

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

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

Form C-147
Revised April 3, 2017

Recycling Facility and/or Recycling Containment

Type of Facility: ☒ Recycling Facility ☒ Recycling Containment*

Type of action: ☐ Permit
☐ Modification
☒ Closure

☐ Registration
☐ Extension
☐ Other (explain)

PCS 1523130486

* At the time C-147 is submitted to the division for a Recycling Containment, a copy shall be provided to the surface owner.

Be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.

Operator: LOGOS Operating, LLC (For multiple operators attach page with information) OGRID #: 289408
Address: 2010 Afton Pl Farmington, NM 87401
Facility or well name (include API# if associated with a well): Section 30 Containment and Recycling Facility
OCD Permit Number: 3RF-3 (For new facilities the permit number will be assigned by the district office)
U/L or Qtr/Qtr N2NE Section 30 Township 31N Range 5W County: Rio Arriba County
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.

☒ **Recycling Facility:**

Location of recycling facility (if applicable): Latitude 36.877084 Longitude -107.3984050 NAD83

Proposed Use: ☒ Drilling* ☒ Completion* ☒ Production* ☒ Plugging *

*The re-use of produced water may NOT be used until fresh water zones are cased and cemented

☐ Other, requires permit for other uses. Describe use, process, testing, volume of produced water and ensure there will be no adverse impact on groundwater or surface water.

☒ **Fluid Storage**

☒ Above ground tanks ☒ Recycling containment ☐ Activity permitted under 19.15.17 NMAC explain type _____

☐ Activity permitted under 19.15.36 NMAC explain type: _____ ☐ Other explain _____

☐ For multiple or additional recycling containments, attach design and location information of each containment

☒ **Closure Report (required within 60 days of closure completion):** ☒ Recycling Facility Closure Completion Date: 9/26/2019

3.

☒ **Recycling Containment: Section 30 Containment**

☐ Annual Extension after initial 5 years (attach summary of monthly leak detection inspections for previous year)

Center of Recycling Containment (if applicable): Latitude 36.877125 Longitude -107.398656 NAD83

☐ For multiple or additional recycling containments, attach design and location information of each containment

☒ Lined ☒ Liner type: Thickness 45 mil LLDPE and 30 mil (LLDPE secondary) ☒ LLDPE ☒ HDPE ☐ PVC ☐ Other _____

☒ String-Reinforced

Liner Seams: ☒ Welded ☒ Factory ☒ Other Field Welds Volume: 575,000 bbl Dimensions: L 900' x W 300' x D 18.7' (at sump)

☒ Recycling Containment Closure Completion Date: 9/26/2019

NMOC

NOV 25 2019

DISTRICT III

(54)

4.

Bonding:

- ☒ Covered under bonding pursuant to 19.15.8 NMAC per 19.15.34.15(A)(2) NMAC (These containments are limited to only the wells owned or operated by the owners of the containment.)
- ☐ Bonding in accordance with 19.15.34.15(A)(1). Amount of bond \$ _____ (work on these facilities cannot commence until bonding amounts are approved)
- ☐ Attach closure cost estimate and documentation on how the closure cost was calculated.

5.

Fencing:

- ☐ Four foot height. four strands of barbed wire evenly spaced between one and four feet
- ☒ Alternate. Please specify Game Fence

6.

Signs:

- ☒ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☐ Signed in compliance with 19.15.16.8 NMAC

7.

Variances:

Justifications and/or demonstrations that the proposed variance will afford reasonable protection against contamination of fresh water, human health, and the environment.

Check the below box only if a variance is requested:

- ☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval. If a Variance is requested, include the variance information on a separate page and attach it to the C-147 as part of the application.
- If a Variance is requested, it must be approved prior to implementation.**

8.

Siting Criteria for Recycling Containment

Instructions: The applicant must provide attachments that demonstrate compliance for each siting criteria below as part of the application. Potential examples of the siting attachment source material are provided below under each criteria.

General siting**Ground water is less than 50 feet below the bottom of the Recycling Containment.**

NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☒ No
☐ NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

☐ Yes ☒ No
☐ NA

- Written confirmation or verification from the municipality; written approval obtained from the municipality

Within the area overlying a subsurface mine.

- Written confirmation or verification or map from the NM EMNRD-Mining and Minerals Division

☐ Yes ☒ No

Within an unstable area.

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; topographic map

☐ Yes ☒ No

Within a 100-year floodplain. FEMA map

☐ Yes ☒ No

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

☐ Yes ☒ No

- Topographic map; visual inspection (certification) of the proposed site

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

☐ Yes ☒ No

- Visual inspection (certification) of the proposed site; aerial photo; satellite image

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

☐ Yes ☒ No

- NM Office of the State Engineer - iWATERS database search; visual inspection (certification) of the proposed site

Within 500 feet of a wetland.

☐ Yes ☒ No

- US Fish and Wildlife Wetland Identification map; topographic map; visual inspection (certification) of the proposed site

9.
Recycling Facility and/or Containment Checklist:

Instructions: Each of the following items must be attached to the application. Indicate, by a check mark in the box, that the documents are attached.

- ☐ Design Plan - based upon the appropriate requirements.
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements.
- ☐ Closure Plan - based upon the appropriate requirements.
- ☐ Site Specific Groundwater Data -
- ☐ Siting Criteria Compliance Demonstrations -
- ☐ Certify that notice of the C-147 (only) has been sent to the surface owner(s)

10.
Operator Application Certification:

I hereby certify that the information and attachments submitted with this application are true, accurate and complete to the best of my knowledge and belief.

Name (Print): Larissa Farrell

Title: Environmental/Regulatory Technician

Signature: 

Date: 11/22/2019

e-mail address: lfarrell@logosresourcesllc.com

Telephone: (505)787-2027

11.
OCD Representative Signature:



Approval Date: 12/12/19

Title: Environmental Specialist

OCD Permit Number: 3RF-3

- ☐ OCD Conditions
- ☐ Additional OCD Conditions on Attachment

LOGOS Operating, LLC
3RF-3 Section 30 Containment and Recycling Facility
C-147: Closure Report Lined Containment

After operations cease, the operator will remove all fluids within 60 days and close the containment within six months from the date the operator ceases operations from the containment for use. The operator shall substantially restore the impacted surface area to

- the condition that existed prior to the construction of the recycling containment or
- a condition imposed by federal, state trust land or tribal agencies on lands managed by those agencies as these provisions govern the obligations of any operator subject to those provisions.

Excavation and Removal Closure Plan – Protocols and Procedures

The workover pit is expected to contain a small volume of solids, the majority of which will be windblown sand and dust with some mineral precipitates from the water.

- The operator will remove all liquids from the pits and either:
 - Dispose of the liquids in a division-approved facility, or
 - Recycle, reuse or reclaim the water for reuse in drilling and stimulation.

LOGOS removed the remaining storm water on September 16, 2019 and disposed at (Rosa SWD #1).

- The operator will close the recycling containment by first removing all fluids, contents and synthetic liners and transferring these materials to a division approved facility.

