



April 23, 2020

Oil Conservation Division, District 1  
1625 N. French Dr.  
Hobbs, NM 88240

Ryan Mann  
New Mexico State Land Office  
1001 S. Atkinson  
Roswell, NM 88230

**Closure Report:**

**Osprey 20 State Com #001H**  
**API#: 30-025-40968**  
**RP#: 2RP-5253**  
**DOR: July 29, 2019**  
**GPS: 32.464628 -103.490332**  
**Unit Letter G, Section 20, Township 21 South, Range 34 East**  
**Lea County, New Mexico**

To Whom It May Concern,

COG Operating, LLC (COG) is pleased to submit the following closure report in response to a release that occurred at the Osprey 20 State Com #001H. The release was located in Unit Letter G, Section 20, Township 21 South and Range 34 East in Lea County, New Mexico. More specifically the latitude and longitude for the release are 32.464628 North and -103.490332 West.

**BACKGROUND**

The release was discovered on July 29, 2019. A C-141 report was submitted to the New Mexico Oil Conservation Division (NMOCD) and the New Mexico State Land Office (NMSLO). The C-141 is presented in Appendix The release was caused by an unknown third party striking the line while doing dirt work. The release consisted of approximately twenty-five (25) barrels (bbls) of produced water.

## GROUNDWATER AND REGULATORY FRAMEWORK

According to the United States Geological Survey (USGS) the nearest water well with measurement data (322738103263701) indicates that groundwater in the project vicinity is approximately seven-hundred (700) feet below ground surface (BGS). The water well information is shown in Appendix B.

A risk based evaluation and site determinations were performed in accordance to the New Mexico Oil Conservation Division (NMOCD) Rule (Title 19 Chapter 15 Part 29) for releases on oil and gas development and production in New Mexico (effective August 14, 2018). According to the site characterization evaluation, no other receptors (water wells, playas, karst, water course, lake beds or ordinance boundaries) were located within each specific boundaries or distance from the site. The groundwater data and the site characterization evaluation data are summarized in Appendix B. The delineation and closure criteria are listed below:

### GENERAL SITE CHARACTERIZATION AND GROUNDWATER:

Site Characterization	Average Groundwater Depth (ft.)
None Located	700 feet

### DELINEATION AND CLOSURE CRITERIA:

Table I Closure Criteria	
Chlorides	20,000 mg/kg
TPH (GRO and DRO and MRO)	2,500 mg/kg
TPH (GRO and DRO)	1,000 mg/kg
Benzene	10 mg/kg
Total BTEX	50 mg/kg

### Remedial Actions

- The impacted area was excavated to depths ranging from three (3) feet BGS to five (5) feet BGS.
- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility.
- Confirmation soil samples were taken from the bottom and sidewalls of the excavated areas per NMED 19.15.29.13.
- Upon receipt of acceptable analytical results from the confirmation soil sampling activities the excavation was backfilled with clean “like” material.

## **SITE RECLAMATION AND RESTORATION**

Per NMED 19.15.29.13 reclamation of the pasture area has been performed by removing the impacted soil containing chloride concentrations greater than 600 mg/kg within the first four (4) feet BGS. Once excavated, soil samples were collected from the bottom and sidewalls of the excavation to confirm the removal of impacted soil greater than 600 mg/kg of chlorides. The backfill material was non-contaminated with concentrations below 600 mg/kg of chlorides. The surface was left in a rough condition to approximate natural surface deviations. The site will be mechanically seeded with the surface lease holders preferred seed mixture.

## **CLOSURE REQUEST**

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and the New Mexico State Land Office grant closure approval for the Osprey 20 State Com #001H incident that occurred on July 29, 2019.

Should you have any questions or concerns please do not hesitate to contact me.

