ν	PH01B	7	7	SP	SAA	
D	1,204	2.2	Ν	PH01C	8	8	SP	SAA, slight odor	
D	1,114.4	0.3	N	PH01D	9	9	SP	SAND, poorly graded gravel limestone gravel, white colo	
D	806	0.4	N	PH01E	10	10	SP	SAA	
D	397.6	0.1	N	PH01F	11	_ 11	SP	SAA	
					-	Ī		TD at 11 ft bgs	



## APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

Received by OCD: 9/14/2023 3:25:41 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 4/3/2023 1:48:06 PM

## JOB DESCRIPTION

Maverick MCA 351 SDG NUMBER Lea County NM

## **JOB NUMBER**

890-4358-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information.

Received by OCD: 9/14/2023 3:25:41 PM

## **Eurofins Carlsbad**

**Job Notes** 

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization

RAMER

Generated 4/3/2023 1:48:06 PM

Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Laboratory Job ID: 890-4358-1 SDG: Lea County NM

# **Table of Contents**

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2

	Definitions/Glossary	
Client: Ensolum	Job ID: 890-4358-1	
Project/Site: Ma	averick MCA 351 SDG: Lea County NM	
Qualifiers		3
GC VOA		
Qualifier	Qualifier Description	
F1	MS and/or MSD recovery exceeds control limits.	
F2	MS/MSD RPD exceeds control limits	5
U	Indicates the analyte was analyzed for but not detected.	
GC Semi VOA		
Qualifier	Qualifier Description	
S1+	Surrogate recovery exceeds control limits, high biased.	
U	Indicates the analyte was analyzed for but not detected.	
HPLC/IC		8
Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	9
Glossary		10
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CFL	Contains Free Liquid	
CFU	Colony Forming Unit	
CNF	Contains No Free Liquid	44
DER	Duplicate Error Ratio (normalized absolute difference)	1:
Dil Fac	Dilution Factor	
DL	Detection Limit (DoD/DOE)	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision Level Concentration (Radiochemistry)	
EDL	Estimated Detection Limit (Dioxin)	
LOD	Limit of Detection (DoD/DOE)	

Released to Imaging: 1/12/2024 10:16:06 AM

Limit of Quantitation (DoD/DOE)

Method Detection Limit

Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Negative / Absent

Positive / Present

Presumptive

Quality Control

Method Quantitation Limit

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin)

Too Numerous To Count

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

EPA recommended "Maximum Contaminant Level"

Minimum Detectable Concentration (Radiochemistry)

Not Detected at the reporting limit (or MDL or EDL if shown)

Minimum Detectable Activity (Radiochemistry)

LOQ

MCL MDA

MDC

MDL

MPN

MQL

NC

ND NEG

POS

PQL

PRES

QC

RER

RPD

TEF

TEQ TNTC

RL

ML

4

5

#### Job ID: 890-4358-1 SDG: Lea County NM

#### Job ID: 890-4358-1

Client: Ensolum

#### Laboratory: Eurofins Carlsbad

Project/Site: Maverick MCA 351

#### Narrative

Job Narrative 890-4358-1

#### Receipt

The sample was received on 3/20/2023 9:01 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

#### **Receipt Exceptions**

The following sample was received and analyzed from an unpreserved bulk soil jar: SS02 (890-4358-1).

#### GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-49613 and analytical batch 880-49785 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### GC Semi VOA

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (890-4352-A-1-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: SS02 (890-4358-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Job ID: 890-4358-1 SDG: Lea County NM

## Client Sample ID: SS02

Project/Site: Maverick MCA 351

Date Collected: 03/17/23 11:50 Date Received: 03/20/23 09:01

Sample Depth: 0.5'

Client: Ensolum

SDG: Lea County N

## Lab Sample ID: 890-4358-1

Matrix: Solid

Method: SW846 8021B - Volatile Organic Cor	າpounds (GC	;)					
	ult Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene <0.002	)1 U	0.00201	mg/Kg		03/27/23 11:12	03/29/23 19:31	1
Toluene <0.002	)1 U	0.00201	mg/Kg		03/27/23 11:12	03/29/23 19:31	1
Ethylbenzene <0.002	)1 U	0.00201	mg/Kg		03/27/23 11:12	03/29/23 19:31	1
m-Xylene & p-Xylene <0.004	)2 U	0.00402	mg/Kg		03/27/23 11:12	03/29/23 19:31	1
o-Xylene <0.002	)1 U	0.00201	mg/Kg		03/27/23 11:12	03/29/23 19:31	1
Xylenes, Total <0.004	)2 U	0.00402	mg/Kg		03/27/23 11:12	03/29/23 19:31	1
Surrogate %Recover	ry Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr) 1	02	70 - 130			03/27/23 11:12	03/29/23 19:31	1
1,4-Difluorobenzene (Surr)	78	70 - 130			03/27/23 11:12	03/29/23 19:31	1
 Method: TAL SOP Total BTEX - Total BTEX C	alculation						
	ult Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX <0.004		0.00402	mg/Kg		· · ·	03/30/23 13:19	1
	ult Qualifier			D	Prepared	Analyzed	Dil Fac
Total TPH <48	.9 U	49.9	mg/Kg			03/27/23 11:30	1
– Method: SW846 8015B NM - Diesel Range Or	ranice (DPO	) (GC)					
	ult Qualifier						
		RL	Unit	D	Prepared	Analyzed	Dil Fac
5 - 5	.9 U	<b>RL</b> 49.9	Unit mg/Kg	D	Prepared 03/24/23 16:46	Analyzed	Dil Fac
(GRO)-C6-C10 Diesel Range Organics (Over <45	.9 U .9 U			<u> </u>	·		
(GRO)-C6-C10 Diesel Range Organics (Over <45 C10-C28)		49.9	mg/Kg	<u> </u>	03/24/23 16:46	03/26/23 19:07	1
(GRO)-C6-C10 Diesel Range Organics (Over <49 C10-C28)	.9 U .9 U	49.9	mg/Kg	<u> </u>	03/24/23 16:46 03/24/23 16:46	03/26/23 19:07 03/26/23 19:07	1
(GRO)-C6-C10Diesel Range Organics (OverC10-C28)Oll Range Organics (Over C28-C36)Surrogate%Recover	.9 U .9 U	49.9 49.9 49.9	mg/Kg	<u> </u>	03/24/23 16:46 03/24/23 16:46 03/24/23 16:46	03/26/23 19:07 03/26/23 19:07 03/26/23 19:07	1
(GRO)-C6-C10Diesel Range Organics (OverC10-C28)Oll Range Organics (Over C28-C36)Surrogate1-Chlorooctane	.9 U .9 U <b>ry <u>Qualifier</u></b>	49.9 49.9 49.9 <i>Limits</i>	mg/Kg	<u>D</u>	03/24/23 16:46 03/24/23 16:46 03/24/23 16:46 <b>Prepared</b>	03/26/23 19:07 03/26/23 19:07 03/26/23 19:07 03/26/23 19:07 Analyzed	1 1 1 <b>Dil Fac</b>
(GRO)-C6-C10C10Diesel Range Organics (Over<45	.9 U .9 U <b>ry Qualifier</b> 70 S1+ 52 S1+	49.9 49.9 49.9 <u>Limits</u> 70 - 130 70 - 130	mg/Kg	<u>D</u>	03/24/23 16:46 03/24/23 16:46 03/24/23 16:46 <b>Prepared</b> 03/24/23 16:46	03/26/23 19:07 03/26/23 19:07 03/26/23 19:07 03/26/23 19:07 <u>Analyzed</u> 03/26/23 19:07	1 1 1 <i>Dil Fac</i> 1
(GRO)-C6-C10       Oilesel Range Organics (Over       <49	.9 U .9 U <b>ry Qualifier</b> 70 S1+ 52 S1+	49.9 49.9 49.9 <u>Limits</u> 70 - 130 70 - 130	mg/Kg	<u>D</u>	03/24/23 16:46 03/24/23 16:46 03/24/23 16:46 <b>Prepared</b> 03/24/23 16:46	03/26/23 19:07 03/26/23 19:07 03/26/23 19:07 03/26/23 19:07 <u>Analyzed</u> 03/26/23 19:07	1 1 1 <i>Dil Fac</i> 1

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Project/Site: Maverick MCA 351

#### Job ID: 890-4358-1 SDG: Lea County NM

Prep Type: Total/NA

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Client: Ensolum

				Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		5
890-4344-A-1-B MS	Matrix Spike	88	118		
890-4344-A-1-C MSD	Matrix Spike Duplicate	106	105		6
890-4358-1	SS02	102	78		
LCS 880-49613/1-A	Lab Control Sample	106	108		
LCSD 880-49613/2-A	Lab Control Sample Dup	102	113		
MB 880-49613/5-A	Method Blank	74	82		8
Surrogate Legend					
BFB = 4-Bromofluorobe	nzene (Surr)				9
	( <b>a</b> )				

DFBZ = 1,4-Difluorobenzene (Surr)

### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid				Prep Type: Total/NA	
		1CO1	OTPH1	Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		
890-4352-A-1-B MS	Matrix Spike	79	76		
890-4358-1	SS02	170 S1+	162 S1+		
LCS 880-49456/2-A	Lab Control Sample	77	83		
LCSD 880-49456/3-A	Lab Control Sample Dup	76	85		
MB 880-49456/1-A	Method Blank	107	111		

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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### **QC Sample Results**

Client: Ensolum Project/Site: Maverick MCA 351

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49	613/5-A

Matrix: Solid Analysis Batch: 49785

-	МВ	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/27/23 11:12	03/29/23 11:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/27/23 11:12	03/29/23 11:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/27/23 11:12	03/29/23 11:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/27/23 11:12	03/29/23 11:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/27/23 11:12	03/29/23 11:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/27/23 11:12	03/29/23 11:58	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130			03/27/23 11:12	03/29/23 11:58	1
1,4-Difluorobenzene (Surr)	82		70 - 130			03/27/23 11:12	03/29/23 11:58	1

#### Lab Sample ID: LCS 880-49613/1-A Matrix: Solid

### Analysis Batch: 49785

	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	0.100	0.1046		mg/Kg		105	70 - 130
Toluene	0.100	0.09913		mg/Kg		99	70 - 130
Ethylbenzene	0.100	0.09684		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	0.200	0.2063		mg/Kg		103	70 - 130
o-Xylene	0.100	0.1040		mg/Kg		104	70 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

#### Lab Sample ID: LCSD 880-49613/2-A

#### Matrix: Solid

Analysis Batch: 49785							Prep	Batch:	49613
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1045		mg/Kg		105	70 - 130	0	35
Toluene	0.100	0.08648		mg/Kg		86	70 - 130	14	35
Ethylbenzene	0.100	0.07737		mg/Kg		77	70 - 130	22	35
m-Xylene & p-Xylene	0.200	0.1550		mg/Kg		77	70 - 130	28	35
o-Xylene	0.100	0.07896		mg/Kg		79	70 - 130	27	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

### Lab Sample ID: 890-4344-A-1-B MS

#### Matrix: Solid Analysis Potoby 40795

Analysis Batch: 49785									Prep	Batch: 49613
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00199	U	0.0998	0.09065		mg/Kg		91	70 - 130	
Toluene	<0.00199	U F1	0.0998	0.06630	F1	mg/Kg		66	70 - 130	

**Eurofins Carlsbad** 

Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

## **Client Sample ID: Method Blank** Prep Type: Total/NA

Job ID: 890-4358-1 SDG: Lea County NM

Prep Batch: 49613

### **Client Sample ID: Lab Control Sample**

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 49613 3

### QC Sample Results

Client: Ensolum Project/Site: Maverick MCA 351

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

#### Lab Sample ID: 890-4344-A-1-B MS **Client Sample ID: Matrix Spike** Matrix: Solid Prep Type: Total/NA Analysis Batch: 49785 Prep Batch: 49613 Sample Sample Spike MS MS %Rec Analyte **Result Qualifier** Added **Result Qualifier** Unit %Rec Limits D Ethylbenzene <0.00199 U F1 F2 0.0998 0.05617 F1 56 70 - 130 mg/Kg U F1 F2 0.1087 F1 m-Xylene & p-Xylene <0.00398 0.200 mg/Kg 54 70 - 130 <0.00199 U F1 F2 0.0998 0.05628 F1 56 70 - 130 o-Xylene mg/Kg MS MS Surrogate %Recovery Qualifier Limits 70 - 130 4-Bromofluorobenzene (Surr) 88 1,4-Difluorobenzene (Surr) 70 - 130 118 Lab Sample ID: 890-4344-A-1-C MSD **Client Sample ID: Matrix Spike Duplicate** Matrix: Solid Prep Type: Total/NA Analysis Batch: 49785 Prep Batch: 49613 Sample Sample Spike MSD MSD %Rec RPD Result Qualifier %Rec RPD Limit Analyte Added Result Qualifier Limits Unit D Benzene <0.00199 U 0.0990 0.09456 mg/Kg 96 70 - 130 4 35 0.08943 Toluene <0.00199 UF1 0.0990 mg/Kg 90 70 - 130 30 35 Ethylbenzene <0.00199 U F1 F2 0.0990 0.08761 F2 88 70 - 130 44 35 mg/Kg m-Xylene & p-Xylene <0.00398 U F1 F2 0.198 0.1814 F2 mg/Kg 92 70 - 130 50 35 <0.00199 U F1 F2 0.0990 0.09115 F2 92 70 - 130 o-Xylene mg/Kg 47 35 MSD MSD Surrogate Qualifier Limits %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 106 1,4-Difluorobenzene (Surr) 105 70 - 130

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-49456/1- Matrix: Solid Analysis Batch: 49514						Client Sa	mple ID: Metho Prep Type: 1 Prep Batch	otal/NA
Analyte		MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0		50.0	mg/Kg		03/24/23 16:46	03/26/23 08:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/24/23 16:46	03/26/23 08:27	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/24/23 16:46	03/26/23 08:27	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130			03/24/23 16:46	03/26/23 08:27	1
o-Terphenyl	111		70 - 130			03/24/23 16:46	03/26/23 08:27	1
Lab Sample ID: LCS 880-49456/2	?-A				c	lient Sample I	D: Lab Control	Sample

#### Matrix: Solid Prep Type: Total/NA Analysis Batch: 49514 Prep Batch: 49456 Spike LCS LCS %Rec Analyte Added Result Qualifier Unit D %Rec Limits 1000 882.5 88 70 - 130Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 790.5 mg/Kg 79 70 - 130 C10-C28)