LOGOS removed all synthetic liners from the recycling containment on September 26, 2019 and disposed at the San Juan County Landfill Management Facility (Disposal) and WCA Bondad Landfill.

- After the removal of the pit contents and liners, soils beneath the workover pit will be tested by collection of a five-point (minimum) composite sample which includes stained or wet soils, if any and that sample shall be analyzed for the constituents listed in Table I of 19.15.34.14.

In conjunction with the liner removal, LOGOS collected 11 samples witnessed by the New Mexico Oil Conservation Division Environmental Specialist, Cory Smith. LOGOS delivered the samples to Envirotech, Inc. for testing results.

- After review of the laboratory results
 - If any contaminant concentration is higher than the parameters listed in Table I, additional delineation may be required and the operator must receive approval before proceeding with closure.
 - If all contaminant concentrations are less than or equal to the parameters listed in Table I, then the operator will proceed to
 - Backfill with non-waste containing, uncontaminated, earthen material or
 - Undertake an alternative closure process pursuant to a variance request after approval by OCD.

LOGOS received results from Envirotech, Inc. on October 7, 2019. All constituent parameters met the closure criteria list in NMAC 19.15.29.12.E. (2), Table I. Per the attached results no remediation is required. LOGOS is currently working with the surface owner (BLM) to attain an acceptable safe and stable condition.

LOGOS Operating, LLC

C-147: Closure Report Lined Containment

Reclamation and Re-vegetation

- The operator will reclaim the containment's location to a safe and stable condition that blends with the surrounding undisturbed area.
- Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.
- The disturbed area shall then be reseeded in the first favorable growing season following closure of a recycling containment.

LOGOS is currently working with surface owner (BLM) to attain an acceptable, safe and stable condition.

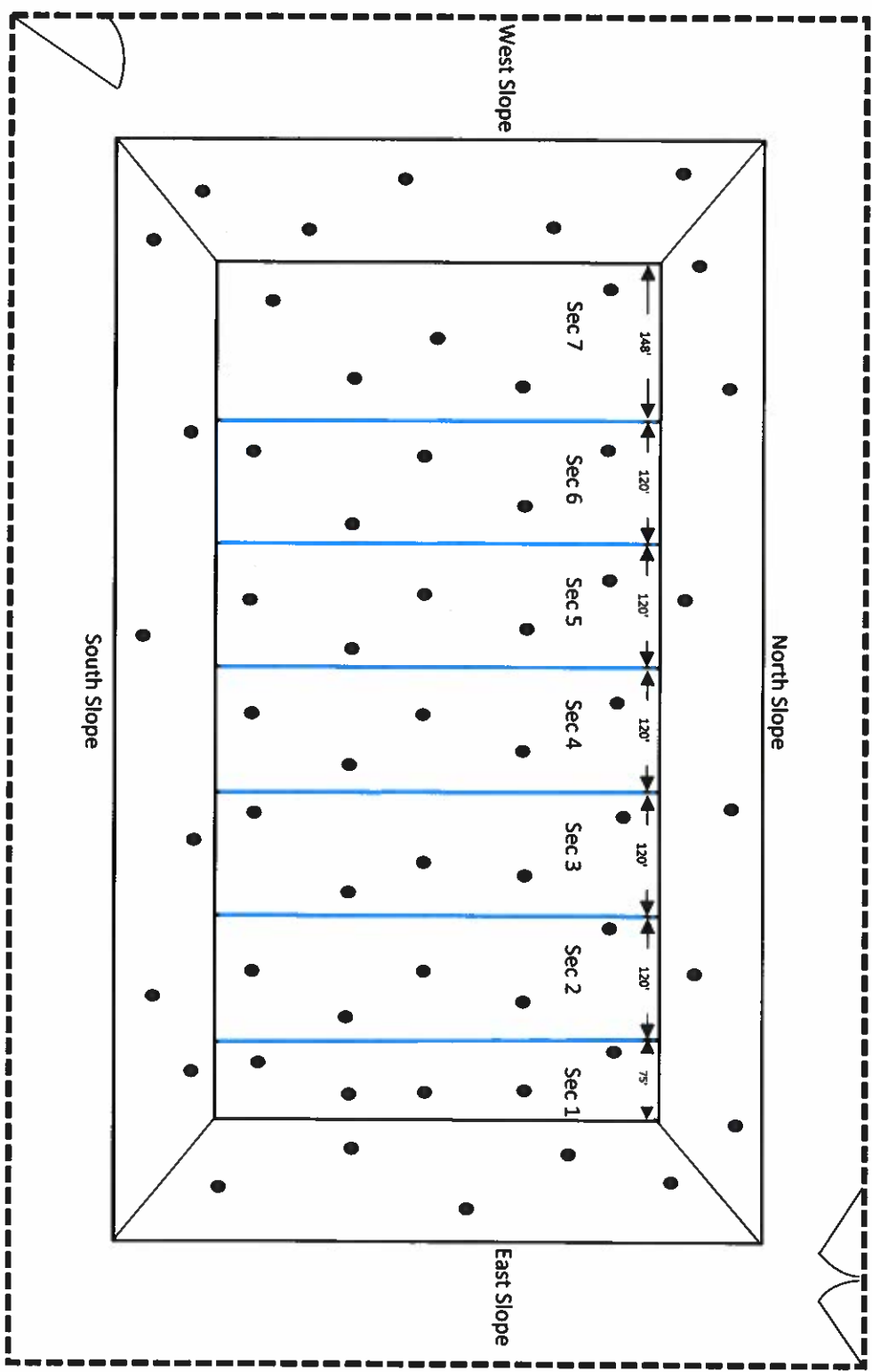
Closure Documentation

- Within 60 days of closure completion, the operator shall submit a closure report on form C-147, including required attachments, to document all closure activities including sampling results and the details on any backfilling, capping or covering, where applicable. The closure report shall certify that all information in the report and attachments is correct and that the operator has complied with all applicable closure requirements and conditions specified in division rules or directives.

LOGOS submitted C-147 Closure on November 25, 2019.

- The operator shall notify the division when reclamation and re-vegetation are complete. Specifically the notice will document that all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ration of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

LOGOS will notify the division when completed in a manner agreeable with the BLM.



Index

- Sampling Point
- Section Boundary
- - - Fence Line

LOGOS Operating, LLC – Rosa 3RF-3 Recycling Facility

Sampling Diagram

Unit N2NE, Section 30, T31N, R5W

Rio Arriba County, NM





Analytical Report

Report Summary

Client: Logos Operating, LLC

Samples Received: 9/23/2019

Job Number: 12035-0114

Work Order: P909068

Project Name/Location: Rosa Pond

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman', is written over a horizontal line.

Date: 10/1/19

Walter Hinchman, Laboratory Director



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.
Envirotech, Inc. holds the Utah TNI certification NM009792018-1 for the data reported.
Envirotech, Inc. holds the Texas TNI certification T104704557-19-2 for the data reported.

Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/01/19 15:47

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Rosa Pond - East Slope	P909068-01A	Soil	09/23/19	09/23/19	Glass Jar, 4 oz.
	P909068-01B	Soil	09/23/19	09/23/19	Glass Jar, 4 oz.

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Logos Operating, LLC
 PO Box 18
 Flora Vista NM, 87415

 Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

 Reported:
 10/01/19 15:47

**Rosa Pond - East Slope
 P909068-01 (Solid)**

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1939017	09/24/19	09/30/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1939017	09/24/19	09/30/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1939017	09/24/19	09/30/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1939017	09/24/19	09/30/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1939017	09/24/19	09/30/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1939017	09/24/19	09/30/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		99.9 %		70-130	1939017	09/24/19	09/30/19	EPA 8260B	
Surrogate: Toluene-d8		97.5 %		70-130	1939017	09/24/19	09/30/19	EPA 8260B	
Surrogate: Bromofluorobenzene		99.1 %		70-130	1939017	09/24/19	09/30/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1939016	09/24/19	09/24/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1939016	09/24/19	09/24/19	EPA 8015D	
Surrogate: n-Nonane		104 %		50-200	1939016	09/24/19	09/24/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1939017	09/24/19	09/30/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		99.9 %		70-130	1939017	09/24/19	09/30/19	EPA 8015D	
Surrogate: Toluene-d8		97.5 %		70-130	1939017	09/24/19	09/30/19	EPA 8015D	
Surrogate: Bromofluorobenzene		99.1 %		70-130	1939017	09/24/19	09/30/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	158	20.0	mg/kg	1	1939013	09/24/19	09/24/19	EPA 300.0/9056A	
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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/01/19 15:47

Volatile Organic Compounds by 8260 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939017 - Purge and Trap EPA 5030A

Blank (1939017-BLK1)

Prepared: 09/24/19 | Analyzed: 09/30/19 |

Benzene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0.0500	"							
o-Xylene	ND	0.0250	"							
Total Xylenes	ND	0.0250	"							
Surrogate: 1,2-Dichloroethane-d4	0.521		"	0.500		104	70-130			
Surrogate: Toluene-d8	0.473		"	0.500		94.6	70-130			
Surrogate: Bromofluorobenzene	0.474		"	0.500		94.7	70-130			

LCS (1939017-BS1)

Prepared: 09/24/19 | Analyzed: 09/30/19 |

Benzene	2.52	0.0250	mg/kg	2.50		101	70-130			
Toluene	2.37	0.0250	"	2.50		94.9	70-130			
Ethylbenzene	2.44	0.0250	"	2.50		97.8	70-130			
p,m-Xylene	4.82	0.0500	"	5.00		96.4	70-130			
o-Xylene	2.42	0.0250	"	2.50		96.8	70-130			
Total Xylenes	7.24	0.0250	"	7.50		96.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.507		"	0.500		101	70-130			
Surrogate: Toluene-d8	0.490		"	0.500		98.0	70-130			
Surrogate: Bromofluorobenzene	0.493		"	0.500		98.6	70-130			

Matrix Spike (1939017-MS1)

Source: P909066-01

Prepared: 09/24/19 | Analyzed: 09/30/19 |

Benzene	2.49	0.0250	mg/kg	2.50	ND	99.6	48-131			
Toluene	2.42	0.0250	"	2.50	ND	96.7	48-130			
Ethylbenzene	2.40	0.0250	"	2.50	ND	96.1	45-135			
p,m-Xylene	4.77	0.0500	"	5.00	ND	95.4	43-135			
o-Xylene	2.40	0.0250	"	2.50	ND	96.0	43-135			
Total Xylenes	7.17	0.0250	"	7.50	ND	95.6	43-135			
Surrogate: 1,2-Dichloroethane-d4	0.498		"	0.500		99.6	70-130			
Surrogate: Toluene-d8	0.487		"	0.500		97.4	70-130			
Surrogate: Bromofluorobenzene	0.499		"	0.500		99.8	70-130			

Matrix Spike Dup (1939017-MSD1)

Source: P909066-01

Prepared: 09/24/19 | Analyzed: 09/30/19 |

Benzene	2.58	0.0250	mg/kg	2.50	ND	103	48-131	3.57	23	
Toluene	2.46	0.0250	"	2.50	ND	98.5	48-130	1.85	24	
Ethylbenzene	2.52	0.0250	"	2.50	ND	101	45-135	4.79	27	
p,m-Xylene	4.97	0.0500	"	5.00	ND	99.4	43-135	4.17	27	
o-Xylene	2.48	0.0250	"	2.50	ND	99.1	43-135	3.16	27	
Total Xylenes	7.45	0.0250	"	7.50	ND	99.3	43-135	3.83	27	
Surrogate: 1,2-Dichloroethane-d4	0.520		"	0.500		104	70-130			
Surrogate: Toluene-d8	0.496		"	0.500		99.2	70-130			
Surrogate: Bromofluorobenzene	0.496		"	0.500		99.1	70-130			

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Logos Operating, LLC	Project Name:	Rosa Pond	Reported: 10/01/19 15:47
PO Box 18	Project Number:	12035-0114	
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	

Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939016 - DRO Extraction EPA 3570

Blank (1939016-BLK1)

Prepared & Analyzed: 09/24/19 1

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: n-Nonane	50.1		"	50.0		100	50-200			

LCS (1939016-BS1)

Prepared & Analyzed: 09/24/19 1

Diesel Range Organics (C10-C28)	471	25.0	mg/kg	500		94.2	38-132			
Surrogate: n-Nonane	48.3		"	50.0		96.6	50-200			

Matrix Spike (1939016-MS1)

Source: P909072-01

Prepared & Analyzed: 09/24/19 1

Diesel Range Organics (C10-C28)	508	25.0	mg/kg	500	ND	102	38-132			
Surrogate: n-Nonane	48.9		"	50.0		97.8	50-200			

Matrix Spike Dup (1939016-MSD1)

Source: P909072-01

Prepared & Analyzed: 09/24/19 1

Diesel Range Organics (C10-C28)	515	25.0	mg/kg	500	ND	103	38-132	1.32	20	
Surrogate: n-Nonane	49.0		"	50.0		98.1	50-200			

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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/01/19 15:47

Nonhalogenated Organics by 8015 - GRO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939017 - Purge and Trap EPA 5030A

Blank (1939017-BLK1)

Prepared: 09/24/19 | Analyzed: 09/30/19 1

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1,2-Dichloroethane-d4	0.521		"	0.500		104	70-130			
Surrogate: Toluene-d8	0.473		"	0.500		94.6	70-130			
Surrogate: Bromofluorobenzene	0.474		"	0.500		94.7	70-130			

LCS (1939017-BS2)

Prepared: 09/24/19 | Analyzed: 09/30/19 2

Gasoline Range Organics (C6-C10)	41.6	20.0	mg/kg	50.0		83.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.522		"	0.500		104	70-130			
Surrogate: Toluene-d8	0.488		"	0.500		97.5	70-130			
Surrogate: Bromofluorobenzene	0.496		"	0.500		99.2	70-130			