Sincerely,



Sheldon L. Hitchcock  
HSE Coordinator  
[slhitchcock@concho.com](mailto:slhitchcock@concho.com)

# FIGURES

# Osprey 20 St. Com #001H



# TABLES



**Table 1**  
**COG Operating LLC.**  
**Osprey 20 State Com #001H**  
**Lea County, New Mexico**

Sample ID	Sample Depth (ft)	Sample Date	Soil Status		TPH (mg/kg)							Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total	GRO	DRO	Total			
NMOCD RRAL Limits (mg/kg)					-	-	-	2,500	-	-	1,000	10	50	20,000
BTTM-1	3	2/21/2020	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	352
BTTM-2	3	2/21/2020	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	576
BTTM-3	3	2/21/2020		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	832
BTTM-4	3	2/21/2020		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	800
BTTM-5	3	2/21/2020		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	864
BTTM-6	3	2/21/2020		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	2,720
BTTM-7	3	2/21/2020		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	976
BTTM-8	3	2/21/2020		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	3,080
BTTM-9	3	2/21/2020		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	3,160
BTTM-10	3	2/21/2020		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	2,560
SW-1	N/A	2/21/2020	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	16.0
SW-2	N/A	2/21/2020	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	16.0
SW-3	N/A	2/21/2020	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	16.0
SW-4	N/A	2/24/2020	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	<16.0
SW-5	N/A	2/21/2020	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	<16.0
BTTM-3	5	3/2/2020	X		#	#	#	0.0	#	#	0.0	#	#	16.0
BTTM-4	5	3/2/2020	X		#	#	#	0.0	#	#	0.0	#	#	<16.0
BTTM-5	5	3/2/2020	X		#	#	#	0.0	#	#	0.0	#	#	<16.0
BTTM-6	5	3/2/2020	X		#	#	#	0.0	#	#	0.0	#	#	<16.0
BTTM-7	5	3/2/2020	X		#	#	#	0.0	#	#	0.0	#	#	96.0
BTTM-8	5	3/2/2020	X		#	#	#	0.0	#	#	0.0	#	#	96.0
BTTM-9	5	3/2/2020	X		#	#	#	0.0	#	#	0.0	#	#	32.0
BTTM-10	5	3/2/2020	X		#	#	#	0.0	#	#	0.0	#	#	32.0

(#) Not Analyzed

# APPENDIX A



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

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

### Location of Release Source

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

## Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice 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*

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: _____	Title: _____
Signature: <u>Sheldon Nitan</u>	Date: _____
email: _____	Telephone: _____
<b><u>OCD Only</u></b>	
Received by: _____	Date: _____

Incident ID	
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Facility ID	
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
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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: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: Sheldon Nitan Date: \_\_\_\_\_

email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	
District RP	
Facility ID	
Application ID	

## Remediation Plan

**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: \_\_\_\_\_ Title: \_\_\_\_\_  
Signature: Sheldon Nitan Date: \_\_\_\_\_  
email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	
District RP	
Facility ID	
Application ID	

## Closure

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

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

- ☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☐ Description of remediation activities

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

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: Sheldon Hittman Date: \_\_\_\_\_