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## **QC Sample Results**

Client: Ensolum Project/Site: Maverick MCA 351

### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

_ab Sample ID: LCS 880-494	456/2-A						Client	Sample	ID: Lab Co	ontrol Sa	ample
Matrix: Solid										ype: Tot	
Analysis Batch: 49514										Batch:	
	LCS	1.00									
S			Limits								
Surrogate I-Chlorooctane	%Recovery 	Qualifier	70 - 130								
	83		70 - 130 70 - 130								
-Terphenyl	03		70 - 130								
ab Sample ID: LCSD 880-4	9456/3-A					Clie	nt Sam	ple ID: I	_ab Contro	I Sample	e Du
Matrix: Solid										ype: Tot	
Analysis Batch: 49514										Batch:	
			Spike	LCSD	LCSD				%Rec		RP
Analyte			Added		Qualifier	Unit	D	%Rec	Limits	RPD	Lim
Gasoline Range Organics			1000	935.9		mg/Kg		94	70 - 130	6	2
GRO)-C6-C10			1000	00010				0.	10-100	0	-
Diesel Range Organics (Over			1000	802.7		mg/Kg		80	70 - 130	2	2
C10-C28)											
	LCSD	LCSD									
urrogate	%Recovery	Qualifier	Limits								
-Chlorooctane			70 - 130								
p-Terphenyl	85		70 - 130								
_ab Sample ID: 890-4352-A-	-1-B MS							Client	Sample ID	: Matrix	Spik
	-1-B MS							Client			
Matrix: Solid	-1-B MS							Client	Prep T	: Matrix ype: Tot Batch: /	al/N
Matrix: Solid	-1-B MS Sample	Sample	Spike	MS	MS			Client	Prep T	ype: Tot	al/N
Matrix: Solid Analysis Batch: 49514	Sample	Sample Qualifier	Spike Added		MS Qualifier	Unit	D	Client %Rec	Prep T Prep	ype: Tot	al/N
Matrix: Solid Analysis Batch: 49514 Analyte	Sample	Qualifier	•			- <mark>Unit</mark> mg/Kg	D		Prep T Prep %Rec	ype: Tot	al/N
Matrix: Solid Analysis Batch: 49514 Analyte Gasoline Range Organics	Sample Result	Qualifier	Added	Result			<u>D</u>	%Rec	Prep T Prep %Rec Limits	ype: Tot	al/N
Matrix: Solid Analysis Batch: 49514 Analyte Basoline Range Organics GRO)-C6-C10	Sample Result	Qualifier	Added	Result			<u>D</u>	%Rec	Prep T Prep %Rec Limits	ype: Tot	al/N
Matrix: Solid Analysis Batch: 49514 Analyte Basoline Range Organics GRO)-C6-C10 Diesel Range Organics (Over	Sample Result <49.9	Qualifier	Added	<b>Result</b> 831.5		mg/Kg	D	<b>%Rec</b> 79	Prep T Prep %Rec Limits 70 - 130	ype: Tot	al/N
Matrix: Solid Analysis Batch: 49514 Analyte Basoline Range Organics GRO)-C6-C10 Diesel Range Organics (Over	Sample 	Qualifier U	Added	<b>Result</b> 831.5		mg/Kg	<u>D</u>	<b>%Rec</b> 79	Prep T Prep %Rec Limits 70 - 130	ype: Tot	al/N
Matrix: Solid Analysis Batch: 49514 Analyte Gasoline Range Organics GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Sample <u>Result</u> <49.9 <49.9 <i>MS</i>	Qualifier	Added	<b>Result</b> 831.5		mg/Kg	<u>D</u>	<b>%Rec</b> 79	Prep T Prep %Rec Limits 70 - 130	ype: Tot	al/N
Lab Sample ID: 890-4352-A- Matrix: Solid Analysis Batch: 49514 Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane	Sample Result <49.9 <49.9 MS %Recovery	Qualifier U U MS	Added 998 998 Limits	<b>Result</b> 831.5		mg/Kg	<u> </u>	<b>%Rec</b> 79	Prep T Prep %Rec Limits 70 - 130	ype: Tot	al/N
Matrix: Solid Analysis Batch: 49514 Analyte Basoline Range Organics GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Sample <u>Result</u> <49.9 <49.9 <i>MS</i>	Qualifier U U MS	Added	<b>Result</b> 831.5		mg/Kg	<u>D</u>	<b>%Rec</b> 79	Prep T Prep %Rec Limits 70 - 130	ype: Tot	al/N
Matrix: Solid Analysis Batch: 49514 Sasoline Range Organics GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate -Chlorooctane -Terphenyl	Sample Result <49.9 <49.9 MS %Recovery 79 76	Qualifier U U MS Qualifier	Added 998 998 <u>Limits</u> 70 - 130	<b>Result</b> 831.5		mg/Kg	<u>D</u>	<b>%Rec</b> 79	Prep T Prep %Rec Limits 70 - 130	ype: Tot	al/N
Matrix: Solid Analysis Batch: 49514 Gasoline Range Organics GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate Chlorooctane D-Terphenyl	Sample Result <49.9 <49.9 MS %Recovery 79 76	Qualifier U U MS Qualifier	Added 998 998 <u>Limits</u> 70 - 130	<b>Result</b> 831.5		mg/Kg	D	<b>%Rec</b> 79	Prep T Prep %Rec Limits 70 - 130	ype: Tot	al/N
Matrix: Solid Analysis Batch: 49514 Basoline Range Organics GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate I-Chlorooctane D-Terphenyl ethod: 300.0 - Anions,	Sample Result <49.9 <49.9 MS %Recovery 79 76 Ion Chromat	Qualifier U U MS Qualifier	Added 998 998 <u>Limits</u> 70 - 130	<b>Result</b> 831.5		mg/Kg	<u> </u>	%Rec 79 80	Prep T Prep %Rec Limits 70 - 130 70 - 130	ype: Tot Batch: /	4945
Matrix: Solid Analysis Batch: 49514 Basoline Range Organics GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate I-Chlorooctane D-Terphenyl ethod: 300.0 - Anions, Lab Sample ID: MB 880-498	Sample Result <49.9 <49.9 MS %Recovery 79 76 Ion Chromat	Qualifier U U MS Qualifier	Added 998 998 <u>Limits</u> 70 - 130	<b>Result</b> 831.5		mg/Kg	D	%Rec 79 80	Prep T Prep %Rec Limits 70 - 130 70 - 130	ype: Tot Batch: /	dal/N. 4945
Matrix: Solid Analysis Batch: 49514 Basoline Range Organics GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate I-Chlorooctane D-Terphenyl ethod: 300.0 - Anions,	Sample Result <49.9 <49.9 MS %Recovery 79 76 Ion Chromat	Qualifier U U MS Qualifier	Added 998 998 <u>Limits</u> 70 - 130	<b>Result</b> 831.5		mg/Kg	<u> </u>	%Rec 79 80	Prep T Prep %Rec Limits 70 - 130 70 - 130	ype: Tot Batch: /	dial/N/ 4945

Analyte Chloride	<b>Result</b> <5.00	Qualifier	<b>RL</b> 5.00		Unit mg/Kg	<u> </u>	Prepared	Analyzed 03/31/23 22:20	Dil Fac
Lab Sample ID: LCS 880-49881/2-A Matrix: Solid Analysis Batch: 50038						Cli	ient Sample	ID: Lab Control Prep Type:	
Analysis Daten. 30030			Spike	LCS LCS	;			%Rec	

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	263.2		mg/Kg		105	90 - 110	

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## **QC Sample Results**

Client: Ensolum Project/Site: Maverick MCA 351 Job ID: 890-4358-1 SDG: Lea County NM

### Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-498 Matrix: Solid Analysis Batch: 50038	81/3-A					Clien	it Sam	ple ID:	Lab Contro Prep	ol Sampl Type: S	
Analysis Baten. 00000			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride			250	263.2		mg/Kg		105	90 - 110	0	20
- Lab Sample ID: 890-4352-A-11	-D MS							Client	Sample ID	: Matrix	Spike
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 50038											
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	33.6		252	285.7		mg/Kg		100	90 _ 110		
- Lab Sample ID: 890-4352-A-11	-E MSD					Cli	ent Sa	ample II	D: Matrix S	oike Dup	olicate
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 50038											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	33.6		252	285.7		mg/Kg		100	90 - 110	0	20

Eurofins Carlsbad

### **QC Association Summary**

Client: Ensolum Project/Site: Maverick MCA 351

#### Prep Batch 40642

ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
390-4358-1	SS02	Total/NA	Solid	5035	
IB 880-49613/5-A	Method Blank	Total/NA	Solid	5035	
CS 880-49613/1-A	Lab Control Sample	Total/NA	Solid	5035	
CSD 880-49613/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
90-4344-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
90-4344-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	
nalysis Batch: 49785		Iotai/NA	Solid	5055	
		iotai//NA	Solid	5055	
alysis Batch: 49785 ab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
alysis Batch: 49785 ab Sample ID 90-4358-1	Client Sample ID	Prep Type Total/NA	Matrix Solid	Method 8021B	49613
alysis Batch: 49785 ab Sample ID 90-4358-1	Client Sample ID	Ргер Туре	Matrix	Method	
alysis Batch: 49785 ab Sample ID 90-4358-1 IB 880-49613/5-A	Client Sample ID	Prep Type Total/NA	Matrix Solid	Method 8021B	49613
alysis Batch: 49785 ab Sample ID 90-4358-1 IB 880-49613/5-A CS 880-49613/1-A	Client Sample ID SS02 Method Blank	Prep Type Total/NA Total/NA	Matrix Solid Solid	Method 8021B 8021B	49613 49613
	Client Sample ID SS02 Method Blank Lab Control Sample	<b>Prep Type</b> Total/NA Total/NA Total/NA	Matrix Solid Solid Solid	Method 8021B 8021B 8021B 8021B	49613 49613 49613

#### Analysis Batch: 49949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
890-4358-1	SS02	Total/NA	Solid	Total BTEX		

#### GC Semi VOA

#### Prep Batch: 49456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4358-1	SS02	Total/NA	Solid	8015NM Prep	
MB 880-49456/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49456/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49456/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4352-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 49514

Lab Sample ID 890-4358-1	Client Sample ID SS02	Prep Type Total/NA	Matrix Solid	Method 8015B NM	Prep Batch 49456
MB 880-49456/1-A	Method Blank	Total/NA	Solid	8015B NM	49456
LCS 880-49456/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49456
LCSD 880-49456/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49456
890-4352-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	49456

#### Analysis Batch: 49620

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-4358-1	SS02	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 49881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4358-1	SS02	Soluble	Solid	DI Leach	
MB 880-49881/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49881/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49881/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4352-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4352-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

### Job ID: 890-4358-1 SDG: Lea County NM

## **QC** Association Summary

Client: Ensolum Project/Site: Maverick MCA 351 SDG: Lea County NM

#### HPLC/IC

#### Analysis Batch: 50038

nalysis Batch: 50038					
.ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
90-4358-1	SS02	Soluble	Solid	300.0	49881
B 880-49881/1-A	Method Blank	Soluble	Solid	300.0	49881
CS 880-49881/2-A	Lab Control Sample	Soluble	Solid	300.0	49881
CSD 880-49881/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49881
0-4352-A-11-D MS	Matrix Spike	Soluble	Solid	300.0	49881
0-4352-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	49881

## Job ID: 890-4358-1

Job ID: 890-4358-1 SDG: Lea County NM

### Lab Sample ID: 890-4358-1 Matrix: Solid

Date Collected: 03/17/23 11:50 Date Received: 03/20/23 09:01

**Client Sample ID: SS02** 

Project/Site: Maverick MCA 351

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	49613	03/27/23 11:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49785	03/29/23 19:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49949	03/30/23 13:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			49620	03/27/23 11:30	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	49456	03/24/23 16:46	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49514	03/26/23 19:07	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	49881	03/29/23 16:18	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50038	04/01/23 00:16	SMC	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Carlsbad

Released to Imaging: 1/12/2024 10:16:06 AM

Accreditation/Certification Summary

Client: Ensolum Project/Site: Maverick MCA 351

#### Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

thority	P	Program	Identification Number	Expiration Date
as	N	IELAP	T104704400-22-25	06-30-23
The following analytes	are included in this report, b	out the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes for
the agency does not o		Martin	A 1	
the agency does not o Analysis Method	fer certification.	Matrix	Analyte	
6 ,		Matrix Solid	Analyte Total TPH	

10

Job ID: 890-4358-1

SDG: Lea County NM

Eurofins Carlsbad

### **Method Summary**

Client: Ensolum Project/Site: Maverick MCA 351

Job ID: 890-4358-1 SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID
Protocol Refe	srences: STM International		
	Environmental Protection Agency		
	"Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edi	tion. November 1986 And Its Updates.	
	= TestAmerica Laboratories, Standard Operating Procedure	,	
Laboratory R			
EET MID :	= Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		

#### Laboratory References:

Eurofins Carlsbad
## **Sample Summary**

Client: Ensolum Project/Site: Maverick MCA 351 Job ID: 890-4358-1 SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth	
890-4358-1	SS02	Solid	03/17/23 11:50	03/20/23 09:01	0.5'	4
						5
						8
						9
						12
						13

PM

Received by OCD: 9/14/2023 3:25:41

# 0 7 6 11 12</th

# 🔅 eurofins

Environment Testing Xenco

## **Chain of Custody**

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334 EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: \_\_\_\_\_

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Project Manager:	Kalei Jenr	ings				Bill to: (if	different	)	Kalei	Jennin	igs												Comment		
Company Name:	Ensolum,	LC				Compan	y Name	:	Ensol	um, LL	.C						Progr	am: បទ	ST/PS	Т	RP	Brow	nfields 🗌	RRC	Superfund
Address:	601 N Ma	ienfeld S	St Suite 4	400		Address			601 N	Магіе	enfeld S	st Suite	e 400				State of Project:         Reporting: Level II Level III PST/UST TRRP Level         Deliverables: EDD ADaPT Other:					_			
City, State ZIP:	Midland, 1	X 79701				City, Sta	te ZIP:		Midla	nd, TX	79701					_ 1						Level IV			
Phone:	817-683-2				Email:	kjennin		solun	n.com	dnika	anorov	@ens	solum	.com											
Project Name:	1 M	verick N	ICA 351		Turn	Around			<b></b>					ANAL	YSIS	REQ	UEST						Pres	servati	ve Codes
Project Name: Project Number:		03D205			Routine	Rus		Pres. Code															None: NC	)	DI Water: H
		ea Cour			Due Date:			Cour															Cool: Coo	bi	MeOH: Me
Project Location: Sampler's Name:		mitry Nik			TAT starts th	e day rece	ived by																HCL: HC		HNO3: HN
PO #:					the lab, if rec			2					1					1 10010000	 		I	1	H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	2	NaOH: Na
SAMPLE RECE	IPT Te	mp Blank	: Ye	es) No	Wet Ice:	Nes	No	Parameters	(0														H <sub>3</sub> PO <sub>4</sub> : H		
Samples Received		es) No		rmometer	ID:	TOM	-607	aran	300.												NaHSO <sub>4</sub> :				
Cooler Custody Sea	ils: Yes	-No (N	/	rection Fa		10	.7	à	:Yd				89	0-435	8 Ch-		f Custody						Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> :		4.70
Sample Custody Se	als: Yes	No 4		perature		2	2		S (E		-				oona	11 01 (	or Custody						Zn Acetat		Acid: SAPC
Total Containers:			Corri	rected Ter	mperature:	1 de	N		RIDE	3015	(802		-		1	1		1				1	NaOITA		
Sample Ide	ntification	Ma	triv i	Date Impled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021												San	nple Co	omments
SS	02	S	3/1	17/2023	11:50	0.5'	Grab	1	X	X	X														
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Environment Testing