Matrix Spike (1939017-MS2)

Source: P909066-01

Prepared: 09/24/19 | Analyzed: 09/30/19 2

Gasoline Range Organics (C6-C10)	49.2	20.0	mg/kg	50.0	ND	98.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.496		"	0.500		99.1	70-130			
Surrogate: Toluene-d8	0.493		"	0.500		98.6	70-130			
Surrogate: Bromofluorobenzene	0.501		"	0.500		100	70-130			

Matrix Spike Dup (1939017-MSD2)

Source: P909066-01

Prepared: 09/24/19 | Analyzed: 09/30/19 2

Gasoline Range Organics (C6-C10)	48.3	20.0	mg/kg	50.0	ND	96.7	70-130	1.71	20	
Surrogate: 1,2-Dichloroethane-d4	0.512		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.488		"	0.500		97.5	70-130			
Surrogate: Bromofluorobenzene	0.499		"	0.500		99.8	70-130			

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Logos Operating, LLC	Project Name:	Rosa Pond	Reported: 10/01/19 15:47
PO Box 18	Project Number:	12035-0114	
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	

Anions by 300.0/9056A - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1939013 - Anion Extraction EPA 300.0/9056A										
Blank (1939013-BLK1)				Prepared: 09/24/19 0 Analyzed: 09/24/19 1						
Chloride	ND	20.0	mg/kg							
LCS (1939013-BS1)				Prepared: 09/24/19 0 Analyzed: 09/24/19 1						
Chloride	255	20.0	mg/kg	250		102	90-110			
Matrix Spike (1939013-MS1)				Prepared: 09/24/19 0 Analyzed: 09/24/19 1						
Chloride	313	60.0	mg/kg	250	72.3	96.3	80-120			
Matrix Spike Dup (1939013-MSD1)				Prepared: 09/24/19 0 Analyzed: 09/24/19 1						
Chloride	310	60.0	mg/kg	250	72.3	95.0	80-120	1.01	20	

QC Summary Report

Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/01/19 15:47

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

** Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

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Page 9 of 11

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enterotech inc con
lat admin@enterotech-inc.com



Analytical Report

Report Summary

Client: Logos Operating, LLC

Samples Received: 9/24/2019

Job Number: 12035-0114

Work Order: P909074

Project Name/Location: Rosa Pond

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman', is written over a horizontal line.

Date: 10/2/19

Walter Hinchman, Laboratory Director



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc. attests the data reported has not been altered in any way.
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Envirotech, Inc. holds the Utah TNI certification NM009792018-1 for the data reported.
Envirotech, Inc. holds the Texas TNI certification T104704557-19-2 for the data reported.



Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/02/19 17:14

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Rosa Pond - Section 1	P909074-01A	Soil	09/24/19	09/24/19	Glass Jar, 4 oz.
	P909074-01B	Soil	09/24/19	09/24/19	Glass Jar, 4 oz.

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Logos Operating, LLC	Project Name:	Rosa Pond	Reported:
PO Box 18	Project Number:	12035-0114	10/02/19 17:14
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	

**Rosa Pond - Section 1
P909074-01 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		100 %		70-130	1939037	09/27/19	10/02/19	EPA 8260B	
Surrogate: Toluene-d8		104 %		70-130	1939037	09/27/19	10/02/19	EPA 8260B	
Surrogate: Bromofluorobenzene		98.7 %		70-130	1939037	09/27/19	10/02/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1939027	09/26/19	09/26/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1939027	09/26/19	09/26/19	EPA 8015D	
Surrogate: n-Nonane		100 %		50-200	1939027	09/26/19	09/26/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		100 %		70-130	1939037	09/27/19	10/02/19	EPA 8015D	
Surrogate: Toluene-d8		104 %		70-130	1939037	09/27/19	10/02/19	EPA 8015D	
Surrogate: Bromofluorobenzene		98.7 %		70-130	1939037	09/27/19	10/02/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	67.2	20.0	mg/kg	1	1939029	09/26/19	09/26/19	EPA 300.0/9056A	
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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/02/19 17:14

Volatile Organic Compounds by 8260 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939037 - Purge and Trap EPA 5030A

Blank (1939037-BLK1)

Prepared: 09/27/19 | Analyzed: 10/02/19 1

Benzene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0.0500	"							
o-Xylene	ND	0.0250	"							
Total Xylenes	ND	0.0250	"							
Surrogate: 1,2-Dichloroethane-d4	0.511		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.515		"	0.500		103	70-130			
Surrogate: Bromofluorobenzene	0.475		"	0.500		94.9	70-130			

LCS (1939037-BS1)

Prepared: 09/27/19 | Analyzed: 10/02/19 1

Benzene	2.50	0.0250	mg/kg	2.50		100	70-130			
Toluene	2.61	0.0250	"	2.50		104	70-130			
Ethylbenzene	2.57	0.0250	"	2.50		103	70-130			
p,m-Xylene	5.24	0.0500	"	5.00		105	70-130			
o-Xylene	2.46	0.0250	"	2.50		98.5	70-130			
Total Xylenes	7.70	0.0250	"	7.50		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.501		"	0.500		100	70-130			
Surrogate: Toluene-d8	0.519		"	0.500		104	70-130			
Surrogate: Bromofluorobenzene	0.492		"	0.500		98.4	70-130			

Matrix Spike (1939037-MS1)

Source: P909074-01

Prepared: 09/27/19 | Analyzed: 10/01/19 2

Benzene	2.61	0.0250	mg/kg	2.50	ND	104	48-131			
Toluene	2.49	0.0250	"	2.50	ND	99.6	48-130			
Ethylbenzene	2.55	0.0250	"	2.50	ND	102	45-135			
p,m-Xylene	4.99	0.0500	"	5.00	ND	99.8	43-135			
o-Xylene	2.52	0.0250	"	2.50	ND	101	43-135			
Total Xylenes	7.51	0.0250	"	7.50	ND	100	43-135			
Surrogate: 1,2-Dichloroethane-d4	0.510		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.489		"	0.500		97.7	70-130			
Surrogate: Bromofluorobenzene	0.517		"	0.500		103	70-130			

Matrix Spike Dup (1939037-MSD1)

Source: P909074-01

Prepared: 09/27/19 | Analyzed: 10/01/19 2

Benzene	2.62	0.0250	mg/kg	2.50	ND	105	48-131	0.229	23	
Toluene	2.43	0.0250	"	2.50	ND	97.0	48-130	2.60	24	
Ethylbenzene	2.50	0.0250	"	2.50	ND	100	45-135	1.82	27	
p,m-Xylene	4.90	0.0500	"	5.00	ND	97.9	43-135	1.90	27	
o-Xylene	2.45	0.0250	"	2.50	ND	98.0	43-135	2.62	27	
Total Xylenes	7.35	0.0250	"	7.50	ND	97.9	43-135	2.14	27	
Surrogate: 1,2-Dichloroethane-d4	0.511		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.492		"	0.500		98.4	70-130			
Surrogate: Bromofluorobenzene	0.510		"	0.500		102	70-130			