email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

# APPENDIX B





Legend

OSE PODs

Active

Pending

Flood Hazard Zones

1% Annual Chance Flood Hazard

Regulatory Floodway

Special Floodway

Area of Undetermined Flood Hazard

0.2% Annual Chance Flood Hazard

Future Conditions 1% Annual Chance Flood Hazard

Area with Reduced Risk Due to Levee

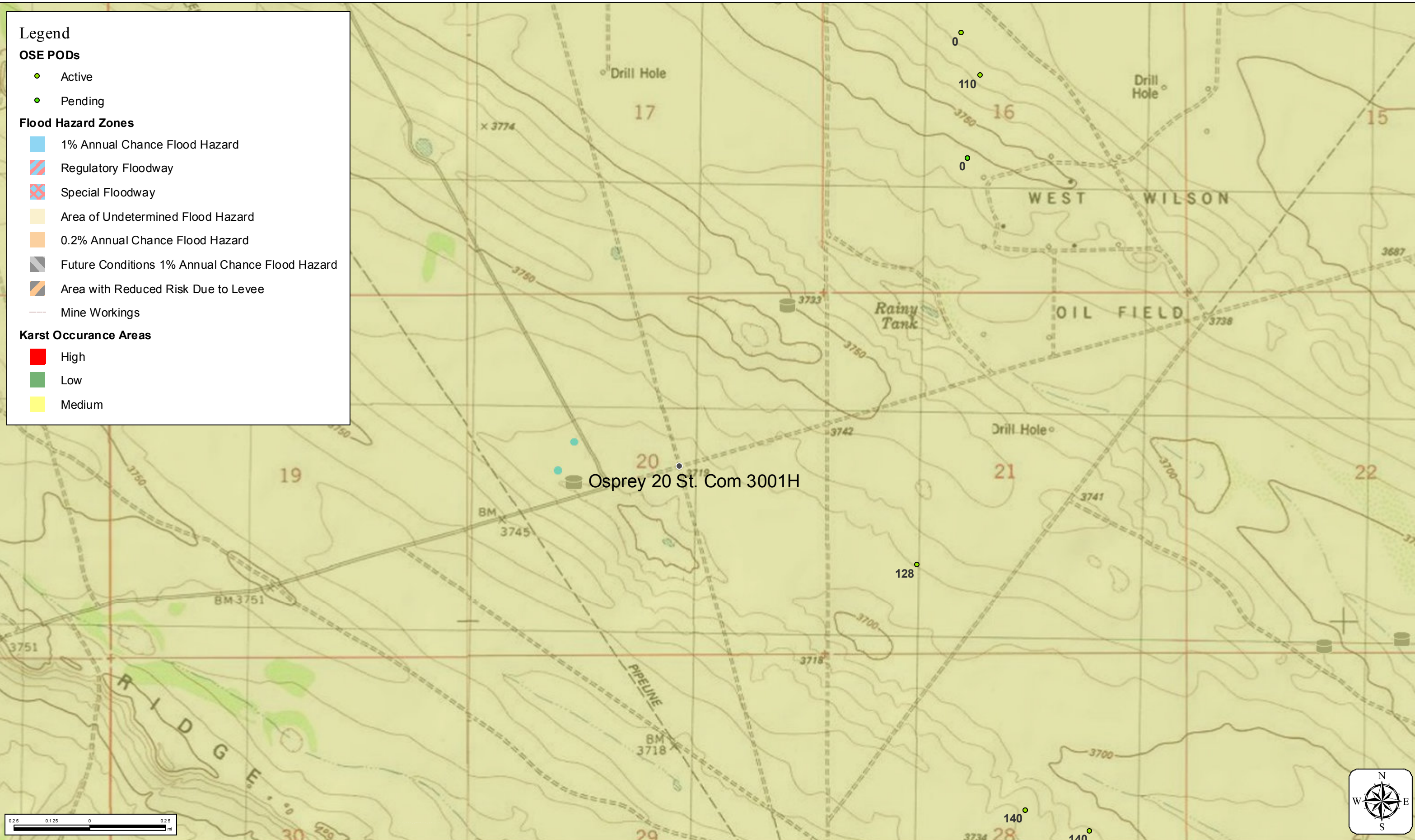
Mine Workings

Karst Occurance Areas

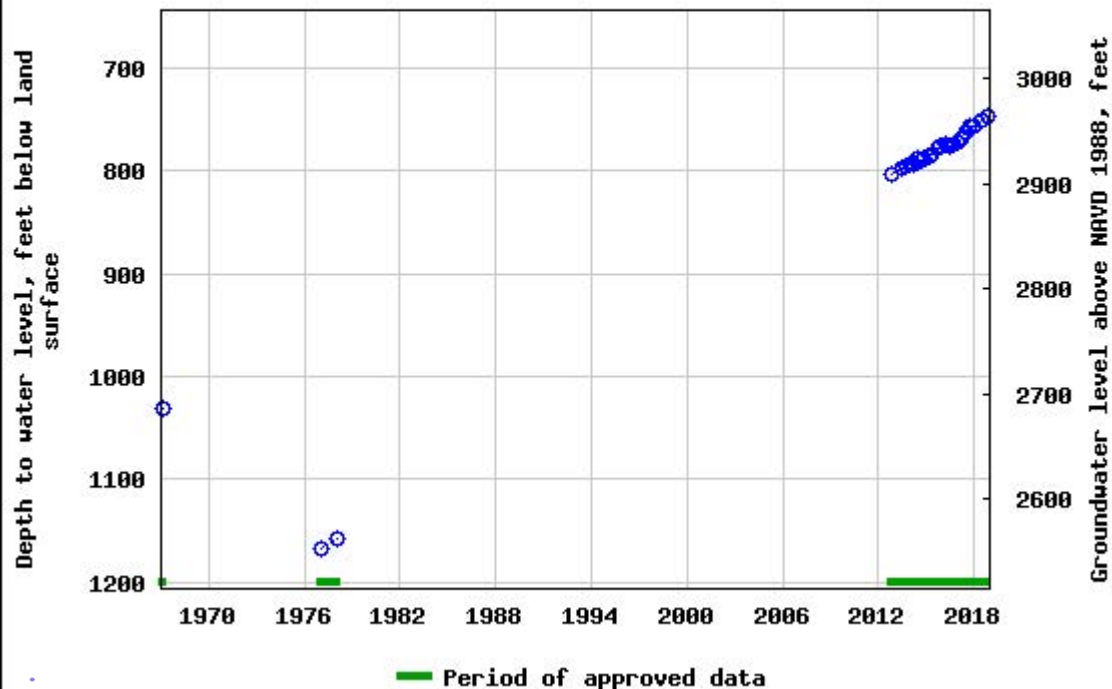
High

Low

Medium



## USGS 322738103263701 21S.34E.23.31000



# APPENDIX C



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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February 24, 2020

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: OSPREY 20 ST. #3

Enclosed are the results of analyses for samples received by the laboratory on 02/21/20 12:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BTM - 1 3' (H000556-01)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/21/2020	ND	1.83	91.3	2.00	2.78	
Toluene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.43	
Ethylbenzene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.65	
Total Xylenes*	<0.150	0.150	02/21/2020	ND	5.29	88.1	6.00	3.46	
Total BTEX	<0.300	0.300	02/21/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	02/24/2020	ND	384	96.0	400	8.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	196	97.9	200	1.45	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	208	104	200	0.601	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 82.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 87.9 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BTM - 2 3' (H000556-02)**

BTEx 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/21/2020	ND	1.83	91.3	2.00	2.78		
Toluene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.43		
Ethylbenzene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.65		
Total Xylenes*	<0.150	0.150	02/21/2020	ND	5.29	88.1	6.00	3.46		
Total BTEX	<0.300	0.300	02/21/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	576	16.0	02/24/2020	ND	384	96.0	400	8.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	196	97.9	200	1.45	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	208	104	200	0.601	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 84.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 88.6 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BTM - 3 3' (H000556-03)**

BTEx 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/21/2020	ND	1.83	91.3	2.00	2.78		
Toluene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.43		
Ethylbenzene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.65		
Total Xylenes*	<0.150	0.150	02/21/2020	ND	5.29	88.1	6.00	3.46		