T TSP Dodecahydrate U Acetone V MCAA W pH 4-5

Phone 432-704-5440	Sampler			L. a	- 014								36						l Env
Client Information (Sub Contract Lab)	Sampler				PM amer J	lessic	а					Cari	rier Tra	icking N	vo(s)			COC No 880-6566 1	
Client Contact: Shipping/Receiving	Phone			E-N	lail								e of Or					Page:	
Company.	<u>I</u>			Je	ssica K		-					Ne	w Me	xico				Page 1 of 1	
Eurofins Environment Testing South Centr						ditation			see no	ote).								Job #: 890-4358-1	
Address 1211 W Florida Ave	Due Date Request	ed																Preservation Cod	les
City	3/24/2023 TAT Requested (d	avs):			Same and			,	Ar	alys	is Re	eque	sted	, ,			Sec. 1	A HCL	M He
Midland						de la compañía de la												B NaOH C - Zn Acetate	N Noi O Asi
State, Zip: TX 79701					÷ (	Ŧ												D Nitric Acid	P Na Q Na
Phone:	PO #				- 4	Fin												E NaHSO4 F MeOH	R Na
432-704-5440(Tel)						L O	ļ	8										G Amchlor H Ascorbic Acid	S H29 T TSF
Email	WO #				or No)	٩ ٤		jor	×									I Ice	U Ace V MC
Project Name	Project #				- 8 1	Prep (N		D T	BTE								e Se	J DIWater K EDTA	W pH
Maverick MCA 351	89000094				20			EAO	<u>a</u>								containers	L EDA	Y Triz Z othe
Site	SSOW# <sup>.</sup>				Sample (Y	retrom mojimoju (195 of Noj) 8016MOD_NM/8016NM_S_Prep (MOD) Full TPH		300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX									Other <sup>.</sup>	
		T	<u> </u>	1	_ \$] §	1/80	2	28D	S	Š							Total Number of		
			Sample	Matrix (w=water	tered		8016MOD_Calc	M	36FI	Total_BTEX_GCV							a de		
		Sample	Type (C=comp,	S=solid,	I E	ION I	U N	No.	B/50	<u> </u>									
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab)	O=waste/oil, BT=Tissue, A=A		8015	8015	8	8021	Total							Tota	Special Ir	retructi
		$\geq$	Preserva	ation Code:	$\infty$	<						-					Ń		
SS02 (890-4358-1)	3/17/23	11 50		Solid	П	x	X	x	x	x							4		unter des des ser d'Aren.
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Note. Since laboratory accreditations are subject to change Eurofins E laboratory does not currently maintain accreditation in the State of Orio	invironment Testing South Center	ral LLC places	the ownership	o of method, a	nalyte &	accredi	itation o	omplia	nce u	pon ou	r subcor	ntract la	aborato	Dries. 1	This sa	mple shi	 ipment	t is forwarded under o	
laboratory does not currently maintain accreditation in the State of Orig accreditation status should be brought to Eurofins Environment Testing	South Central LLC attention in	nmediately If	all requested a	accreditations	are curre	ed back nt to da	ate, retu	Eurofir	is Env signer	d Chair	of Cus	ing Sou tody at	th Cer testing	to said	LC labo i comp	liance to	r other Eurof	r instructions will be p fins Environment Test	rovided A
Possible Hazard Identification					s	ampl	e Dís	posal	(A)	fee m	ay be	asse	ssed	if saı	mple	s are r	etain	ed longer than 1	month
Unconfirmed						P	Returi	n To C	Client			Disp	osal E	3y Lal	b			hive For	Moi
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Relinquished by CLUR	Date/Time:			Company		Red	oring	V	7	11	1	$\forall$			Date/T	ìme			Compa
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Relinquished by	Date/Time																		
·				Company		Rec	eived b	y'							Date/T	ime:			Compa
Custody Seals Intact: Custody Seal No $\Delta$ Yes $\Delta$ No						Coo	ler Ten	nperatu	re(s)	°C and	Other F	Remark	s						-

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## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 4358 List Number: 1 Creator: Stutzman, Amanda

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Job Number: 890-4358-1 SDG Number: Lea County NM

List Source: Eurofins Carlsbad

Eurofins Carlsbad Released to Imaging: 1/12/2024 10:16:06 AM

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Job Number: 890-4358-1 SDG Number: Lea County NM

List Source: Eurofins Midland

List Creation: 03/21/23 11:22 AM

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 4358 List Number: 2 Creator: Teel, Brianna

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	True	

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 4360 List Number: 1 Creator: Stutzman, Amanda

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Job Number: 890-4360-1 SDG Number: Lea County NM

List Source: Eurofins Carlsbad

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Job Number: 890-4360-1 SDG Number: Lea County NM

List Source: Eurofins Midland

List Creation: 03/21/23 11:22 AM

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 4360 List Number: 2 Creator: Teel, Brianna

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	True	

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

Received by OCD: 9/14/2023 3:25:41 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 4/3/2023 1:49:23 PM

# **JOB DESCRIPTION**

Maverick MCA 351 SDG NUMBER Lea County NM

## **JOB NUMBER**

890-4361-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information.

Received by OCD: 9/14/2023 3:25:41 PM

## **Eurofins Carlsbad**

**Job Notes** 

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization

RAMER

Generated 4/3/2023 1:49:23 PM

Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Laboratory Job ID: 890-4361-1 SDG: Lea County NM

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## **Definitions/Glossary**

Client: Ensolum	
Project/Site: Maverick MCA 351	

Job ID: 890-4361-1 SDG: Lea County NM

Qualifiers		3
GC VOA Qualifier	Qualifier Description	4
S1+	Surrogate recovery exceeds control limits, high biased.	
U	Indicates the analyte was analyzed for but not detected.	5
GC Semi VOA		
Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	
HPLC/IC		
Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	8
Glossary		9
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CFL	Contains Free Liquid	
CFU	Colony Forming Unit	
CNF	Contains No Free Liquid	
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	12
DL	Detection Limit (DoD/DOE)	13
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision Level Concentration (Radiochemistry)	
EDL	Estimated Detection Limit (Dioxin)	
LOD	Limit of Detection (DoD/DOE)	
LOQ	Limit of Quantitation (DoD/DOE)	
MCL	EPA recommended "Maximum Contaminant Level"	

MDA Minimum Detectable Activity (Radiochemistry)

- MDC Minimum Detectable Concentration (Radiochemistry)
- MDLMethod Detection LimitMLMinimum Level (Dioxin)
- MPN
   Most Probable Number

   MQL
   Method Quantitation Limit

   NC
   Not Calculated
- ND Not Detected at the reporting limit (or MDL or EDL if shown)
- NEGNegative / AbsentPOSPositive / Present
- PQL Practical Quantitation Limit
- PRES Presumptive
- QC Quality Control
- RER Relative Error Ratio (Radiochemistry)
- RL Reporting Limit or Requested Limit (Radiochemistry)
- RPD Relative Percent Difference, a measure of the relative difference between two points
- TEF Toxicity Equivalent Factor (Dioxin)
- TEQ Toxicity Equivalent Quotient (Dioxin)
- TNTC Too Numerous To Count

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Job ID: 890-4361-1 SDG: Lea County NM

#### Job ID: 890-4361-1

Client: Ensolum

#### Laboratory: Eurofins Carlsbad

Project/Site: Maverick MCA 351

#### Narrative

Job Narrative 890-4361-1

#### Receipt

The sample was received on 3/20/2023 9:01 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

#### **Receipt Exceptions**

The following sample was received and analyzed from an unpreserved bulk soil jar: SS03 (890-4361-1).

#### GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS03 (890-4361-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-26413-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Job ID: 890-4361-1 SDG: Lea County NM

## **Client Sample ID: SS03**

Project/Site: Maverick MCA 351

Date Collected: 03/17/23 12:00 Date Received: 03/20/23 09:01

Sample Depth: 0.5'

Client: Ensolum

## Lab Sample ID: 890-4361-1

Matrix: Solid

Method: SW846 8021B - Volatile	Organic Comp	ounas (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		03/30/23 08:44	03/30/23 12:52	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/30/23 08:44	03/30/23 12:52	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		03/30/23 08:44	03/30/23 12:52	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		03/30/23 08:44	03/30/23 12:52	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		03/30/23 08:44	03/30/23 12:52	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/30/23 08:44	03/30/23 12:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130			03/30/23 08:44	03/30/23 12:52	1
1,4-Difluorobenzene (Surr)	112		70 - 130			03/30/23 08:44	03/30/23 12:52	1
Method: TAL SOP Total BTEX - T	otal BTEX Calo	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			03/30/23 13:37	1
Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/27/23 17:15	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics ′GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 11:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 11:29	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 11:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130			03/24/23 16:55	03/27/23 11:29	1
o-Terphenyl	87		70 - 130			03/24/23 16:55	03/27/23 11:29	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	е					
Method: EPA 300.0 - Anions, Ion Analyte		hy - Solubl Qualifier	e RL	Unit	D	Prepared	Analyzed	Dil Fac

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Project/Site: Maverick MCA 351

#### Job ID: 890-4361-1 SDG: Lea County NM

Prep Type: Total/NA

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Client: Ensolum

-				Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		5
880-26413-A-1-C MS	Matrix Spike	95	112		
880-26413-A-1-D MSD	Matrix Spike Duplicate	107	103		6
890-4361-1	SS03	132 S1+	112		
LCS 880-49806/1-A	Lab Control Sample	90	114		
LCSD 880-49806/2-A	Lab Control Sample Dup	92	114		
MB 880-49806/5-A	Method Blank	72	97		8
Surrogate Legend					
BFB = 4-Bromofluorober	nzene (Surr)				9

DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

#### Matrix: Solid Prep Type: Total/NA Percent Surrogate Recovery (Acceptance Limits) 1CO1 OTPH1 (70-130) Lab Sample ID **Client Sample ID** (70-130) 890-4361-1 SS03 99 87 890-4361-1 MS SS03 108 87 890-4361-1 MSD SS03 108 87 LCS 880-49457/2-A Lab Control Sample 93 83 LCSD 880-49457/3-A Lab Control Sample Dup 90 81 MB 880-49457/1-A Method Blank 120 118

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

## **QC Sample Results**

## Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample	ID: MB	880-49806/5-A

Matrix: Solid Analysis Batch: 49916

	МВ	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	< 0.00200	U	0.00200	mg/Kg		03/29/23 10:15	03/30/23 10:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:15	03/30/23 10:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:15	03/30/23 10:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/29/23 10:15	03/30/23 10:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:15	03/30/23 10:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/29/23 10:15	03/30/23 10:47	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		70 - 130			03/29/23 10:15	03/30/23 10:47	1
1,4-Difluorobenzene (Surr)	97		70 - 130			03/29/23 10:15	03/30/23 10:47	1

#### Lab Sample ID: LCS 880-49806/1-A Matrix: Solid

## Analysis Batch: 49916

	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	0.100	0.1279		mg/Kg		128	70 - 130
Toluene	0.100	0.1063		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.09803		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.2012		mg/Kg		101	70 - 130
o-Xylene	0.100	0.1006		mg/Kg		101	70 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

### Lab Sample ID: LCSD 880-49806/2-A

### Matrix: Solid

Analysis Batch: 49916							Prep	Batch:	<b>49806</b>
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1170		mg/Kg		117	70 - 130	9	35
Toluene	0.100	0.09934		mg/Kg		99	70 - 130	7	35
Ethylbenzene	0.100	0.09051		mg/Kg		91	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1833		mg/Kg		92	70 - 130	9	35
o-Xylene	0.100	0.09201		mg/Kg		92	70 - 130	9	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

## Lab Sample ID: 880-26413-A-1-C MS

#### Matrix: Solid alvaia Rataby 40046

Analysis Batch: 49916									Prep	Batch: 49806
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00198	U	0.0998	0.1080		mg/Kg		108	70 - 130	
Toluene	<0.00198	U	0.0998	0.09466		mg/Kg		95	70 - 130	

**Eurofins Carlsbad** 

Prep Type: Total/NA

Job ID: 890-4361-1 SDG: Lea County NM

Prep Batch: 49806

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 49806

Client Sample ID: Lab Control Sample Dup

**Client Sample ID: Lab Control Sample** 

Released to Imaging: 1/12/2024 10:16:06 AM

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**Client Sample ID: Matrix Spike** 

Lab Sample ID: 880-26413-A-1-C MS

## **QC Sample Results**

MS MS

0.08655

0.1762

0.08842

**Result Qualifier** 

mg/Kg

mg/Kg

Spike

Added

0.0998

0.200

0.0998

Limits 70 - 130

70 - 130

70 - 130

Client: Ensolum Project/Site: Maverick MCA 351

Matrix: Solid

Analyte

o-Xylene

Surrogate

Ethylbenzene

m-Xylene & p-Xylene

Analysis Batch: 49916

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Sample Sample

<0.00198

<0.00396 U

<0.00198 U

%Recovery

**Result Qualifier** 

U

MS MS

95

112

103

Qualifier

			Job ID: 890-4361-1					
			SDG: Lea County NM					
Client Sample ID: Matrix Spike								
			Prep Type: Total/NA					
			Prep Batch: 49806					
			%Rec					
Unit	D	%Rec	Limits					
mg/Kg		87	70 - 130					

70 - 130

70 - 130

88

88

5
7
8
9

#### **Client Sample ID: Matrix Spike Duplicate** Prep Type: Total/NA

Matrix: Solid Analysis Batch: 49916

1,4-Difluorobenzene (Surr)

Lab Sample ID: 880-26413-A-1-D MSD

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

Analysis Batch: 49916									Prep	Batch:	49806	
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	<0.00198	U	0.101	0.1012		mg/Kg		100	70 - 130	6	35	
Toluene	<0.00198	U	0.101	0.1004		mg/Kg		100	70 - 130	6	35	i
Ethylbenzene	<0.00198	U	0.101	0.09804		mg/Kg		97	70 - 130	12	35	
m-Xylene & p-Xylene	<0.00396	U	0.202	0.2080		mg/Kg		103	70 - 130	17	35	ŝ
o-Xylene	<0.00198	U	0.101	0.1049		mg/Kg		104	70 - 130	17	35	
	MSD	MSD										
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)			70 - 130									

### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-49457/1- Matrix: Solid Analysis Batch: 49559	A					Client Sa	mple ID: Metho Prep Type: 1 Prep Batch	Total/NA
	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130			03/24/23 16:55	03/27/23 08:47	1
o-Terphenyl	118		70 - 130			03/24/23 16:55	03/27/23 08:47	1

#### Lab Sample ID: LCS 880-49457/2-A Matrix: Solid Analysis Batch: 49559

Analysis Batch: 49559							Prep	Batch: 49457
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	1022		mg/Kg		102	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	876.8		mg/Kg		88	70 - 130	
C10-C28)								

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Prep Type: Total/NA

**Client Sample ID: Lab Control Sample** 

## **QC Sample Results**

Client: Ensolum Project/Site: Maverick MCA 351

## Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Page 53 of 1	<i>48</i>
Job ID: 890-4361-1 SDG: Lea County NM	2

Lab Sample ID: LCS 880-49457/2	2-A						Client	Sample	e ID: Lab Co	ontrol S	ample
Matrix: Solid										Type: To	
Analysis Batch: 49559									Prep	Batch:	49457
	105	LCS									
Surrogate	%Recovery		Limits								
1-Chlorooctane	93	Quanner	70 - 130								
o-Terphenyl	83		70 - 130								
Lab Sample ID: LCSD 880-49457	7/3-A					Clie	nt Sam	ple ID:	Lab Contro	I Sampl	e Dup
Matrix: Solid									Prep 1	Type: To	tal/NA
Analysis Batch: 49559									Prep	Batch:	49457
			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics			1000	861.9		mg/Kg		86	70 - 130	17	20
(GRO)-C6-C10						<i></i>					
Diesel Range Organics (Over			1000	864.3		mg/Kg		86	70 - 130	1	20
C10-C28)											
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	90		70 - 130								
o-Terphenyl	81		70 - 130								
Lab Sample ID: 890-4361-1 MS									Client Sa		
Matrix: Solid										Type: To	
Analysis Batch: 49559	<u> </u>	<u> </u>	0.11							Batch:	49457
A h		Sample	Spike	MS	MS	1114	-	0/ <b>D</b> = =	%Rec		
Analyte		Qualifier	Added	1038	Qualifier		<u>D</u>	%Rec 100	Limits 70 - 130		
Gasoline Range Organics (GRO)-C6-C10	<50.0	0	997	1036		mg/Kg		100	70 - 130		
Diesel Range Organics (Over	<50.0	U	997	721.8		mg/Kg		70	70 - 130		
C10-C28)						5. 5					
	Me	MC									
Surrogato	мз %Recovery	MS Qualifier	Limits								
Surrogate 1-Chlorooctane	108	Quailler									
o-Terphenyl	87		70 - 130 70 - 130								
	57		70 - 700								
Lab Sample ID: 890-4361-1 MSD	)								Client Sa	mple ID:	SS03
Matrix: Solid										ype: To	
Analysis Batch: 49559										Batch:	
•	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte		Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<50.0	U	998	1062		mg/Kg		102	70 - 130	2	20
(GRO)-C6-C10											
Diesel Range Organics (Over	<50.0	U	998	727.0		mg/Kg		70	70 - 130	1	20
C10-C28)											
	MSD	MSD									
Surrogate	MSD %Recovery		Limits								
Surrogate											