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Logos Operating, LLC	Project Name:	Rosa Pond	Reported: 10/02/19 17:14
PO Box 18	Project Number:	12035-0114	
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	

Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939027 - DRO Extraction EPA 3570

Blank (1939027-BLK1)

Prepared: 09/26/19 0 Analyzed: 09/26/19 1

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: n-Nonane	48.7		"	50.0		97.3	50-200			

LCS (1939027-BS1)

Prepared: 09/26/19 0 Analyzed: 09/26/19 1

Diesel Range Organics (C10-C28)	465	25.0	mg/kg	500		93.0	38-132			
Surrogate: n-Nonane	47.4		"	50.0		94.8	50-200			

Matrix Spike (1939027-MS1)

Source: P909074-01

Prepared: 09/26/19 0 Analyzed: 09/26/19 1

Diesel Range Organics (C10-C28)	495	25.0	mg/kg	500	ND	99.0	38-132			
Surrogate: n-Nonane	50.9		"	50.0		102	50-200			

Matrix Spike Dup (1939027-MSD1)

Source: P909074-01

Prepared: 09/26/19 0 Analyzed: 09/26/19 1

Diesel Range Organics (C10-C28)	490	25.0	mg/kg	500	ND	98.1	38-132	0.914	20	
Surrogate: n-Nonane	50.0		"	50.0		99.9	50-200			

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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/02/19 17:14

Nonhalogenated Organics by 8015 - GRO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939037 - Purge and Trap EPA 5030A

Blank (1939037-BLK1)

Prepared: 09/27/19 | Analyzed: 10/02/19 1

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1,2-Dichloroethane-d4	0.511		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.515		"	0.500		103	70-130			
Surrogate: Bromofluorobenzene	0.475		"	0.500		94.9	70-130			

LCS (1939037-BS2)

Prepared: 09/27/19 | Analyzed: 10/01/19 2

Gasoline Range Organics (C6-C10)	47.0	20.0	mg/kg	50.0		94.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.512		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.490		"	0.500		98.0	70-130			
Surrogate: Bromofluorobenzene	0.493		"	0.500		98.6	70-130			

Matrix Spike (1939037-MS2)

Source: P909074-01

Prepared: 09/27/19 | Analyzed: 10/01/19 2

Gasoline Range Organics (C6-C10)	45.0	20.0	mg/kg	50.0	ND	90.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.508		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.486		"	0.500		97.1	70-130			
Surrogate: Bromofluorobenzene	0.495		"	0.500		98.9	70-130			

Matrix Spike Dup (1939037-MSD2)

Source: P909074-01

Prepared: 09/27/19 | Analyzed: 10/01/19 2

Gasoline Range Organics (C6-C10)	49.8	20.0	mg/kg	50.0	ND	99.6	70-130	10.2	20	
Surrogate: 1,2-Dichloroethane-d4	0.506		"	0.500		101	70-130			
Surrogate: Toluene-d8	0.488		"	0.500		97.6	70-130			
Surrogate: Bromofluorobenzene	0.495		"	0.500		99.0	70-130			

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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/02/19 17:14

Anions by 300.0/9056A - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939029 - Anion Extraction EPA 300.0/9056A

Blank (1939029-BLK1)

Chloride ND 20.0 mg/kg

Prepared: 09/26/19 0 Analyzed: 09/26/19 1

LCS (1939029-BS1)

Chloride 252 20.0 mg/kg

Prepared: 09/26/19 0 Analyzed: 09/26/19 1

Matrix Spike (1939029-MS1)

Chloride 325 20.0 mg/kg

Source: P909074-01

Prepared: 09/26/19 0 Analyzed: 09/26/19 1

Matrix Spike Dup (1939029-MSD1)

Chloride 318 20.0 mg/kg

Source: P909074-01

Prepared: 09/26/19 0 Analyzed: 09/26/19 1

250 67.2 103 80-120 2.24 20

QC Summary Report

Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/02/19 17:14

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

** Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

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 24 Hour Emergency Response Phone (800) 362-1878 info@envirotech.com



Analytical Report

Report Summary

Client: Logos Operating, LLC

Samples Received: 9/25/2019

Job Number: 12035-0114

Work Order: P909077

Project Name/Location: Rosa Pond

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman', is written over a horizontal line.

Date: 10/2/19

Walter Hinchman, Laboratory Director



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc. attests the data reported has not been altered in any way.
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Envirotech, Inc. holds the Texas TNI certification T104704557-19-2 for the data reported.



Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/02/19 17:17

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Rosa Pond - Sect 2	P909077-01A	Soil	09/25/19	09/25/19	Glass Jar, 4 oz.
	P909077-01B	Soil	09/25/19	09/25/19	Glass Jar, 4 oz.
Rosa Pond - Sect 3	P909077-02A	Soil	09/25/19	09/25/19	Glass Jar, 4 oz.
	P909077-02B	Soil	09/25/19	09/25/19	Glass Jar, 4 oz.

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Logos Operating, LLC	Project Name:	Rosa Pond	Reported: 10/02/19 17:17
PO Box 18	Project Number:	12035-0114	
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	

**Rosa Pond - Sect 2
P909077-01 (Solid)**

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		106 %		70-130	1939037	09/27/19	10/02/19	EPA 8260B	
Surrogate: Toluene-d8		94.5 %		70-130	1939037	09/27/19	10/02/19	EPA 8260B	
Surrogate: Bromofluorobenzene		97.5 %		70-130	1939037	09/27/19	10/02/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1939027	09/26/19	09/26/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1939027	09/26/19	09/26/19	EPA 8015D	
Surrogate: n-Nonane		104 %		50-200	1939027	09/26/19	09/26/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		106 %		70-130	1939037	09/27/19	10/02/19	EPA 8015D	
Surrogate: Toluene-d8		94.5 %		70-130	1939037	09/27/19	10/02/19	EPA 8015D	
Surrogate: Bromofluorobenzene		97.5 %		70-130	1939037	09/27/19	10/02/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	138	20.0	mg/kg	1	1939029	09/26/19	09/26/19	EPA 300.0/9056A	
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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/02/19 17:17

**Rosa Pond - Sect 3
P909077-02 (Solid)**

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		105 %		70-130	1939037	09/27/19	10/02/19	EPA 8260B	
Surrogate: Toluene-d8		97.1 %		70-130	1939037	09/27/19	10/02/19	EPA 8260B	
Surrogate: Bromofluorobenzene		97.6 %		70-130	1939037	09/27/19	10/02/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1939027	09/26/19	09/26/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1939027	09/26/19	09/26/19	EPA 8015D	
Surrogate: n-Nonane		105 %		50-200	1939027	09/26/19	09/26/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1939037	09/27/19	10/02/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		105 %		70-130	1939037	09/27/19	10/02/19	EPA 8015D	
Surrogate: Toluene-d8		97.1 %		70-130	1939037	09/27/19	10/02/19	EPA 8015D	
Surrogate: Bromofluorobenzene		97.6 %		70-130	1939037	09/27/19	10/02/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	46.7	20.0	mg/kg	1	1939029	09/26/19	09/26/19	EPA 300.0/9056A	
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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/02/19 17:17