Total BTEX	<0.300	0.300	02/21/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	832	16.0	02/24/2020	ND	384	96.0	400	8.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	196	97.9	200	1.45	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	208	104	200	0.601	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 82.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 88.2 % 42.2-156

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**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BTM - 4 3' (H000556-04)**

BTEx 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/21/2020	ND	1.83	91.3	2.00	2.78		
Toluene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.43		
Ethylbenzene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.65		
Total Xylenes*	<0.150	0.150	02/21/2020	ND	5.29	88.1	6.00	3.46		
Total BTEX	<0.300	0.300	02/21/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	800	16.0	02/24/2020	ND	384	96.0	400	8.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	196	97.9	200	1.45	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	208	104	200	0.601	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 83.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 88.2 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BTM - 5 3' (H000556-05)**

BTEx 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/21/2020	ND	1.83	91.3	2.00	2.78		
Toluene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.43		
Ethylbenzene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.65		
Total Xylenes*	<0.150	0.150	02/21/2020	ND	5.29	88.1	6.00	3.46		
Total BTEX	<0.300	0.300	02/21/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	864	16.0	02/24/2020	ND	384	96.0	400	8.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	196	97.9	200	1.45	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	208	104	200	0.601	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 84.4 % 44.3-144

Surrogate: 1-Chlorooctadecane 89.7 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BTM - 6 3' (H000556-06)**

BTEx 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/21/2020	ND	1.83	91.3	2.00	2.78		
Toluene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.43		
Ethylbenzene*	<0.050	0.050	02/21/2020	ND	1.79	89.7	2.00	3.65		
Total Xylenes*	<0.150	0.150	02/21/2020	ND	5.29	88.1	6.00	3.46		
Total BTEX	<0.300	0.300	02/21/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2720	16.0	02/24/2020	ND	384	96.0	400	8.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	196	97.9	200	1.45	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	208	104	200	0.601	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 78.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 82.9 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BTM - 7 3' (H000556-07)**