## **QC Sample Results**

### Job ID: 890-4361-1 SDG: Lea County NM

Client: Ensolum Project/Site: Maverick MCA 351

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49881	/ <b>1-A</b>							Client	Sample ID:		
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 50038											
		MB MB									
Analyte		esult Qualifier		RL	Unit		<u>D</u>	Prepared	Analy		Dil Fac
Chloride	<	5.00 U		5.00	mg/k	ξg			03/31/23	22:20	1
Lab Sample ID: LCS 880-4988	1/2-A						Clie	ent Sampl	e ID: Lab C	ontrol S	ample
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 50038											
			Spike	LCS	LCS				%Rec		
Analyte			Added	Result	Qualifier	Unit	[	D %Rec	Limits		
Chloride			250	263.2		mg/Kg		105	90 - 110		
Lab Sample ID: LCSD 880-498	81/3-A					CI	ient Sa	ample ID:	Lab Contro	ol Sampl	le Dup
Matrix: Solid										Type: S	
Analysis Batch: 50038											
			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit		D %Rec	Limits	RPD	Limit
Chloride			250	263.2		mg/Kg		105	90 - 110	0	20
Lab Sample ID: 890-4352-A-11	-D MS							Clien	t Sample ID	): Matrix	Spike
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 50038											
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	I	D %Rec	Limits		
Chloride	33.6		252	285.7		mg/Kg		100	90 - 110		
Lab Sample ID: 890-4352-A-11	-E MSD						Client	Sample I	D: Matrix S	pike Du	olicate
Matrix: Solid										Type: S	
Analysis Batch: 50038										<b>7</b> 10 0	
-	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit		D %Rec	Limits	RPD	Limit

SS03

Matrix Spike

Lab Control Sample Dup

Matrix Spike Duplicate

## **QC** Association Summary

Client: Ensolum Project/Site: Maverick MCA 351

#### Prep Batch: 49806

Lab Sample ID

MB 880-49806/5-A

LCS 880-49806/1-A

LCSD 880-49806/2-A

880-26413-A-1-C MS

890-4361-1

Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
SS03	Total/NA	Solid	5035	
Method Blank	Total/NA	Solid	5035	
Lab Control Sample	Total/NA	Solid	5035	

Solid

Solid

Solid

Solid

5035

5035

5035

Total BTEX

## 880-26413-A-1-D MSD Analysis Batch: 49916

<b>–</b>						
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	
890-4361-1	SS03	Total/NA	Solid	8021B	49806	
MB 880-49806/5-A	Method Blank	Total/NA	Solid	8021B	49806	
LCS 880-49806/1-A	Lab Control Sample	Total/NA	Solid	8021B	49806	
LCSD 880-49806/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49806	
880-26413-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	49806	
880-26413-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49806	
Analysis Batch: 49971						
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	

Total/NA

Total/NA

Total/NA

Total/NA

#### GC Semi VOA

890-4361-1

#### Prep Batch: 49457

Lab Sample ID	· · · · · · · · · · · · · · · · · · ·		Matrix	Method	Prep Batch
890-4361-1			Solid	8015NM Prep	
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4361-1 MS	SS03	Total/NA	Solid	8015NM Prep	
890-4361-1 MSD	SS03	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 49559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
890-4361-1	SS03	Total/NA	Solid	8015B NM	49457	
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015B NM	49457	
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49457	
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49457	
890-4361-1 MS	SS03	Total/NA	Solid	8015B NM	49457	
890-4361-1 MSD	SS03	Total/NA	Solid	8015B NM	49457	

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-4361-1	SS03	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 49881

Lab Sample ID	Client Sample ID	ient Sample ID Prep Type Matrix		Method	Prep Batch
890-4361-1	SS03	Soluble	Solid	DI Leach	
MB 880-49881/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49881/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49881/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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Job ID: 890-4361-1 SDG: Lea County NM

## **QC Association Summary**

Client: Ensolum Project/Site: Maverick MCA 351 Job ID: 890-4361-1 SDG: Lea County NM

### HPLC/IC (Continued)

LCS 880-49881/2-A

LCSD 880-49881/3-A

890-4352-A-11-D MS

890-4352-A-11-E MSD

#### Leach Batch: 49881 (Continued)

Lab Control Sample

Matrix Spike

Lab Control Sample Dup

Matrix Spike Duplicate

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4352-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4352-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
	}				
Lab Sample ID		Bron Type	Matrix	Mathod	Bron Batch
Lab Sample ID 890-4361-1	Client Sample ID SS03	Prep Type Soluble	Matrix	Method 300.0	Prep Batch 49881

Soluble

Soluble

Soluble

Soluble

Solid

Solid

Solid

Solid

300.0

300.0

300.0

300.0

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5

8

49881

49881

49881

49881

Job ID: 890-4361-1 SDG: Lea County NM

## Lab Sample ID: 890-4361-1 Matrix: Solid

Date Collected: 03/17/23 12:00 Date Received: 03/20/23 09:01

**Client Sample ID: SS03** 

Project/Site: Maverick MCA 351

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	49806	03/30/23 08:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49916	03/30/23 12:52	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49971	03/30/23 13:37	SM	EET MID
Total/NA	Analysis	8015 NM		1			49671	03/27/23 17:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	49457	03/24/23 16:55	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49559	03/27/23 11:29	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	49881	03/29/23 16:18	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50038	04/01/23 00:30	SMC	EET MID

#### Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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		Accreditation/C	ertification Summary		
Client: Ensolum Project/Site: Maverick N	MCA 351			Job ID: 890-4361-1 SDG: Lea County NM	2
Laboratory: Eurofi	ns Midland				
Unless otherwise noted, all an	nalytes for this laborato	ry were covered under each acc	reditation/certification below.		
Authority		Program	Identification Number	Expiration Date	
Texas		NELAP	T104704400-22-25	06-30-23	
The following analytes a	are included in this repo	rt, but the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes for which	5
the agency does not off	er certification.	-			
Analysis Method	Prep Method	Matrix	Analyte		
8015 NM		Solid	Total TPH		
Total BTEX		Solid	Total BTEX		
					8
					9
					10
					13

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## **Method Summary**

Client: Ensolum Project/Site: Maverick MCA 351

Job ID: 890-4361-1 SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID
	rences: STM International Environmental Protection Agency		
	"Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Ed	lition, November 1986 And Its Updates.	
TAL SOP :	= TestAmerica Laboratories, Standard Operating Procedure		
	eferences: = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		
	- Luionins ividiand, 1211 W. Florida Ave, ividiand, 1X 79701, 1LL (432)/04-3440		

#### Laboratory References:

Eurofins Carlsbad

Client: Ensolum

## **Sample Summary**

Project/Site: Maverick MCA 351

Job ID: 890-4361-1 SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth	
890-4361-1	SS03	Solid	03/17/23 12:00	03/20/23 09:01	0.5'	4
						5
						8
						9
						12
						13

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Project Manager.	1	i Jennings				Bill to: (i				Jennir						-	Droger		eT/D				wnfields			arfund []
Company Name:	-	olum, LLC				Compa		e:		lum, L							State			טיי	FRE		willieids [	JINNOL		
Address:	1	N Marienf		Suite 400		Address					enfeld S		e 400						-		ال اھرد	Пр	ST/UST			
City, State ZIP:	Midla	and, TX 79	9701		1	City, Sta					(79701						Delive						рт 🗆	Other:		
Phone:	817-	683-2503			Email	: kjennir	ngs@ei	nsolur	n.com	<u>dnik</u>	anorov	/@en	solum	i.com			Delive	ables	. EDI			ADai		Other.		
Project Name:		Maver	ick MCA	A 351	Tur	n Around	1							ANA	LYSIS	REQ	UEST						Pr	eserva	tive Co	des
Project Number:			0205706		Routine	Ru	sh	Pres. Code												1			None: N	0	DI Wa	iter: H <sub>2</sub> O
Project Location:	1-		County,		Due Date:																		Cool: Co	loc	MeOH	I: Me
Sampler's Name:			y Nikan		TAT starts t	he day rec	eived by							1111	Hiller	11 INIT 10	U U DU DU D			1	1	ł	HCL: HO	5	HNO <sub>3</sub>	: HN
PO#	1				the lab, if re										11								H2S04: H	1 <sub>2</sub>	NaOH	: Na
SAMPLE RECE	IPT	Temp	Blank:	Yes No	Wet Ice:	Yes	No	Parameters	=														H <sub>3</sub> PO <sub>4</sub> :	НP		
Samples Received	Intact:	Yes		Thermomete	r ID:	TIDIN	.a)	nam	300.0)			-				H HAR HA							NaHSO.		6	
Cooler Custody Sea	als:	Yes No	N/A	Correction F	actor:		1.2	6						-090-	-4361	Chain	of Cus	stody					Na <sub>2</sub> S <sub>2</sub> O			
Sample Custody Se	als:	Yes No	D N/A	Temperature	Reading:	2	2		EF C						1	1 1							Zn Acet			
Total Containers:				Corrected Te	mperature:	12	.0	-	IDE	15)	8021												NaOH+	Ascorbio	c Acid: S	APC
Sample Ide	ntífica	tion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Con	1 -	TPH (8015)	BTEX (8021												Sa	mple (	Comme	ints
SS	03		s	3/17/2023	12:00	0.5'	Grab	1	X	X	X											-				
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Total 200.7 / 6 Circle Method(s) a		200.8 / 6			CRA 13P															< Se			Na Sr TI /245.1/			
Notice: Signature of this of service, Eurofins Xer of Eurofins Xenco, A mi	docume	ent and reling	uishment	of samples cons	titutes a valid po	urchase orc	der from o	lient co	mpany	to Eurof	ins Xenc	o, its a	ffiliates by the c	and sub lient if s	ocontrac	tors. It	assigns lue to ci	standa	rd tern ances	beyon	d the co	ontrol	ı.			
Relinquished b	v: (Sig	inature)	1	Receive	d by: (Signa	ature)			Date	/Time		Re	linqui	shed	by: (S	ignatu	re)		Rece	eived	by: (	Signat	ture)		Date/T	ime
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5												6														

Revised Date: 08/25/2020 Rev. 2020.2

#### 1211 W Florida Ave Midland TX 79701 Phone 432-704-5440

## **Chain of Custody Record**

Lab PM

13

Sampler



Environment Te

esting	/3/2023
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Client Information (Sub Contract Lab)	Sampler <sup>.</sup>				o PM amer	Jes	ssica	1					(	Carrier	Track	ing No(	s)			COC № 880-6566 1	
Client Contact: Shipping/Receiving	Phone <sup>.</sup>			E-N	lail										of Origi					Page	
Company				Je				@et.e				n		New	Mexic	0				Page 1 of 1	
Eurofins Environment Testing South Centr							P - Te		ieu (c	Sec no	516)								ĺ	300 # 890-4361-1	
Address. 1211 W Florida Ave	Due Date Request 3/24/2023	ed			Т						ab	olo I	200							Preservation Cod	
City.	TAT Requested (d	ays):			100			ГТ	T		lary	sis F	veq	uesi	ea			<del></del>		A HCL	M Hexane N None
Midland State Zip	4				., a.	yana Baradi								1						B NaOH C Zn Acetate	O AsNaO2 P Na2O4S
TX 79701					adhteor.	a state	Ηd												1000	D Nitric Acid E NaHSO4	Q Na2SO3
Phone 432-704-5440(Tel)	PO # <sup>.</sup>						) Full												Contraction of	F MeOH G Amchlor	R Na2S2O3 S H2SO4
Email	WO #	*****				<u>۲</u>	DOM)		loride	×									the second	H Ascorbic Acid	T TSP Dodecahydrate U Acetone V MCAA
Project Name	Project #				- 8	ž	Prep		Ъ Н	BTE									e2	J DI Water K EDTA	W pH 4-5
Maverick MCA 351 Site	89000094				<u> </u>	es c	S		EAC	â									contain	L EDA	Y Trizma Z other (specify)
Site	SSOW#				Samp	SD (Y	015NN			Salo (N	>								of cor	Other <sup>.</sup>	
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil,	्र Field Filtered	Perform MS/MSD (Yes or No)	8016MOD_NM/8016NM_S_Prep (MOD) Full TPH	8016MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/6036FP_Cale (MOD) BTEX	Total_BTEX_GCV								Total Number of		<b></b>
			Preservat			a X	8	ŏ	Ř	8	Ĕ					_			Ň	Special Ir	structions/Note:
SS03 (890-4361-1)	3/17/23	12 00		Solid	ŕ	ŕ	x	x	x	x	X	<u>1.5</u>			-		-	+	Ŕ		
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Note Since laboratory accreditations are subject to change, Eurofins Environmer laboratory does not currently maintain accreditation in the State of Origin listed at accreditation status should be brought to Eurofins Environment Testing South Ce																					
Possible Hazard Identification						San	nple	Disp	osal	I ( A	fee r	nay b	e as	sess	ed if	samp	oles a	re re	taine	ed longer than 1	I month)
Unconfirmed								eturn							al By					nive For	Months
Deliverable Requested I II III IV Other (specify)	Primary Deliver	able Rank.	2			Spe	ecial	Instru	ictior	ns/Q	C Re	quire									
Empty Kit Relinguished by		Date			Tir	me	$\sim$							ľ	Aethod	of Ship	oment:				
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Relinquished by	Date/Time			Company			Recei	ived by	r							Da	ite/Time	e			Company
Custody Seals Intact: Custody Seal No	1					-	Coole	er Temp	peratu	ure(s)	°C an	id Othe	r Ren	arks.							
∆ Yes ∆ No																					

Job Number: 890-4361-1 SDG Number: Lea County NM List Source: Eurofins Carlsbad

## Login Sample Receipt Checklist

Client: Ensolum

<6mm (1/4").

#### Login Number: 4361 List Number: 1 Creator: Stutzman, Amanda

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	N/A	

Eurofins Carlsbad Released to Imaging: 1/12/2024 10:16:06 AM

14

Job Number: 890-4361-1 SDG Number: Lea County NM

List Source: Eurofins Midland

List Creation: 03/21/23 11:22 AM

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 4361 List Number: 2 Creator: Teel, Brianna

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	True	

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

Received by OCD: 9/14/2023 3:25:41 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 4/3/2023 1:49:33 PM

# **JOB DESCRIPTION**

Maverick MCA 351 SDG NUMBER Lea County NM

## **JOB NUMBER**

890-4362-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information.

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## **Eurofins Carlsbad**

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization

RAMER

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Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

1

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Laboratory Job ID: 890-4362-1 SDG: Lea County NM

# **Table of Contents**

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QC Sample Results	8
	12
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Method Summary	16
Sample Summary	17
	18
Receipt Checklists	20

2

**Qualifier Description** 

**Qualifier Description** 

**Qualifier Description** 

LCS/LCSD RPD exceeds control limits.

LCS and/or LCSD is outside acceptance limits, low biased.

LCS and/or LCSD is outside acceptance limits, high biased.

Surrogate recovery exceeds control limits, low biased.

Indicates the analyte was analyzed for but not detected.

Indicates the analyte was analyzed for but not detected.

Indicates the analyte was analyzed for but not detected.

Client: Ensolum Project/Site: Maverick MCA 351 Page 68 of 148

s/Glossary	1
Job ID: 890-4362-1 SDG: Lea County NM	2
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## Qualifier U

GC Semi VOA

Qualifiers GC VOA Qualifier

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Qualifier

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#### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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#### Job ID: 890-4362-1 SDG: Lea County NM

#### Job ID: 890-4362-1

Client: Ensolum

#### Laboratory: Eurofins Carlsbad

Project/Site: Maverick MCA 351

#### Narrative

Job Narrative 890-4362-1

#### Receipt

The sample was received on 3/20/2023 9:01 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

#### **Receipt Exceptions**

The following sample was received and analyzed from an unpreserved bulk soil jar: SS04 (890-4362-1).

#### GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCSD 880-49653/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-49653 and analytical batch 880-49792 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Job ID: 890-4362-1 SDG: Lea County NM

## **Client Sample ID: SS04**

Project/Site: Maverick MCA 351

Date Collected: 03/17/23 12:10 Date Received: 03/20/23 09:01

Sample Depth: 0.5'

Client: Ensolum

o-Terphenyl

Lab Sample ID: 890-4362-1

Matrix: Solid

1

03/24/23 16:55

03/27/23 12:33

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00201	U *- *1	0.00201	mg/Kg		03/27/23 14:59	03/29/23 18:49	
Toluene	<0.00201	U *1	0.00201	mg/Kg		03/27/23 14:59	03/29/23 18:49	
Ethylbenzene	<0.00201	U *+ *1	0.00201	mg/Kg		03/27/23 14:59	03/29/23 18:49	
m-Xylene & p-Xylene	<0.00402	U *- *1	0.00402	mg/Kg		03/27/23 14:59	03/29/23 18:49	• • • • • • •
o-Xylene	<0.00201	U *+ *1	0.00201	mg/Kg		03/27/23 14:59	03/29/23 18:49	
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/27/23 14:59	03/29/23 18:49	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	97		70 - 130			03/27/23 14:59	03/29/23 18:49	
1,4-Difluorobenzene (Surr)	106		70 - 130			03/27/23 14:59	03/29/23 18:49	
Method: SW846 8015 NM - Diesel	I Range Organ	ics (DRO) (	GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<50.0		50.0	mg/Kg			03/27/23 17:15	
			· · ·			Dremoved	Analyzed	
Analyte	Result	Qualifier		Unit	D	Prepared	Analyzed	Dil Fa
Analyte Gasoline Range Organics		Qualifier	· · ·		D	Prepared 03/24/23 16:55	Analyzed 03/27/23 12:33	Dil Fa
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result	Qualifier U		Unit	<u>D</u>	· · · · · · · · · · · · · · · · · · ·		Dil Fa
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <50.0	Qualifier U U	<b>RL</b> 50.0	Unit mg/Kg	<u>D</u>	03/24/23 16:55	03/27/23 12:33	Dil Fa
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	<b>Result</b> <50.0 <50.0	Qualifier U U U	RL 50.0	Unit mg/Kg mg/Kg	<u>D</u>	03/24/23 16:55 03/24/23 16:55	03/27/23 12:33 03/27/23 12:33	Dil Fa

2	_									
	Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
	Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac		
	Chloride	77.3	5.01	mg/Kg			04/01/23 00:35	1		

70 - 130

98

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#### Job ID: 890-4362-1 SDG: Lea County NM

Prep Type: Total/NA

Prep Type: Total/NA

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

				Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		5
880-26164-A-1-B MS	Matrix Spike	100	112		
880-26164-A-1-C MSD	Matrix Spike Duplicate	102	114		6
890-4362-1	SS04	97	106		
LCS 880-49653/1-A	Lab Control Sample	98	111		
LCSD 880-49653/2-A	Lab Control Sample Dup	40 S1-	102		
MB 880-49653/5-A	Method Blank	89	101		8
Surrogate Legend					0
BFB = 4-Bromofluorober	nzene (Surr)				3

DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

## Matrix: Solid

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
ample ID	Client Sample ID	(70-130)	(70-130)	
1-A-1-B MS	Matrix Spike	108	87	
61-A-1-C MSD	Matrix Spike Duplicate	108	87	
62-1	SS04	102	98	
)-49457/2-A	Lab Control Sample	93	83	
380-49457/3-A	Lab Control Sample Dup	90	81	
30-49457/1-A	Method Blank	120	118	

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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Project/Site: Maverick MCA 351

Job ID: 890-4362-1 SDG: Lea County NM

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 49653

**Client Sample ID: Method Blank** 

## Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample	ID: MB 880-49653/5-A

Matrix: Solid Analysis Batch: 49792

Client: Ensolum

MB	MB						
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<0.00200	U	0.00200	mg/Kg		03/27/23 14:59	03/29/23 13:26	1
<0.00200	U	0.00200	mg/Kg		03/27/23 14:59	03/29/23 13:26	1
<0.00200	U	0.00200	mg/Kg		03/27/23 14:59	03/29/23 13:26	1
<0.00400	U	0.00400	mg/Kg		03/27/23 14:59	03/29/23 13:26	1
<0.00200	U	0.00200	mg/Kg		03/27/23 14:59	03/29/23 13:26	1
<0.00400	U	0.00400	mg/Kg		03/27/23 14:59	03/29/23 13:26	1
МВ	МВ						
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
89		70 - 130			03/27/23 14:59	03/29/23 13:26	1
101		70 - 130			03/27/23 14:59	03/29/23 13:26	1
	Result           <0.00200	Result         Qualifier           <0.00200	Result         Qualifier         RL           <0.00200	Result         Qualifier         RL         Unit           <0.00200	Result         Qualifier         RL         Unit         D           <0.00200	Result         Qualifier         RL         Unit         D         Prepared           <0.00200	Result         Qualifier         RL         Unit         D         Prepared         Analyzed           <0.00200

#### Lab Sample ID: LCS 880-49653/1-A Matrix: Solid

### Analysis Batch: 49792

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1099		mg/Kg		110	70 - 130	
Toluene	0.100	0.1071		mg/Kg		107	70 - 130	
Ethylbenzene	0.100	0.09751		mg/Kg		98	70 - 130	
m-Xylene & p-Xylene	0.200	0.1927		mg/Kg		96	70 - 130	
o-Xylene	0.100	0.09611		mg/Kg		96	70 - 130	

	LCS		
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

#### Lab Sample ID: LCSD 880-49653/2-A

#### Matrix: Solid

Analysis Batch: 49792							Prep	Batch:	49653
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.03864	*- *1	mg/Kg		39	70 - 130	96	35
Toluene	0.100	0.07087	*1	mg/Kg		71	70 - 130	41	35
Ethylbenzene	0.100	0.3961	*+ *1	mg/Kg		396	70 - 130	121	35
m-Xylene & p-Xylene	0.200	0.1305	*- *1	mg/Kg		65	70 - 130	39	35
o-Xylene	0.100	0.1666	*+ *1	mg/Kg		167	70 - 130	54	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	40	S1-	70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

## Lab Sample ID: 880-26164-A-1-B MS

## Matrix: Solid

Analysis Batch: 49792									Prep	Batch: 49653
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U *- *1	0.100	0.1054		mg/Kg		105	70 - 130	
Toluene	<0.00200	U *1	0.100	0.1029		mg/Kg		102	70 - 130	

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Prep Type: Total/NA

13

#### Prep Batch: 49653 %Rec

Client Sample ID: Lab Control Sample Dup

Client Sample ID: Lab Control Sample

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**Client Sample ID: Matrix Spike** 

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# **QC Sample Results**

Client: Ensolum Project/Site: Maverick MCA 351

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-26164-/	A-1-B MS							Client	Sample ID		
Matrix: Solid									Prep 1	Type: To	tal/NA
Analysis Batch: 49792									Prep	Batch:	49653
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Ethylbenzene	<0.00200	U *+ *1	0.100	0.09252		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene	<0.00399	U *- *1	0.201	0.1817		mg/Kg		91	70 - 130		
o-Xylene	<0.00200	U *+ *1	0.100	0.09062		mg/Kg		90	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)			70 - 130								
1,4-Difluorobenzene (Surr)	112		70 - 130								
Analysis Batch: 49792		0	0		MSD					Batch:	
											RPD
	Sample	•	Spike						%Rec		
-	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limi
Analyte Benzene	Result <0.00200	Qualifier U *- *1	Added	<b>Result</b> 0.1097		mg/Kg	<u>D</u>	111	Limits 70 - 130	4	Limi 35
Benzene Toluene	Result           <0.00200	<b>Qualifier</b> U *- *1 U *1	Added	<b>Result</b> 0.1097 0.1072			D		Limits 70 - 130 70 - 130		Limi 35 35
Benzene Toluene	Result <0.00200	<b>Qualifier</b> U *- *1 U *1	Added	<b>Result</b> 0.1097		mg/Kg	<u>D</u>	111	Limits 70 - 130	4	Limi 35
Benzene Toluene Ethylbenzene	Result           <0.00200	Qualifier U *- *1 U *1 U *+ *1	Added	<b>Result</b> 0.1097 0.1072		mg/Kg mg/Kg	<u>D</u>	111 108	Limits 70 - 130 70 - 130	4	Limi 3! 3!
Benzene	Result           <0.00200	Qualifier U *- *1 U *1 U *+ *1 U *- *1	Added 0.0990 0.0990 0.0990	Result 0.1097 0.1072 0.09726		mg/Kg mg/Kg mg/Kg	<u>D</u>	111 108 98	Limits 70 - 130 70 - 130 70 - 130	4 4 5	Limi 38 38 38 38
Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	Result           <0.00200	Qualifier U *- *1 U *1 U *+ *1 U *- *1	Added 0.0990 0.0990 0.0990 0.198	Result 0.1097 0.1072 0.09726 0.1915		mg/Kg mg/Kg mg/Kg mg/Kg	<u> </u>	111 108 98 97	Limits 70 - 130 70 - 130 70 - 130 70 - 130	4 4 5 5	Limi 3! 3! 3! 3!
Benzene Toluene Ethylbenzene m-Xylene & p-Xylene o-Xylene	Result           <0.00200	Qualifier U *- *1 U *1 U *+ *1 U *- *1 U *+ *1 MSD	Added 0.0990 0.0990 0.0990 0.198	Result 0.1097 0.1072 0.09726 0.1915		mg/Kg mg/Kg mg/Kg mg/Kg	<u>D</u>	111 108 98 97	Limits 70 - 130 70 - 130 70 - 130 70 - 130	4 4 5 5	Limi 35
Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	Result <0.00200 <0.00200 <0.00200 <0.00399 <0.00200 MSD	Qualifier U *- *1 U *1 U *+ *1 U *- *1 U *+ *1 MSD	Added 0.0990 0.0990 0.0990 0.198 0.0990	Result 0.1097 0.1072 0.09726 0.1915		mg/Kg mg/Kg mg/Kg mg/Kg	<u>D</u>	111 108 98 97	Limits 70 - 130 70 - 130 70 - 130 70 - 130	4 4 5 5	Limi 3! 3! 3! 3!

## Lab Sample ID: MB 880-49457/1-A Matrix: Solid Analysis Batch: 49559

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130			03/24/23 16:55	03/27/23 08:47	1

70 - 130

o-Terphenyl	118	
Lab Sample ID: LCS 880-49457/2-A		

#### Matrix: Solid Analysis Batch: 49559

Analysis Batch: 49559							Prep	Batch: 49457
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	1022		mg/Kg		102	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	876.8		mg/Kg		88	70 - 130	
C10-C28)								

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Prep Type: Total/NA

Job ID: 890-4362-1 SDG: Lea County NM

# 03/24/23 16:55 03/27/23 08:47 1 Client Sample ID: Lab Control Sample

**Client Sample ID: Method Blank** 

Prep Type: Total/NA Prep Batch: 49457

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Lab Sample ID: LCS 880-49457/2-A

# **QC** Sample Results

Limits

70 - 130

70 - 130

Client: Ensolum Project/Site: Maverick MCA 351

Matrix: Solid

Surrogate

o-Terphenyl

1-Chlorooctane

Analysis Batch: 49559

# Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

LCS LCS %Recovery Qualifier

93

83

ts	1
Job ID: 890-4362-1 SDG: Lea County NM	2
ed)	3
Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 49457	4
Frep Batch. 49457	5
	6
Client Sample ID: Lab Control Sample Dup	7

Lab Sample ID: LCSD 880-494 Matrix: Solid Analysis Batch: 49559	57/3-A					Clier	nt Sarr	ple ID:		I Sample ype: Tot Batch:	al/NA
Analysis Baten. 40000			Spike		LCSD				%Rec	Daten.	RPD
Analyte			Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics			1000	861.9	quantor	mg/Kg		86	70 - 130	17	20
(GRO)-C6-C10			1000	00110					10 - 100		20
Diesel Range Organics (Over			1000	864.3		mg/Kg		86	70 - 130	1	20
C10-C28)											
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	90		70 - 130								
o-Terphenyl	81		70 - 130								
Lab Sample ID: 890-4361-A-1-	BMS							Client	Sample ID	: Matrix	Spike
Matrix: Solid									Prep 1	ype: Tot	al/NA
Analysis Batch: 49559									Prep	Batch:	49457
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics	<50.0	U	997	1038		mg/Kg		100	70 - 130		
(GRO)-C6-C10											
Diesel Range Organics (Over	<50.0	U	997	721.8		mg/Kg		70	70 - 130		
C10-C28)											
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	108		70 _ 130								
o-Terphenyl	87		70 - 130								
Lab Sample ID: 890-4361-A-1-	C MSD					Cli	ent Sa	ample IE	D: Matrix Sp		
Matrix: Solid										ype: Tot	
Analysis Batch: 49559										Batch:	
	•	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<50.0	U	998	1062		mg/Kg		102	70 - 130	2	20
(GRO)-C6-C10	.50.0		000	707.0				70	70 400		
Diesel Range Organics (Over C10-C28)	<50.0	U	998	727.0		mg/Kg		70	70 - 130	1	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	108		70 _ 130								

# **QC Sample Results**

# Job ID: 890-4362-1 SDG: Lea County NM

Client: Ensolum Project/Site: Maverick MCA 351

# Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49881	/ <b>1-A</b>							Client	Sample ID:		
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 50038											
		MB MB									
Analyte		esult Qualifier		RL	Unit		<u>D</u>	Prepared	Analy		Dil Fac
Chloride	<	5.00 U		5.00	mg/k	ξg			03/31/23	22:20	1
Lab Sample ID: LCS 880-4988	1/2-A						Clie	ent Sampl	e ID: Lab C	ontrol S	ample
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 50038											
			Spike	LCS	LCS				%Rec		
Analyte			Added	Result	Qualifier	Unit	[	D %Rec	Limits		
Chloride			250	263.2		mg/Kg		105	90 - 110		
Lab Sample ID: LCSD 880-498	81/3-A					CI	ient Sa	ample ID:	Lab Contro	ol Sampl	le Dup
Matrix: Solid										Type: S	
Analysis Batch: 50038											
			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit		D %Rec	Limits	RPD	Limit
Chloride			250	263.2		mg/Kg		105	90 - 110	0	20
Lab Sample ID: 890-4352-A-11	-D MS							Clien	t Sample ID	): Matrix	Spike
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 50038											
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	I	D %Rec	Limits		
Chloride	33.6		252	285.7		mg/Kg		100	90 - 110		
Lab Sample ID: 890-4352-A-11	-E MSD						Client	Sample I	D: Matrix S	pike Du	olicate
Matrix: Solid										Type: S	
Analysis Batch: 50038										<b>7</b> 10 0	
-	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit		D %Rec	Limits	RPD	Limit

**Client Sample ID** 

Lab Control Sample

Lab Control Sample Dup

Matrix Spike Duplicate

**Client Sample ID** 

Lab Control Sample

Lab Control Sample Dup

Matrix Spike Duplicate

**Client Sample ID** 

**SS04** 

Method Blank

Matrix Spike

SS04

Method Blank

Matrix Spike

SS04

# QC Association Summarv

Client: Ensolum Project/Site: Maverick MCA 351

# Prep Batch: 49653

MB 880-49653/5-A

LCS 880-49653/1-A

LCSD 880-49653/2-A

880-26164-A-1-B MS

Lab Sample ID

MB 880-49653/5-A

LCS 880-49653/1-A

LCSD 880-49653/2-A

880-26164-A-1-B MS

880-26164-A-1-C MSD

Analysis Batch: 49961

890-4362-1

880-26164-A-1-C MSD

Analysis Batch: 49792

Lab Sample ID

890-4362-1

		Job	ID: 890-4362-1
		SDG: I	Lea County NM
Prep Type	Matrix	Method	Prep Batch
Total/NA	Solid	5035	
Prep Type	Matrix	Method	Prep Batch
Total/NA	Solid	8021B	49653
Total/NA	Solid	8021B	49653
Total/NA	Solid	8021B	49653
Total/NA	Solid	8021B	49653
Total/NA	Solid	8021B	49653
Total/NA	Solid	8021B	49653
Prep Type	Matrix	Method	Prep Batch
Total/NA	Solid	Total BTEX	
Ргер Туре	Matrix	Method	Prep Batch
Tetel/NIA	Calid	001ENIM Drom	