Volatile Organic Compounds by 8260 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939037 - Purge and Trap EPA 5030A

Blank (1939037-BLK1)

Prepared: 09/27/19 1 Analyzed: 10/02/19 1

Benzene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0.0500	"							
o-Xylene	ND	0.0250	"							
Total Xylenes	ND	0.0250	"							
Surrogate: 1,2-Dichloroethane-d4	0.511		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.515		"	0.500		103	70-130			
Surrogate: Bromofluorobenzene	0.475		"	0.500		94.9	70-130			

LCS (1939037-BS1)

Prepared: 09/27/19 1 Analyzed: 10/02/19 1

Benzene	2.50	0.0250	mg/kg	2.50		100	70-130			
Toluene	2.61	0.0250	"	2.50		104	70-130			
Ethylbenzene	2.57	0.0250	"	2.50		103	70-130			
p,m-Xylene	5.24	0.0500	"	5.00		105	70-130			
o-Xylene	2.46	0.0250	"	2.50		98.5	70-130			
Total Xylenes	7.70	0.0250	"	7.50		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.501		"	0.500		100	70-130			
Surrogate: Toluene-d8	0.519		"	0.500		104	70-130			
Surrogate: Bromofluorobenzene	0.492		"	0.500		98.4	70-130			

Matrix Spike (1939037-MS1)

Source: P909074-01

Prepared: 09/27/19 1 Analyzed: 10/01/19 2

Benzene	2.61	0.0250	mg/kg	2.50	ND	104	48-131			
Toluene	2.49	0.0250	"	2.50	ND	99.6	48-130			
Ethylbenzene	2.55	0.0250	"	2.50	ND	102	45-135			
p,m-Xylene	4.99	0.0500	"	5.00	ND	99.8	43-135			
o-Xylene	2.52	0.0250	"	2.50	ND	101	43-135			
Total Xylenes	7.51	0.0250	"	7.50	ND	100	43-135			
Surrogate: 1,2-Dichloroethane-d4	0.510		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.489		"	0.500		97.7	70-130			
Surrogate: Bromofluorobenzene	0.517		"	0.500		103	70-130			

Matrix Spike Dup (1939037-MSD1)

Source: P909074-01

Prepared: 09/27/19 1 Analyzed: 10/01/19 2

Benzene	2.62	0.0250	mg/kg	2.50	ND	105	48-131	0.229	23	
Toluene	2.43	0.0250	"	2.50	ND	97.0	48-130	2.60	24	
Ethylbenzene	2.50	0.0250	"	2.50	ND	100	45-135	1.82	27	
p,m-Xylene	4.90	0.0500	"	5.00	ND	97.9	43-135	1.90	27	
o-Xylene	2.45	0.0250	"	2.50	ND	98.0	43-135	2.62	27	
Total Xylenes	7.35	0.0250	"	7.50	ND	97.9	43-135	2.14	27	
Surrogate: 1,2-Dichloroethane-d4	0.511		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.492		"	0.500		98.4	70-130			
Surrogate: Bromofluorobenzene	0.510		"	0.500		102	70-130			

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Logos Operating, LLC	Project Name:	Rosa Pond	Reported: 10/02/19 17:17
PO Box 18	Project Number:	12035-0114	
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	

Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1939027 - DRO Extraction EPA 3570										
Blank (1939027-BLK1)				Prepared: 09/26/19 0 Analyzed: 09/26/19 1						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: n-Nonane	48.7		"	50.0		97.3	50-200			
LCS (1939027-BS1)				Prepared: 09/26/19 0 Analyzed: 09/26/19 1						
Diesel Range Organics (C10-C28)	465	25.0	mg/kg	500		93.0	38-132			
Surrogate: n-Nonane	47.4		"	50.0		94.8	50-200			
Matrix Spike (1939027-MS1)				Source: P909074-01	Prepared: 09/26/19 0 Analyzed: 09/26/19 1					
Diesel Range Organics (C10-C28)	495	25.0	mg/kg	500	ND	99.0	38-132			
Surrogate: n-Nonane	50.9		"	50.0		102	50-200			
Matrix Spike Dup (1939027-MSD1)				Source: P909074-01	Prepared: 09/26/19 0 Analyzed: 09/26/19 1					
Diesel Range Organics (C10-C28)	490	25.0	mg/kg	500	ND	98.1	38-132	0.914	20	
Surrogate: n-Nonane	50.0		"	50.0		99.9	50-200			

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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/02/19 17:17

Nonhalogenated Organics by 8015 - GRO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1939037 - Purge and Trap EPA 5030A

Blank (1939037-BLK1)

Prepared: 09/27/19 1 Analyzed: 10/02/19 1

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1,2-Dichloroethane-d4	0.511		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.515		"	0.500		103	70-130			
Surrogate: Bromofluorobenzene	0.475		"	0.500		94.9	70-130			

LCS (1939037-BS2)

Prepared: 09/27/19 1 Analyzed: 10/01/19 2

Gasoline Range Organics (C6-C10)	47.0	20.0	mg/kg	50.0		94.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.512		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.490		"	0.500		98.0	70-130			
Surrogate: Bromofluorobenzene	0.493		"	0.500		98.6	70-130			

Matrix Spike (1939037-MS2)

Source: P909074-01

Prepared: 09/27/19 1 Analyzed: 10/01/19 2

Gasoline Range Organics (C6-C10)	45.0	20.0	mg/kg	50.0	ND	90.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.508		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.486		"	0.500		97.1	70-130			
Surrogate: Bromofluorobenzene	0.495		"	0.500		98.9	70-130			

Matrix Spike Dup (1939037-MSD2)

Source: P909074-01

Prepared: 09/27/19 1 Analyzed: 10/01/19 2

Gasoline Range Organics (C6-C10)	49.8	20.0	mg/kg	50.0	ND	99.6	70-130	10.2	20	
Surrogate: 1,2-Dichloroethane-d4	0.506		"	0.500		101	70-130			
Surrogate: Toluene-d8	0.488		"	0.500		97.6	70-130			
Surrogate: Bromofluorobenzene	0.495		"	0.500		99.0	70-130			

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PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/02/19 17:17

Anions by 300.0/9056A - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1939029 - Anion Extraction EPA 300.0/9056A										
Blank (1939029-BLK1)										
				Prepared: 09/26/19 0 Analyzed: 09/26/19 1						
Chloride	ND	20.0	mg/kg							
LCS (1939029-BS1)										
				Prepared: 09/26/19 0 Analyzed: 09/26/19 1						
Chloride	252	20.0	mg/kg	250		101	90-110			
Matrix Spike (1939029-MS1)										
				Source: P909074-01 Prepared: 09/26/19 0 Analyzed: 09/26/19 1						
Chloride	325	20.0	mg/kg	250	67.2	103	80-120			
Matrix Spike Dup (1939029-MSD1)										
				Source: P909074-01 Prepared: 09/26/19 0 Analyzed: 09/26/19 1						
Chloride	318	20.0	mg/kg	250	67.2	100	80-120	2.24	20	

QC Summary Report

Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/02/19 17:17

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

** Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

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Analytical Laboratory

Page 7 of 10

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Analytical Report

Report Summary

Client: Logos Operating, LLC

Samples Received: 9/26/2019

Job Number: 12035-0114

Work Order: P909085

Project Name/Location: Rosa Pond

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman', is written over a horizontal line.