# GC Semi VOA Prep Batch: 49457

Lab Sample ID

890-4362-1

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-4362-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4361-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4361-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 49559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4362-1	SS04	Total/NA	Solid	8015B NM	49457
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015B NM	49457
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49457
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49457
890-4361-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	49457
890-4361-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	49457
Analysis Batch: 49672					
l ah Sampia ID	Client Sample ID	Bron Tuno	Matrix	Mothod	Bron Batch

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4362-1	SS04	Total/NA	Solid	8015 NM	
 <u> </u>					

# HPLC/IC

#### Leach Batch: 49881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep B	Batch
890-4362-1	SS04	Soluble	Solid	DI Leach	
MB 880-49881/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49881/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49881/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

**Eurofins Carlsbad** 

# **QC Association Summary**

Client: Ensolum Project/Site: Maverick MCA 351 Job ID: 890-4362-1 SDG: Lea County NM

# HPLC/IC (Continued)

LCS 880-49881/2-A

LCSD 880-49881/3-A

890-4352-A-11-D MS

890-4352-A-11-E MSD

# Leach Batch: 49881 (Continued)

Lab Control Sample

Matrix Spike

Lab Control Sample Dup

Matrix Spike Duplicate

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4352-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4352-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
Analysis Batch. 50050	5				
Analysis Batch: 50038 - Lab Sample ID	S Client Sample ID	Prep Type	Matrix	Method	Prep Batch
-		Prep Type Soluble	Matrix Solid	<u>Method</u> 300.0	Prep Batch 49881

Soluble

Soluble

Soluble

Soluble

Solid

Solid

Solid

Solid

300.0

300.0

300.0

300.0

Eurofins Carlsbad

5

8

49881

49881

49881

49881

Job ID: 890-4362-1 SDG: Lea County NM

# Lab Sample ID: 890-4362-1 Matrix: Solid

Date Collected: 03/17/23 12:10 Date Received: 03/20/23 09:01

**Client Sample ID: SS04** 

Project/Site: Maverick MCA 351

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	49653	03/27/23 14:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49792	03/29/23 18:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49961	03/30/23 13:32	SM	EET MID
Total/NA	Analysis	8015 NM		1			49672	03/27/23 17:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	49457	03/24/23 16:55	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49559	03/27/23 12:33	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	49881	03/29/23 16:18	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50038	04/01/23 00:35	SMC	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Carlsbad

Released to Imaging: 1/12/2024 10:16:06 AM

Accreditation/Certification Summary

Client: Ensolum Project/Site: Maverick MCA 351

# Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

uthority	P	rogram	Identification Number	Expiration Date	
exas	N	ELAP	T104704400-22-25	06-30-23	
The following applytes	are included in this report h	ut the laboratory is not certif	ied by the governing authority. This list ma	w include analytes for w	
the agency does not o	ffer certification.				
the agency does not o Analysis Method	•	Matrix	Analyte		
the agency does not o	ffer certification.				

10

Job ID: 890-4362-1

SDG: Lea County NM

Eurofins Carlsbad

# **Method Summary**

Client: Ensolum Project/Site: Maverick MCA 351

Job ID: 890-4362-1 SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID
	STM International Environmental Protection Agency		
	"Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edit = TestAmerica Laboratories, Standard Operating Procedure	ion, November 1986 And Its Updates.	
Laboratory Re	eferences: = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		

#### Laboratory References:

Eurofins Carlsbad

# **Sample Summary**

Job ID: 890-4362-1 SDG: Lea County NM

Client: Ensolum Project/Site: Maverick MCA 351

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4362-1	SS04	Solid	03/17/23 12:10	03/20/23 09:01	0.5'

PM

3:25:41

Received by OCD: 9/14/2023

# 4/3/2023

eurofins Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 **Environment Testing** Work Order No: Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334 Xenco EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carisbad, NM (575) 988-3199 www.xenco.com Page Work Order Comments Bill to: (if different) Kalei Jennings Project Manager: Kalei Jennings Program: UST/PST PRP Brownfields RRC Superfund Ensolum, LLC Ensolum, LLC Company Name: Company Name: State of Project: Address: 601 N Marienfeld St Suite 400 Address: 601 N Marienfeld St Suite 400 Reporting: Level II 🗌 Level III 🔲 PST/UST 🗍 TRRP 🔲 Level IV 🗍 City, State ZIP: Midland, TX 79701 Midland, TX 79701 City, State ZIP: Deliverables: EDD ADaPT Other Email: kiennings@ensolum.com, dnikanorov@ensolum.com Phone: 817-683-2503 **Preservative Codes** ANALYSIS REQUEST Maverick MCA 351 **Turn Around** Project Name: Pres. DI Water: H<sub>2</sub>O None: NO ✓ Routine Rush 03D2057065 Project Number: Code MeOH: Me Cool: Cool Lea County, NM Due Date: **Project Location:** HCL: HC HNO3: HN **Dmitry Nikanorov** TAT starts the day received by Sampler's Name: the lab, if received by 4:30pm H2S04: H2 NaOH: Na PO #: Parameters H<sub>3</sub>PO<sub>4</sub>: HP SAMPLE RECEIPT Temp Blank: Yes No Wet Ice: Yes No CHLORIDES (EPA: 300.0) NaHSO4: NABIS Samples Received Intact: Yes No Thermometer ID: MM Na2S2O3: NaSO3 Cooler Custody Seals: Yes No N7A Correction Factor: 2 Zn Acetate+NaOH: Zn Sample Custody Seals: Yes No N/A Temperature Reading: 890-4362 Chain of Custody NaOH+Ascorbic Acid: SAPC 2 BTEX (8021 Corrected Temperature: TPH (8015) Total Containers: Grab/ # of Time **Sample Comments** Date Depth Sample Identification Matrix Cont Sampled Sampled Comp х Х Х S 3/17/2023 0.5 Grab SS04 12:10 8RCRA 13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr TI Sn U V Zn Total 200.7 / 6010 200.8 / 6020: Hg: 1631/245.1/7470 /7471 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U Circle Method(s) and Metal(s) to be analyzed Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated Date/Time Received by: (Signature) Relinquished by: (Signature) Date/Time Relinguished by: (Signature) Received by: (Signature) dar 3/20/22 692 MA.

Chain of Custody

AM

Revised Date 08/25/2020 Rev. 2020.2

#### Eurorins Michand 1211 W Florida Ave Midland TX 79701 Bhops: (22 704 5440

# **Chain of Custody Record**

13



Environment Testing

Phone: 432-704-5440												10111 10321										
Client Information (Sub Contract Lab)	Sampler <sup>.</sup>				PM Imer	Jess	sica		******				Ca	arrier T	racking	No(s)				COC № 880-6566 1		
Client Contact: Shipping/Receiving	Phone			E-M		ca Kramer@et eurofinsus com							Page									
Company				Jes		ica Kramer@et.eurofinsus com New Mexi Accreditations Required (See note):				19-			Page 1 of 1									
Eurofins Environment Testing South Centr						LAP			04 (0		<i>j</i> .								ľ	890-4362-1		
1211 W Florida Ave	Due Date Request 3/24/2023	ted			Τ	Analysis Requested					-1					Preservation Cod	es					
City		AT Requested (days)				graar og		1	Т		alys		eque	este		1	T T			A HCL	M Hexane N None	
Midland State, Zip					Successfer (														10 M	B NaOH C Zn Acetate	O AsNaO2	
TX, 79701					and and	and a state	Ŧ												o hieltene:	D Nitric Acid E NaHSO4	P Na2O4S Q Na2SO3	
Phone 432-704-5440(Tel)	PO #·				-	service and the	Full T												100	F MeOH G Amchlor	R Na2S2O3 S H2SO4	
Email	WO #				r No)	a de la compañía de la	DOM)		Chloride	×									0-01-010/-1040	H Ascorbic Acid	T TSP Dode U Acetone V MCAA	ecahydrate
Project Name	Project #				- 8	N	đ		บั ม	BTE								i.	2	J DI Water K EDTA	W pH 4-5	
Maverick MCA 351	89000094				λe	88	ທີ່		EAC	ĝ									E	L EDA	Y Trizma Z other (spe	ecifv)
Site	SSOW# <sup>.</sup>				Sample (Yes or No)	Ň.Q.	16NM			alc (M									199.1	Other <sup>.</sup>	V. F	
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air	( Field Filtered S	Perform MS/MSD (Yes or No)	8016MOD_NM/8016NM_S_Prep (MOD) Full TPH	8016MOD_Calc	300_ORGFM_28D/DI_LEACH	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV							and the second	Total Number of	Special In	structions/l	Note:
	$\geq$	$\geq$	Preserva	ition Code:	X	X			1.					C C C C C C C C C C C C C C C C C C C					X			
SS04 (890-4362-1)	3/17/23	12 10 Mountain		Solid			x	x [	x	x	x					1			4	<u></u>	ALL LUCIDUCTION CO. C. C.	ALC IN MACHINE THE
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Note. Since laboratory accreditations are subject to change Eurofins Environmu laboratory does not currently maintain accreditation in the State of Origin listed a accreditation status should be brought to Eurofins Environment Testing South C	ent Testing South Centr above for analysis/tests central LLC attention in	ral, LLC places s/matrix being a nmediately If a	the ownership nalyzed the s Ill requested a	of method an amples must b ccreditations a	alyte & e ship re cun	& accre ped ba rent to	editati ack to date,	ion cor the Ei , returr	mpliar urofine h the s	nce up s Envi signed	ironme Chair	ir subco ent Tes n of Cu	ontract iting Sc stody a	labora outh Ce	tories. entral I g to sa	This s LLC Ial id com	ample s poratory	hipm or ot to Eu	ient i her i irofin	s forwarded under ch nstructions will be pro s Environment Testir	ain-of-custody ovided Any ch	If the nanges to ral, LLC
Possible Hazard Identification																				d longer than 1		
nconfirmed eliverable Requested I II III IV Other (specify) Primary Deliverable Rank. 2						Spec	_	eturn nstruc						oosal	By La	ab	L	<u> А</u>	rchi	ve For	Months	
Empty Kit Relinquished by	-	Date			Tim	-								Me	hod of	Shipm	ent <sup>.</sup>					
Relinquished by:	Date/Time	L		Company	<u> </u>		1	red by		$\overline{}$	+ {	-		_U``			Time				Come	
Relinquished by	Date/Time						()	N K	جر	8	U	Ľ	$\underline{}$	く							Company	
Relinquished by				Company		R	deceia.	ed by								Date	Time				Company	
	Date/Time			Company		R	Receiv	red by								Date	Time				Company	
Custody Seals Intact: Custody Seal No $\triangle$ Yes $\triangle$ No				L		c	Cooler	Temp	eratur	re(s) °	°C and	Other	Remar	ks		- <b>I</b>		•••••••			1	

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4/3/2023

# Login Sample Receipt Checklist

Client: Ensolum

Login Number: 4362 List Number: 1 Creator: Stutzman, Amanda

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Job Number: 890-4362-1 SDG Number: Lea County NM

List Source: Eurofins Carlsbad

Eurofins Carlsbad Released to Imaging: 1/12/2024 10:16:06 AM

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Job Number: 890-4362-1 SDG Number: Lea County NM

List Source: Eurofins Midland

List Creation: 03/21/23 11:22 AM

# Login Sample Receipt Checklist

Client: Ensolum

Login Number: 4362 List Number: 2 Creator: Teel, Brianna

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	True	

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").



August 03, 2023

AIMEE COLE ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD, NM 88220

RE: MCA 351

Enclosed are the results of analyses for samples received by the laboratory on 08/02/23 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



Received:	08/02/2023	Sampling Date:	08/02/2023
Reported:	08/03/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.73	4293	

#### Sample ID: FS 01 4' (H234099-01)

BTEX 8021B	mg,	/kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.050	0.050	08/03/2023	ND	1.98	99.2	2.00	0.642	
Toluene*	<0.050	0.050	08/03/2023	ND	1.90	95.2	2.00	0.971	
Ethylbenzene*	<0.050	0.050	08/03/2023	ND	1.95	97.6	2.00	1.19	
Total Xylenes*	<0.150	0.150	08/03/2023	ND	5.76	95.9	6.00	0.697	
Total BTEX	<0.300	0.300	08/03/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	113 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Chloride	32.0	16.0	08/03/2023	ND	432	108	400	3.64	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
GRO C6-C10*	<10.0	10.0	08/03/2023	ND	197	98.3	200	1.29	
DRO >C10-C28*	11.0	10.0	08/03/2023	ND	197	98.4	200	0.780	
EXT DRO >C28-C36	<10.0	10.0	08/03/2023	ND					
Surrogate: 1-Chlorooctane	137	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	151	% 49.1-14	0						

#### **Cardinal Laboratories**

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	ſY	
Received:	08/02/2023		Sampling Date:	08/02/2023
Reported:	08/03/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

#### Sample ID: FS 02 4' (H234099-02)

BTEX 8021B	mg/	/kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/03/2023	ND	1.98	99.2	2.00	0.642	
Toluene*	<0.050	0.050	08/03/2023	ND	1.90	95.2	2.00	0.971	
Ethylbenzene*	<0.050	0.050	08/03/2023	ND	1.95	97.6	2.00	1.19	
Total Xylenes*	<0.150	0.150	08/03/2023	ND	5.76	95.9	6.00	0.697	
Total BTEX	<0.300	0.300	08/03/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	113 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7360	16.0	08/03/2023	ND	432	108	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/03/2023	ND	197	98.3	200	1.29	
DRO >C10-C28*	<10.0	10.0	08/03/2023	ND	197	98.4	200	0.780	
EXT DRO >C28-C36	<10.0	10.0	08/03/2023	ND					
Surrogate: 1-Chlorooctane	120 9	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	134 9	% 49.1-14	8						

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

#### Cardinal Laboratories

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

	e: Ensolum, LLC						-	T	1.	uni./	31	LL TO	19499	<u>19</u>				AMA	IVC	10 0	EOU	IFAT		-
Project Manag								F	2.0.					T	T	T	T	T	T	T	REQU	1001	-	1
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	Island	Parks Hurry State: NM	Zip	: 8	82	20	>	-	ttn:			ee Ce	Jr.	1				1						
	20 384736	<b>J Fax</b> 余						-	ddn				40	1										
Project #: 0	3020570L	SProject Owne	r:	Mar	ord	u		-	ity:					1										
Project Name:	MCA 351 n: 32,8081 Ronn, Haye							-	tate		17	Zip:												
<b>Project Locatio</b>	n: 32,8081-	24, -103, 7	34	29	3			-	hon			-ib.		1										
Sampler Name:	Ronn, Haye	5			-			1	ax											1			1	
FOR LAB USE ONLY	0	No. Contraction	Π	L		MAT	RIX	-	-	ESER	V.	SAM	PLING	1						1				
Lab I.D. HZ34099	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP	# CONTAINERS	WASTEWATER	SOIL	OIL	OTHER :	ACID/BASE:	ICE / COOL		DATE	TIME	BTEN	HAL	CI-	î.							
(	FSOI	4	C	Ī	T	X		1	-	X			225	X	V	x	-			-				
2	FSOZ	4	C	1	T	X	1	+		x	14	3/2/23	235	X	XX	2				-				
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EASE NOTE: Liability and	Damages, Cardinal's liability and clie tiose for negligance and any other o	int's exclusive remedy for any	claim at	ising who	ether ha	a di hara					L									1.1.1				
Vice. In no event shall Car	ing he light in incidents as seen				AAA 1HC	C 414 1201	mug an	d lecev	earby (	larenal v	William 3	30 days after	completion of the	anolicable					100			-		
elinquished By:	out of or related to the performance	of services hereunder by Can Date:	dinal, reg	an diees	OF FRICE	ner such	h claim	is base	d upon	any of the	le abai	we stated reas	ions or otherwise.	4										
-hh	6	Date: 8-2-23 Time: 7430		1000	7.			,	1	1/	1	/	Verbal Res All Results	uit: are em	Yes	Please	provid	Add'l Pl	hone #					
elinquished By:		7630	1	11	Ul	Øt	1	1	U	lar	0	M		ace	lea	ben	solu	M.C	on					
emiquished by:		Date:	Rece	ived	By:						~	1	REMARKS:	12		-								
NAME AND		Time:																						
Delivered By: (Circ	le One) Obs	arved Temp. °C	18		Sampl				C	HECK	ED	BY: T	furnaround	Time	-	tanda	I los	1 -	Instant	- 1	10			
PORM-DOR	IS - Other: Cor	rected Temp. °C	10	1 1		Inte	975	- 1			ials)		hermometer	(D) ###	- Hu	lush	į		ool in	fact	Ohe	ple Con served 1 rected 1	Tomas 9	с
A COLUM-OOD K	012 10/01/21	t Cardinal can	not a						-	A CONTRACTOR OF	In the set			COF NI	1		14/2		No	No	Con	rected 7	Temp. °	C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

Received by OCD: 9/14/2023 3:25:41 PM



August 07, 2023

AIMEE COLE ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD, NM 88220

RE: MCA 351

Enclosed are the results of analyses for samples received by the laboratory on 08/03/23 16:56.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS H CARLSBAD NM, 88220 Fax To:	WY	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

#### Sample ID: FS 03 - 4' (H234142-01)

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1180	16.0	08/07/2023	ND	432	108	400	3.64	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	116	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	22.9	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	96.0	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	111 9	% 49.1-14	0						

#### **Cardinal Laboratories**

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	4,-103.734293		

#### Sample ID: FS 04 - 4' (H234142-02)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	08/07/2023	ND	448	112	400	3.64	QM-07
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	107	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	41.4	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	100 9	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	114 9	% 49.1-14	8						

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\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	٧Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

#### Sample ID: FS 05 - 4' (H234142-03)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	105	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	469	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	124	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	111 9	48.2-13	4						
Surrogate: 1-Chlorooctadecane	126	% 49.1-14	8						

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\*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HV CARLSBAD NM, 88220 Fax To:	VY	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

#### Sample ID: FS 06 - 4' (H234142-04)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	<10.0	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	102 9	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	110 9	% 49.1-14	8						

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\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HV CARLSBAD NM, 88220 Fax To:	VY	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

#### Sample ID: FS 07 - 5' (H234142-05)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	130	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	35.6	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	106 9	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	121 9	% 49.1-14	8						

#### Cardinal Laboratories

\*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	4,-103.734293		

#### Sample ID: FS 08 - 5' (H234142-06)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	<10.0	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	120	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	135	% 49.1-14	8						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	ľY	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

#### Sample ID: FS 09 - 5' (H234142-07)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	102	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5440	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	17.3	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	101	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	111 9	% 49.1-14	0						

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	ſY	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

#### Sample ID: FS 10 - 5' (H234142-08)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4800	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	181	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	44.9	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	94.5	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	115 9	% 49.1-14	8						

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	ľY	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.8081	24,-103.734293		

#### Sample ID: FS 11 - 5' (H234142-09)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	′kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10000	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/05/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	503	10.0	08/05/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	151	10.0	08/05/2023	ND					
Surrogate: 1-Chlorooctane	96.1	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	130 9	% 49.1-14	8						

#### Cardinal Laboratories

\*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	4,-103.734293		

#### Sample ID: FS 12 - 5' (H234142-10)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	′kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	912	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/05/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	<10.0	10.0	08/05/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	08/05/2023	ND					
Surrogate: 1-Chlorooctane	98.8	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	108 9	% 49.1-14	8						

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	4,-103.734293		

#### Sample ID: FS 13 - 5' (H234142-11)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/05/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	95.0	10.0	08/05/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	29.1	10.0	08/05/2023	ND					
Surrogate: 1-Chlorooctane	75.8	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	86.3	% 49.1-14	8						

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Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124	4,-103.734293		

#### Sample ID: SW 01 - 0-4' (H234142-12)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	′kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/05/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	<10.0	10.0	08/05/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	08/05/2023	ND					
Surrogate: 1-Chlorooctane	117 9	48.2-13	4						
Surrogate: 1-Chlorooctadecane	129	% 49.1-14	8						

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Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HV CARLSBAD NM, 88220 Fax To:	٧Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

#### Sample ID: SW 02 - 0-4' (H234142-13)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	21.4	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	112 9	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	121	% 49.1-14	8						

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Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HV CARLSBAD NM, 88220 Fax To:	٧Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

#### Sample ID: SW 03 - 0-4' (H234142-14)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	′kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	194	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	44.0	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	111 9	48.2-13	4						
Surrogate: 1-Chlorooctadecane	127 9	% 49.1-14	8						

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		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HV CARLSBAD NM, 88220 Fax To:	٧Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

#### Sample ID: SW 04 - 0-4' (H234142-15)

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	25.5	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	122	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	135	% 49.1-14	8						

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Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124	1,-103.734293		

#### Sample ID: SW 05 - 0-5' (H234142-16)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	106	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	17.2	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	113 9	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	120	% 49.1-14	8						

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Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HV CARLSBAD NM, 88220 Fax To:	٧Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

#### Sample ID: SW 06 - 0-5' (H234142-17)

BTEX 8021B	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS % Recovery	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	25.7	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	113 % 48.2-13		4						
Surrogate: 1-Chlorooctadecane	122 9	% 49.1-14	8						

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Celey D. Keene, Lab Director/Quality Manager


		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HV CARLSBAD NM, 88220 Fax To:	٧Y	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80812	24,-103.734293		

### Sample ID: SW 07 - 0-5' (H234142-18)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	104	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	14.3	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	105	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	114 9	% 49.1-14	8						

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		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	ſY	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.8081	24,-103.734293		

### Sample ID: SW 08 - 0-5' (H234142-19)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/06/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/06/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/06/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/06/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/06/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	<10.0	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	103 9	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	111 9	% 49.1-14	8						

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Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220 Fax To:	,	
Received:	08/03/2023		Sampling Date:	08/03/2023
Reported:	08/07/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124	4,-103.734293		

### Sample ID: SW 09 - 0-5' (H234142-20)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/06/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/06/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/06/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/06/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/06/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/07/2023	ND	448	112	400	3.64	
TPH 8015M	mg/	′kg	Analyze	nalyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	<10.0	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					
Surrogate: 1-Chlorooctane	136	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	151	% 49.1-14	8						

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Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

### **Cardinal Laboratories**

### \*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYS'S REQUEST

101 East Marland, Hobbs, NM 88240



PM

3:25:41

9/14/2023

Received by OCD:

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



# CHAIN-OF-CUSTODY AND ANALYS'S REQUEST

101 East Marland, Hobbs, NM 88240



PM

3:25:41

9/14/2023

Received by OCD:



August 14, 2023

AIMEE COLE ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD, NM 88220

RE: MCA 351

Enclosed are the results of analyses for samples received by the laboratory on 08/10/23 12:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220 Fax To:		
Received:	08/10/2023		Sampling Date:	08/10/2023
Reported:	08/14/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Shari Cisneros
Project Location:	MAVERICK 32.80821,	,-103.73417		

### Sample ID: PH 01 B 7' (H234295-01)

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/10/2023	ND	2.02	101	2.00	0.564	
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.9	2.00	0.617	
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.96	98.2	2.00	0.768	
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.88	98.0	6.00	0.558	
Total BTEX	<0.300	0.300	08/10/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1120	16.0	08/11/2023	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/11/2023	ND	165	82.4	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/11/2023	ND	174	87.2	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	08/11/2023	ND					
Surrogate: 1-Chlorooctane	86.4	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	99.7	% 49.1-14	8						

### Cardinal Laboratories

\*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	Y	
Received:	08/10/2023		Sampling Date:	08/10/2023
Reported:	08/14/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Shari Cisneros
Project Location:	MAVERICK 32.80821	l,-103.73417		

### Sample ID: PH 01 F 11' (H234295-02)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/10/2023	ND	2.02	101	2.00	0.564	
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.9	2.00	0.617	
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.96	98.2	2.00	0.768	
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.88	98.0	6.00	0.558	
Total BTEX	<0.300	0.300	08/10/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/11/2023	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/11/2023	ND	165	82.4	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/11/2023	ND	174	87.2	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	08/11/2023	ND					
Surrogate: 1-Chlorooctane	85.1	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	97.8	% 49.1-14	8						

### **Cardinal Laboratories**

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500CI-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Page 119 of 148

Received by OCD: 9/14/2023 3:25:41 PM

Com

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

Project Manager: A (mer. C. La							BILL TO ANALYSIS REQUEST																	
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State: MM Zip: 89220						Att	1:					1												
Phone #: 7	20-384-730	S Fax #:							Add	ires	s: /			1										
Project #: 0	31705706	S Project Owne	er:						City	:	1.1													
Project Name:	MCA 351								Stat	e:		Zip:		1										
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FOR LAB USE ONLY	Ronni Huger						22		Fax	#:	1.0			1										
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ey.keene@cardinallabsnm.com



August 14, 2023

AIMEE COLE ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD, NM 88220

RE: MCA 351

Enclosed are the results of analyses for samples received by the laboratory on 08/10/23 12:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	Y	
Received:	08/10/2023		Sampling Date:	08/10/2023
Reported:	08/14/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Shari Cisneros
Project Location:	MAVERICK 32.8082	1,-103.73417		

### Sample ID: FS11A 6' (H234296-01)

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/10/2023	ND	2.02	101	2.00	0.564	
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.9	2.00	0.617	
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.96	98.2	2.00	0.768	
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.88	98.0	6.00	0.558	
Total BTEX	<0.300	0.300	08/10/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	107	% 71.5-13	24						
Chloride, SM4500Cl-B	mg/kg		Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	08/11/2023	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/11/2023	ND	165	82.4	200	2.11	
DRO >C10-C28*	369	10.0	08/11/2023	ND	174	87.2	200	4.11	
EXT DRO >C28-C36	75.1	10.0	08/11/2023	ND					
Surrogate: 1-Chlorooctane	77.2	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	81.4	% 49.1-14	18						

### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HW CARLSBAD NM, 88220 Fax To:	Y	
Received:	08/10/2023		Sampling Date:	08/10/2023
Reported:	08/14/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Shari Cisneros
Project Location:	MAVERICK 32.80821	l,-103.73417		

### Sample ID: SW03 A 0-4' (H234296-02)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/10/2023	ND	2.02	101	2.00	0.564	
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.9	2.00	0.617	
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.96	98.2	2.00	0.768	
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.88	98.0	6.00	0.558	
Total BTEX	<0.300	0.300	08/10/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/kg		Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/11/2023	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/11/2023	ND	165	82.4	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/11/2023	ND	174	87.2	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	08/11/2023	ND					
Surrogate: 1-Chlorooctane	85.7	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	99.2	% 49.1-14	8						

### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500CI-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

CARDINAL
101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 5 of 5

Released to Imaging: 1/12/2024 10:16:06 AM

Page 124 of 148

10

ompany Name: Ensolum, LLC								
roject Manager: A im ec (	De.		BILL	10		ANALVOR	Dana	
ddress: 3122 Naki	nal Parks Hwy		P.O. * A	7	TTT	ANALISIS	REQUEST	
ty: Calstand	and the high		Company:		1			
one #: 720-384-73		88220	Attn:					
	G Fax #:		Address:					
vject Name: MCA 351	Project Owner:		City:					
	1 -1		State: Zip:					
npler Name: Ann Huy	1-103.73417		Phone #:					
LAB USE ONLY	1 77		Fax #:					
	e.	MATRIX	PRESERV.	SAMPLING				
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TE: Liability and Damages. Cardinal's liability and oil claims including those for negligance and any other event shall Cardinal be liable for incidential or cance accessors arising out of or related to the performance instance Bu-	cause whatsoever shall be deemed waived a	whether based in contract or tort inless made in writing and recei	t shall be limited to the amount p	aid by the client for the				+
realms including those for negligence and any other or event shall Cardhal be liable for incidential or cance uccessors arising out of or related to the performance tished By:	of services hereunder by Cardinal records	a, business interruptions, loss of	fuse, or loss of profils incurred by	ter completion of the appletion, its subsidiaries.	licable			
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JKW-000 K 3.2 10/0/121	ectod Temp, °C	Yes Yes	(Initials)	Thermometer ID Cerrection Factor	Rush		) Sample Condition Observed Temp. °C	
	and the second se			Contraction of the second seco	#119- H. 48 hr	Snm.com	Corrected Temp. °C	



August 25, 2023

AIMEE COLE ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD, NM 88220

RE: MCA 351

Enclosed are the results of analyses for samples received by the laboratory on 08/18/23 15:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		ENSOLUM AIMEE COLE 3122 NATIONAL PARKS HV CARLSBAD NM, 88220 Fax To:	ŴΥ	
Received:	08/18/2023		Sampling Date:	08/18/2023
Reported:	08/25/2023		Sampling Type:	Soil
Project Name:	MCA 351		Sampling Condition:	Cool & Intact
Project Number:	03D2057065		Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.80821	,-103.734293		

### Sample ID: SS 01 0.5' (H234512-01)

BTEX 8021B	mg/	/kg	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/24/2023	ND	1.98	99.2	2.00	1.48	
Toluene*	<0.050	0.050	08/24/2023	ND	2.15	107	2.00	2.32	
Ethylbenzene*	<0.050	0.050	08/24/2023	ND	2.15	108	2.00	3.38	
Total Xylenes*	<0.150	0.150	08/24/2023	ND	6.45	108	6.00	3.61	
Total BTEX	<0.300	0.300	08/24/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	102	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/23/2023	ND	416	104	400	3.77	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/24/2023	ND	171	85.5	200	2.22	
DRO >C10-C28*	<10.0	10.0	08/24/2023	ND	179	89.3	200	8.14	
EXT DRO >C28-C36	<10.0	10.0	08/24/2023	ND					
Surrogate: 1-Chlorooctane	99.3	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	118 9	% 49.1-14	0						

### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

### **Cardinal Laboratories**

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 4 of 4

101 East Marland, Hobbs, NM 88240

	Ensolum, LLC										B	ILL TO						ANA	N VS	IS P	EQU	ECT		
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Phone #: 720	389 7365	Fax #:	-					1	Address:				1											
Project #: 0	DU 605 1019	S Project Own	er: ]	Ma	Ner	121	1		City	:		A. H.		1			1							
Project Name:	MCA 351						14	14	Stat	e:	1	Zip:		1										1
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FOR LAB USE ONLY		ľ		Π		MA	TRIX		P	RES	ERV	SAM	PLING	1								1		
Lab I.D.	Sample I.D.	Depth (feet)	C (G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER			3E	<ul> <li></li></ul>	001			4	BTEX	Hd	,								
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Cardinal cannot accept verbal changes. Please email changes to celey keene@cardinallabsnm.com

Received by OCD: 9/14/2023 3:25:41 PM

Released to Imaging: 1/12/2024 10:16:06 AM



# APPENDIX E

**NMOCD** Notifications

**Released to Imaging: 1/12/2024 10:16:06 AM** 

Nobui, Jennifer, EMNRD
Kalei Jennings
Bratcher, Michael, EMNRD; Harimon, Jocelyn, EMNRD; Hamlet, Robert, EMNRD
FW: [EXTERNAL] Maverick Permian- Extension Request- MCA 351 (Incident Number NAPP2302034681)
Wednesday, April 19, 2023 11:39:01 AM
image001.png
image002.png
image003.png
image004.png

## [ \*\*EXTERNAL EMAIL\*\*]

Hello Kalei

OCD approves your 90-day extension request to July 31, 2023 to submit a remediation plan or closure report. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thanks, Jennifer Nobui

From: Kalei Jennings <kjennings@ensolum.com>
Sent: Thursday, April 6, 2023 4:53 PM
To: Enviro, OCD, EMNRD <<u>OCD.Enviro@emnrd.nm.gov</u>>
Subject: [EXTERNAL] Maverick Permian- Extension Request- MCA 351 (Incident Number
NAPP2302034681)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

To Whom It May Concern,

### MCA 351 (Incident Number NAPP2302034681)

Maverick Permian, LLC (Maverick) is requesting an extension for the current deadline of April 6, 2023, for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC for MCA 351 (Incident Number NAPP2302034681). The release was discovered on January 6, 2023. Initial site assessment and delineation activities have been completed. In order to complete additional remediation activities and submit a remediation work plan or closure report, Maverick requests a 90-day extension of this deadline until July 5, 2023.