Date: 10/7/19

Walter Hinchman, Laboratory Director



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc. attests the data reported has not been altered in any way.
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Envirotech, Inc. holds the Utah TNI certification NM009792018-1 for the data reported.
Envirotech, Inc. holds the Texas TNI certification T104704557-19-2 for the data reported.

Logos Operating, LLC
 PO Box 18
 Flora Vista NM, 87415

Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

Reported:
 10/07/19 13:48

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Section 4	P909085-01A	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
	P909085-01B	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
Section 5	P909085-02A	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
	P909085-02B	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
Section 6	P909085-03A	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
	P909085-03B	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
Section 7	P909085-04A	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
	P909085-04B	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
West Slope	P909085-05A	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
	P909085-05B	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
South Slope	P909085-06A	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
	P909085-06B	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
North Slope	P909085-07A	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.
	P909085-07B	Soil	09/26/19	09/26/19	Glass Jar, 4 oz.

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 Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

 Reported:
 10/07/19 13:48

Section 4
P909085-01 (Solid)

Reporting								
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Notes								

Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
Toluene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
Ethylbenzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
p,m-Xylene	ND	0.0500	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
o-Xylene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
Total Xylenes	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		103 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B
Surrogate: Toluene-d8		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B
Surrogate: Bromofluorobenzene		96.3 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D
Surrogate: n-Nonane		102 %		50-200	1940003	09/30/19	09/30/19	EPA 8015D

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8015D
Surrogate: 1,2-Dichloroethane-d4		103 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D
Surrogate: Toluene-d8		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D
Surrogate: Bromofluorobenzene		96.3 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D

Anions by 300.0/9056A

Chloride	ND	20.0	mg/kg	1	1940011	10/01/19	10/01/19	EPA 300.0/9056A
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Logos Operating, LLC
 PO Box 18
 Flora Vista NM, 87415

 Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

 Reported:
 10/07/19 13:48

Section 5
P909085-02 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		101 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: Toluene-d8		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: Bromofluorobenzene		96.1 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D	
Surrogate: n-Nonane		100 %		50-200	1940003	09/30/19	09/30/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		101 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: Toluene-d8		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: Bromofluorobenzene		96.1 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	ND	20.0	mg/kg	1	1940011	10/01/19	10/01/19	EPA 300.0/9056A	
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 PO Box 18
 Flora Vista NM, 87415

 Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

 Reported:
 10/07/19 13:48

Section 6
P909085-03 (Solid)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: Toluene-d8		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: Bromofluorobenzene		96.8 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D	
Surrogate: n-Nonane		100 %		50-200	1940003	09/30/19	09/30/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: Toluene-d8		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: Bromofluorobenzene		96.8 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	51.0	20.0	mg/kg	1	1940011	10/01/19	10/01/19	EPA 300.0/9056A	
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 PO Box 18
 Flora Vista NM, 87415

 Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

 Reported:
 10/07/19 13:48

Section 7
P909085-04 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		103 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: Toluene-d8		103 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: Bromofluorobenzene		97.4 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D	
Surrogate: n-Nonane		104 %		50-200	1940003	09/30/19	09/30/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		103 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: Toluene-d8		103 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: Bromofluorobenzene		97.4 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	ND	20.0	mg/kg	1	1940011	10/01/19	10/01/19	EPA 300.0/9056A	
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 PO Box 18
 Flora Vista NM, 87415

 Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

 Reported:
 10/07/19 13:48

**West Slope
 P909085-05 (Solid)**

Reporting								
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method

Volatiles Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
Toluene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
Ethylbenzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
p,m-Xylene	ND	0.0500	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
o-Xylene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
Total Xylenes	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B
Surrogate: 1,2-Dichloroethane-d4		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B
Surrogate: Toluene-d8		102 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B
Surrogate: Bromofluorobenzene		95.4 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D
Surrogate: n-Nonane		101 %		50-200	1940003	09/30/19	09/30/19	EPA 8015D

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8015D
Surrogate: 1,2-Dichloroethane-d4		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D
Surrogate: Toluene-d8		102 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D
Surrogate: Bromofluorobenzene		95.4 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D

Anions by 300.0/9056A

Chloride	70.4	20.0	mg/kg	1	1940011	10/01/19	10/01/19	EPA 300.0/9056A
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Logos Operating, LLC
 PO Box 18
 Flora Vista NM, 87415

 Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

 Reported:
 10/07/19 13:48

**South Slope
 P909085-06 (Solid)**

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		108 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: Toluene-d8		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: Bromofluorobenzene		96.2 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D	
Surrogate: n-Nonane		99.3 %		50-200	1940003	09/30/19	09/30/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		108 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: Toluene-d8		104 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: Bromofluorobenzene		96.2 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	49.1	20.0	mg/kg	1	1940011	10/01/19	10/01/19	EPA 300.0/9056A	
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Logos Operating, LLC
 PO Box 18
 Flora Vista NM, 87415

 Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

 Reported:
 10/07/19 13:48

**North Slope
 P909085-07 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Volatile Organic Compounds by 8260

Benzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		105 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: Toluene-d8		103 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	
Surrogate: Bromofluorobenzene		96.9 %		70-130	1940002	09/30/19	10/03/19	EPA 8260B	

Nonhalogenated Organics by 8015 - DRO/ORO

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1940003	09/30/19	09/30/19	EPA 8015D	
Surrogate: n-Nonane		99.7 %		50-200	1940003	09/30/19	09/30/19	EPA 8015D	

Nonhalogenated Organics by 8015 - GRO

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		105 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: Toluene-d8		103 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	
Surrogate: Bromofluorobenzene		96.9 %		70-130	1940002	09/30/19	10/03/19	EPA 8015D	

Anions by 300.0/9056A

Chloride	55.8	20.0	mg/kg	1	1940011	10/01/19	10/01/19	EPA 300.0/9056A	
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Logos Operating, LLC
 PO Box 18
 Flora Vista NM, 87415

 Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

 Reported:
 10/07/19 13:48

Volatile Organic Compounds by 8260 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1940002 - Purge and Trap EPA 5030A
Blank (1940002-BLK1)

Prepared: 09/30/19 0 Analyzed: 10/04/19 1

Benzene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0.0500	"							
o-Xylene	ND	0.0250	"							
Total Xylenes	ND	0.0250	"							
Surrogate: 1,2-Dichloroethane-d4	0.513		"	0.500		103	70-130			
Surrogate: Toluene-d8	0.519		"	0.500		104	70-130			
Surrogate: Bromofluorobenzene	0.488		"	0.500		97.5	70-130			

LCS (1940002-BS1)