Thank you,





From:	Velez, Nelson, EMNRD
То:	Aimee Cole
Subject:	Maverick Permian- Extension Request - MCA 351 (Incident Number NAPP2302034681)
Date:	Tuesday, August 8, 2023 2:25:52 PM
Attachments:	image.png
	image.png
	image.png
	image.png
	Outlook-degf2b12.png

You don't often get email from nelson.velez@emnrd.nm.gov. Learn why this is important

### **\*\*EXTERNAL EMAIL\*\***

Good day Aimee,

Your 45-day time extension request to September 14, 2023 is approved. Remediation Due date has been updated within the incident page.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

Regards,

?

Nelson Velez • En	ivironmental Specialist - Adv
Environmental Burea	u   EMNRD - Oil Conservation Division
1000 Rio Brazos Roa	d   Aztec, NM 87410
(505) 469-6146   <mark>ne</mark>	lson.velez@emnrd.nm.gov
http://www.emnrd.state	e.nm.us/OCD/



From: Aimee Cole <acole@ensolum.com>

Sent: Tuesday, August 8, 2023 1:15 PM

**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>

**Subject:** [EXTERNAL] Maverick Permian- Extension Request - MCA 351 (Incident Number NAPP2302034681)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

To Whom It May Concern,

## MCA 351 (Incident Number NAPP2302034681)

Maverick Permian, LLC (Maverick) is requesting an extension of the current deadline for submitting a report required in 9.15.29.12.B.(1) NMAC detailing remedial actions at the MCA 351 (Incident Number NAPP2302034681). Excavation of impacted soil was completed last week. Confirmation samples were collected from the excavation and laboratory analytical reports are pending. Maverick is also planning to drill a depth to water boring to confirm the Site Closure Criteria. The drilling is scheduled for the week of August 21<sup>st</sup>. In order to review the excavation soil sample laboratory analytical results, complete the depth to water boring, and prepare a closure report, Maverick requests a 45-day extension until September 14, 2023.

Thank you,



Aimee Cole Senior Managing Scientist 720-384-7365 Ensolum, LLC

From:	Wells, Shelly, EMNRD
То:	Aimee Cole
Cc:	Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD
Subject:	RE: [EXTERNAL] Maverick - Sampling Notification (Week of 7/31/2023)
Date:	Wednesday, July 26, 2023 10:53:35 AM
Attachments:	image001.png
	image002.png
	image003.png
	image004.png

You don't often get email from shelly.wells@emnrd.nm.gov. Learn why this is important

## [ \*\*EXTERNAL EMAIL\*\*]

Hi Aimee,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

Shelly

Shelly Wells \* Environmental Specialist-Advanced Administrative Permitting Program EMNRD-Oil Conservation Division 1220 S. St. Francis Drive|Santa Fe, NM 87505 (505)469-7520<u>|Shelly.Wells@emnrd.nm.gov</u> http://www.emnrd.state.nm.us/OCD/

From: Aimee Cole <acole@ensolum.com>
Sent: Wednesday, July 26, 2023 10:29 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick - Sampling Notification (Week of 7/31/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

Maverick Permian, LLC plans to complete sampling activities at the following sites the week of July 31, 2023.

- Cone Jalmat South Satellite Header / NAPP2301881992
  - Sampling Dates: 7/31/2023 8/1/2023
- MCA 351 / NAPP2302034681

• Sampling Date: 8/2/2023 – 8/5/2023

Thank you,



Aimee Cole Senior Managing Scientist 720-384-7365 Ensolum, LLC

From:	Wells, Shelly, EMNRD
To:	Aimee Cole
Cc:	Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD
Subject:	RE: [EXTERNAL] Maverick - Sampling Notification (Week of 8/7/2023)
Date:	Wednesday, August 2, 2023 2:45:38 PM
Attachments:	image001.png
	image002.png
	image003.png
	image004.png

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### **\*\*EXTERNAL EMAIL\*\***

Good afternoon Aimee,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

Shelly

Shelly Wells \* Environmental Specialist-Advanced Administrative Permitting Program EMNRD-Oil Conservation Division 1220 S. St. Francis Drive|Santa Fe, NM 87505 (505)469-7520<u>|Shelly.Wells@emnrd.nm.gov</u> http://www.emnrd.state.nm.us/OCD/

From: Aimee Cole <acole@ensolum.com>
Sent: Wednesday, August 2, 2023 2:22 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick - Sampling Notification (Week of 8/7/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

Maverick Permian, LLC plans to complete sampling activities at the following sites the week of August 7, 2023.

- Baish B Battery / NAPP2235372941
  - Sampling Dates: 8/10/2023
- MCA 351 / NAPP2302034681

• Sampling Date: 8/7/2023

Thank you,



Aimee Cole Senior Managing Scientist 720-384-7365 Ensolum, LLC



# APPENDIX F Form C-141

**Released to Imaging: 1/12/2024 10:16:06 AM** 

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Page 139 of 148

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

)

Incident ID	NAPP2302034681
District RP	
Facility ID	
Application ID	

# **Release Notification**

## **Responsible Party**

Responsible Party: Maverick Permian, LLC	OGRID: 331199
Contact Name: Bryce Wagoner	Contact Telephone: 928-241-1862
Contact email: <u>Bryce.Wagoner@mavresources.com</u>	Incident # (assigned by OCD)
Contact mailing address: 1410 NW County Road Hobbs, NM 88240	· · ·

## **Location of Release Source**

Latitude 32.80821

[NAD 83 in decimal degrees to 5 decimal places]

Site Name: MCA 351	Site Type
Date Release: 1/2/2023	API# (if applicable) 30-025-24547

Unit Letter	Section	Township	Range	County
G	26	17S	32E	Lea

Surface Owner: State Federal Tribal Private (Name:

## Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

Volume Released (bbls) 1.33 bbls	Volume Recovered (bbls) 0
Volume Released (bbls) 7.81 bbls	Volume Recovered (bbls) 0
Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ⊠ No
Volume Released (bbls)	Volume Recovered (bbls)
Volume Released (Mcf)	Volume Recovered (Mcf)
Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
	Volume Released (bbls) 7.81 bbls         Is the concentration of dissolved chloride in the produced water >10,000 mg/l?         Volume Released (bbls)         Volume Released (Mcf)

Cause of Release

The release was caused by corrosion on a 2 in flowline off-pad. The source of the release has been stopped and the impacted area secured. Initial response and removal of saturated soil from the release area has been completed.

Page	2
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## Oil Conservation Division

Incident ID	NAPP2302034681
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the responsible party consider this a major release?
Yes 🛛 No	
If YES, was immediate no	otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

## **Initial Response**

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

 $\square$  The source of the release has been stopped.

The impacted area has been secured to protect human health and the environment.

Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name:	Bryce Wagoner	Title:Permian HSE Specialist II
Signature:	Wintt	Date:1/16/2023
email:Bryc	e.Wagoner@mavresources.com	Telephone:928-241-1862
OCD Only		
Received by:		Date:

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Pooled I	Fluids on the S	urface			
of Boundaries			Estimated	Volume of	Volume of

	Length (ft.)	Width (ft.)	Depth (in)	# of Boundaries *edges of pool where depth is 0. don't count shared boundaries			Estimated Average Depth (ft.)	Pooled Volume (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A					0.01	0.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle B					0.01	0.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle C						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle D						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle E						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Total Volume (bbls)							0.00	0.00	0.00

				Su	bsurface Fluid	s				
	Length (ft.)	Width (ft.)	Depth (in.)	Saturation (%) *10% in consolidated sediments after rain to 50% in sand with no precipitation	Oil-Water Ratio (%)	Area (ft²)	Volume (bbl.)	Estimated Volume in Subsurface (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	55.0	25.0	4.0	0.1	0.20	1375.0	81.6	6.5	1.31	5.2
Rectangle B	35.0	40.0	1.0	0.1	0.01	1400.0	20.8	1.7	0.02	1.6
Rectangle C	40.0	20.0	1.0	0.1	0.01	800.0	11.9	0.9	0.01	0.9
Rectangle D				0.1	0.01	0.0	0.0	0.0	0.00	0.0
Rectangle E				0.1	0.01	0.0	0.0	0.0	0.00	0.0
Rectangle F						0.0	0.0	0.0	0.00	0.0
Rectangle G						0.0	0.0	0.0	0.00	0.0
Rectangle H						0.0	0.0	0.0	0.00	0.0
Rectangle I						0.0	0.0	0.0	0.00	0.0
Rectangle J						0.0	0.0	0.0	0.00	0.0
	Total Volume (bbl							9.14	1.33	7.81

TOTAL RELEASE VOLUME (bbls): 9.1

L

**Received by OCD: 9/14/2023 3:25:41 PM** Form C-141 State of New Mexico

Oil Conservation Division

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Incident ID	NAPP2302034681
District RP	
Facility ID	
Application ID	

# Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&gt;60 (</u> ft bgs)
Did this release impact groundwater or surface water?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🗌 Yes 🛛 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🗌 Yes 🛛 No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	🗌 Yes 🛛 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	🗌 Yes 🛛 No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a wetland?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying a subsurface mine?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying an unstable area such as karst geology?	🗌 Yes 🛛 No
Are the lateral extents of the release within a 100-year floodplain?	🗌 Yes 🛛 No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	🔀 Yes 🗌 No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data

Page 3

- Data table of soil contaminant concentration data
- $\square$  Depth to water determination
- Determination of water sources and significant watercourses within <sup>1</sup>/<sub>2</sub>-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.

Received by OCD: 9/14/2023 .	3:25:41 PM State of New Mexico		<b>Page 143 of 14</b>			
			Incident ID	NAPP2302034681		
Page 4	Oil Conservation Division		District RP			
			Facility ID			
			Application ID			
regulations all operators are required public health or the environment failed to adequately investigate	<i>T</i>	ations and perform cc D does not relieve the to groundwater, surfa sponsibility for compl Title: <u>Permi</u> Date:	prrective actions for release operator of liability sho ce water, human health	ases which may endanger ould their operations have or the environment. In deral, state, or local laws		
OCD Only						
Received by:		Date:				

Page 6

Oil Conservation Division

Incident ID	NAPP2302034681
District RP	
Facility ID	
Application ID	

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# 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 N	MAC	
Photographs of the remediated site prior to backfill or photos of the must be notified 2 days prior to liner inspection)	ne liner integrity if applicable (Note: appropriate OCD District office	
Laboratory analyses of final sampling (Note: appropriate ODC Dis	strict 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 and regulations all operators are required to report and/or file certain rele- may endanger public health or the environment. The acceptance of a C- should their operations have failed to adequately investigate and remedia human health or the environment. In addition, OCD acceptance of a C- compliance with any other federal, state, or local laws and/or regulations restore, reclaim, and re-vegetate the impacted surface area to the conditi accordance with 19.15.29.13 NMAC including notification to the OCD Printed Name: Bryce Wagoner Signature:	ease notifications and perform corrective actions for releases which 141 report by the OCD does not relieve the operator of liability ate contamination that pose a threat to groundwater, surface water, 141 report does not relieve the operator of responsibility for s. The responsible party acknowledges they must substantially ons that existed prior to the release or their final land use in	
OCD Only		
Received by:	Date:	
Closure approval by the OCD does not relieve the responsible party of lir remediate contamination that poses a threat to groundwater, surface wate party of compliance with any other federal, state, or local laws and/or re	r, human health, or the environment nor does not relieve the responsible	
Closure Approved by: Nelson Velez	Date: 01/12/2024	
Printed Name: Nelson Velez	Title: Environmental Specialist - Adv	



APPENDIX G NMSLO Reclamation Plan

## **Reclamation Plan**

The release occurred in a pasture area and as such, reclamation requirements set forth in 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation were applied.

The following Reclamation Plan addresses reclamation of the off-pad excavation area and has been developed through review and application of the *Revegetation Guidelines Handbook for Southeastern New Mexico* – Version 1-1, authored by NMSLO and dated 2018, and 19.2.100.67 NMAC – *Surface Reclamation on State Oil and Gas Leases*:

- The excavation will be backfilled with locally sourced caliche and topsoil to match surrounding grade. A minimum of 1-foot of topsoil will be placed on top of the caliche to support vegetative growth within the disturbed area;
- Soil in the vicinity of the release in the pasture will be assessed for the proper application of *Table 3 Revegetation Plans, Codes, and Soil Types for Southeastern New Mexico*;
- The backfilled areas will be seeded utilizing a weed-free seed mix designed listed in the table below;

Common Name and Preferred Variety	Scientific Name	PLS Per Acre
Annual Quick-cover Grass		
Oats	Avena sativa	1.00
Cool Season Grass		
Western Wheatgrass	Agropyron smithii	2.50
Warm-Season Grass		
Black or Blue Grama	Boutela gracilis var. Alma	1.50
Little Bluestem	Schizachyrium scoparium	0.50
Sand Dropseed	Sporobolus cryptandrus	0.50
Sand Bluestem	Andropogon hallii	1.00
Indiangrass	Sorghastrum nutans	0.50
Sideoats Grama	Bouteloua curtipendula var. Vaughn	2.00
Wildflowers/ Forbs		
White prairie clover	Dalea candida	0.10
Scarlet globemallow	Sphaeralcea coccinea	0.10
Chia Sage	Salvia columbariae	0.10
Annual sunflower	Helianthus annuus	0.10
Annual buckwheat	Eriogonum annuum	0.10

- The seed mixture will be distributed with one or more of the following methods: push broadcaster seed spreader, tractor operated broadcast seed spreader, and/or drill seeding based on Site conditions and contractor availability;
- Application of the seed mixture will be at a coverage of 10 pounds of seeds per acre of reclaimed pasture with distribution by a drilling method or 20 pounds of seeds per acre of reclaimed pasture with distribution by a broadcast method;

- Erosion control management is not anticipated since the proposed excavation area is relatively flat; however, in the event erosion control management is necessary to support vegetation growth and minimize erosion until the root structures take hold, the application of the following best management practices (BMPs) could potentially include:
  - Prompt revegetation with mulching and contouring the ground surface to limit surface water flow;
  - The placement of waddles in areas with a propensity for high run off rates;
  - Straw cover if high winds are anticipated to support moisture retention and limit wind from blowing seeds away before they have had time to germinate; and/or
  - Other erosional control best management practices (BMP) as necessary to support timely and healthy regrowth of vegetation in disturbed areas;
- Backfilling of the excavation will be scheduled and communicated with NMSLO prior to initiation;
- Seeding is anticipated to be completed in the Fall when temperatures and precipitation are most conducive for vegetation growth. In general, seeding should occur approximately one month after the last frost in the Spring up until approximately one month prior to the first fall frost. NMSLO has recognized the optimal time to seed is between July and early September, which will be the preferred timeframe for this Site;
- If seeding occurs outside of the 180 days approved in the current fully executed ROE Permit, a new ROE Permit will be executed prior to entering the pasture for reclamation activities;
- Annual inspections (at a minimum) will take place on the location until revegetation is consistent with local natural vegetation density. The Site will be inspected the following Fall to assess the success of regrowth. If necessary, an additional application of the NMSLO-approved pure live seed mixture will be applied as well as any needed BMPs will be installed to support growth and limit erosion; and
- Upon completion of revegetation, a copy of the C-103 submitted to NMOCD will also be submitted to NMSLO for final inspection and release.

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

District IV 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

Operator:	OGRID:
Maverick Permian LLC	331199
1000 Main Street, Suite 2900	Action Number:
Houston, TX 77002	265464
	Action Type:
	[C-141] Release Corrective Action (C-141)

### CONDITIONS

Created By		Condition Date
nvelez	None	1/12/2024

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Action 265464