Prepared: 09/30/19 0 Analyzed: 10/04/19 1

Benzene	2.39	0.0250	mg/kg	2.50		95.4	70-130			
Toluene	2.49	0.0250	"	2.50		99.7	70-130			
Ethylbenzene	2.55	0.0250	"	2.50		102	70-130			
p,m-Xylene	5.02	0.0500	"	5.00		100	70-130			
o-Xylene	2.51	0.0250	"	2.50		100	70-130			
Total Xylenes	7.52	0.0250	"	7.50		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.500		"	0.500		99.9	70-130			
Surrogate: Toluene-d8	0.524		"	0.500		105	70-130			
Surrogate: Bromofluorobenzene	0.500		"	0.500		100	70-130			

Matrix Spike (1940002-MS1)

Source: P909085-01

Prepared: 09/30/19 0 Analyzed: 10/04/19 1

Benzene	2.58	0.0250	mg/kg	2.50	ND	103	48-131			
Toluene	2.70	0.0250	"	2.50	ND	108	48-130			
Ethylbenzene	2.77	0.0250	"	2.50	ND	111	45-135			
p,m-Xylene	5.44	0.0500	"	5.00	ND	109	43-135			
o-Xylene	2.72	0.0250	"	2.50	ND	109	43-135			
Total Xylenes	8.15	0.0250	"	7.50	ND	109	43-135			
Surrogate: 1,2-Dichloroethane-d4	0.519		"	0.500		104	70-130			
Surrogate: Toluene-d8	0.525		"	0.500		105	70-130			
Surrogate: Bromofluorobenzene	0.517		"	0.500		103	70-130			

Matrix Spike Dup (1940002-MSD1)

Source: P909085-01

Prepared: 09/30/19 0 Analyzed: 10/04/19 1

Benzene	2.44	0.0250	mg/kg	2.50	ND	97.6	48-131	5.69	23	
Toluene	2.59	0.0250	"	2.50	ND	104	48-130	4.18	24	
Ethylbenzene	2.66	0.0250	"	2.50	ND	106	45-135	4.35	27	
p,m-Xylene	5.23	0.0500	"	5.00	ND	105	43-135	3.83	27	
o-Xylene	2.62	0.0250	"	2.50	ND	105	43-135	3.69	27	
Total Xylenes	7.85	0.0250	"	7.50	ND	105	43-135	3.79	27	
Surrogate: 1,2-Dichloroethane-d4	0.519		"	0.500		104	70-130			
Surrogate: Toluene-d8	0.528		"	0.500		106	70-130			
Surrogate: Bromofluorobenzene	0.509		"	0.500		102	70-130			

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PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/07/19 13:48

Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1940003 - DRO Extraction EPA 3570

Blank (1940003-BLK1)

Prepared: 09/30/19 0 Analyzed: 09/30/19 1

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: n-Nonane	49.9		"	50.0		99.8	50-200			

LCS (1940003-BS1)

Prepared: 09/30/19 0 Analyzed: 09/30/19 1

Diesel Range Organics (C10-C28)	488	25.0	mg/kg	500		97.6	38-132			
Surrogate: n-Nonane	47.9		"	50.0		95.8	50-200			

Matrix Spike (1940003-MS1)

Source: P909083-01

Prepared: 09/30/19 0 Analyzed: 09/30/19 1

Diesel Range Organics (C10-C28)	512	25.0	mg/kg	500	ND	102	38-132			
Surrogate: n-Nonane	48.0		"	50.0		96.0	50-200			

Matrix Spike Dup (1940003-MSD1)

Source: P909083-01

Prepared: 09/30/19 0 Analyzed: 09/30/19 1

Diesel Range Organics (C10-C28)	533	25.0	mg/kg	500	ND	107	38-132	4.00	20	
Surrogate: n-Nonane	48.9		"	50.0		97.9	50-200			

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 PO Box 18
 Flora Vista NM, 87415

 Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

 Reported:
 10/07/19 13:48

Nonhalogenated Organics by 8015 - GRO - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1940002 - Purge and Trap EPA 5030A
Blank (1940002-BLK1)

Prepared: 09/30/19 0 Analyzed: 10/04/19 1

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1,2-Dichloroethane-d4	0.513		"	0.500		103	70-130			
Surrogate: Toluene-d8	0.519		"	0.500		104	70-130			
Surrogate: Bromofluorobenzene	0.488		"	0.500		97.5	70-130			

LCS (1940002-BS2)

Prepared: 09/30/19 0 Analyzed: 10/04/19 1

Gasoline Range Organics (C6-C10)	45.5	20.0	mg/kg	50.0		91.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.514		"	0.500		103	70-130			
Surrogate: Toluene-d8	0.521		"	0.500		104	70-130			
Surrogate: Bromofluorobenzene	0.493		"	0.500		98.6	70-130			

Matrix Spike (1940002-MS2)

Source: P909085-01

Prepared: 09/30/19 0 Analyzed: 10/04/19 1

Gasoline Range Organics (C6-C10)	50.0	20.0	mg/kg	50.0	ND	99.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.512		"	0.500		102	70-130			
Surrogate: Toluene-d8	0.524		"	0.500		105	70-130			
Surrogate: Bromofluorobenzene	0.501		"	0.500		100	70-130			

Matrix Spike Dup (1940002-MSD2)

Source: P909085-01

Prepared: 09/30/19 0 Analyzed: 10/04/19 1

Gasoline Range Organics (C6-C10)	46.8	20.0	mg/kg	50.0	ND	93.6	70-130	6.55	20	
Surrogate: 1,2-Dichloroethane-d4	0.521		"	0.500		104	70-130			
Surrogate: Toluene-d8	0.526		"	0.500		105	70-130			
Surrogate: Bromofluorobenzene	0.500		"	0.500		100	70-130			

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Logos Operating, LLC
 PO Box 18
 Flora Vista NM, 87415

 Project Name: Rosa Pond
 Project Number: 12035-0114
 Project Manager: Larissa Farrell

 Reported:
 10/07/19 13:48

Anions by 300.0/9056A - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1940011 - Anion Extraction EPA 300.0/9056A										
Blank (1940011-BLK1)										
Chloride	ND	20.0	mg/kg							Prepared & Analyzed: 10/01/19 1
LCS (1940011-BS1)										
Chloride	256	20.0	mg/kg	250		102	90-110			Prepared & Analyzed: 10/01/19 1
Matrix Spike (1940011-MS1)										
Chloride	262	20.0	mg/kg	250	ND	105	80-120			Source: P909085-01 Prepared & Analyzed: 10/01/19 1
Matrix Spike Dup (1940011-MSD1)										
Chloride	260	20.0	mg/kg	250	ND	104	80-120	0.777	20	Source: P909085-01 Prepared & Analyzed: 10/01/19 1

QC Summary Report
Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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Logos Operating, LLC
PO Box 18
Flora Vista NM, 87415

Project Name: Rosa Pond
Project Number: 12035-0114
Project Manager: Larissa Farrell

Reported:
10/07/19 13:48

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

** Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

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