BTEx 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/22/2020	ND	1.83	91.3	2.00	2.78		
Toluene*	<0.050	0.050	02/22/2020	ND	1.79	89.7	2.00	3.43		
Ethylbenzene*	<0.050	0.050	02/22/2020	ND	1.79	89.7	2.00	3.65		
Total Xylenes*	<0.150	0.150	02/22/2020	ND	5.29	88.1	6.00	3.46		
Total BTEX	<0.300	0.300	02/22/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	976	16.0	02/24/2020	ND	384	96.0	400	8.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	196	97.9	200	1.45	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	208	104	200	0.601	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 74.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 77.9 % 42.2-156

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**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BTM - 8 3' (H000556-08)**

BTEx 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/22/2020	ND	1.86	93.2	2.00	0.358		
Toluene*	<0.050	0.050	02/22/2020	ND	1.87	93.4	2.00	0.169		
Ethylbenzene*	<0.050	0.050	02/22/2020	ND	1.87	93.6	2.00	0.568		
Total Xylenes*	<0.150	0.150	02/22/2020	ND	5.43	90.5	6.00	0.559		
Total BTEX	<0.300	0.300	02/22/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3080	16.0	02/24/2020	ND	384	96.0	400	8.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	193	96.4	200	2.80	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	188	94.0	200	2.59	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 80.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 84.2 % 42.2-156

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**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BTM - 9 3' (H000556-09)**

BTEx 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/22/2020	ND	1.86	93.2	2.00	0.358		
Toluene*	<0.050	0.050	02/22/2020	ND	1.87	93.4	2.00	0.169		
Ethylbenzene*	<0.050	0.050	02/22/2020	ND	1.87	93.6	2.00	0.568		
Total Xylenes*	<0.150	0.150	02/22/2020	ND	5.43	90.5	6.00	0.559		
Total BTEX	<0.300	0.300	02/22/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3160	16.0	02/24/2020	ND	432	108	400	0.00	QM-07	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	193	96.4	200	2.80	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	188	94.0	200	2.59	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 78.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 82.7 % 42.2-156

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**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BTM - 10 3' (H000556-10)**

BTEx 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/22/2020	ND	1.86	93.2	2.00	0.358		
Toluene*	<0.050	0.050	02/22/2020	ND	1.87	93.4	2.00	0.169		
Ethylbenzene*	<0.050	0.050	02/22/2020	ND	1.87	93.6	2.00	0.568		
Total Xylenes*	<0.150	0.150	02/22/2020	ND	5.43	90.5	6.00	0.559		
Total BTEX	<0.300	0.300	02/22/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2560	16.0	02/24/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	193	96.4	200	2.80	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	188	94.0	200	2.59	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 84.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 88.9 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SW - 1 (H000556-11)**

BTEx 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/22/2020	ND	1.86	93.2	2.00	0.358	
Toluene*	<0.050	0.050	02/22/2020	ND	1.87	93.4	2.00	0.169	
Ethylbenzene*	<0.050	0.050	02/22/2020	ND	1.87	93.6	2.00	0.568	
Total Xylenes*	<0.150	0.150	02/22/2020	ND	5.43	90.5	6.00	0.559	
Total BTEx	<0.300	0.300	02/22/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	02/24/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	193	96.4	200	2.80	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	188	94.0	200	2.59	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 85.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 87.8 % 42.2-156

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SW - 2 (H000556-12)**

BTEx 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/22/2020	ND	1.86	93.2	2.00	0.358	
Toluene*	<0.050	0.050	02/22/2020	ND	1.87	93.4	2.00	0.169	
Ethylbenzene*	<0.050	0.050	02/22/2020	ND	1.87	93.6	2.00	0.568	
Total Xylenes*	<0.150	0.150	02/22/2020	ND	5.43	90.5	6.00	0.559	
Total BTEx	<0.300	0.300	02/22/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	02/24/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	193	96.4	200	2.80	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	188	94.0	200	2.59	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 82.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 87.1 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/21/2020  
Reported: 02/24/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SW - 4 (H000556-13)**

BTEx 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/22/2020	ND	1.86	93.2	2.00	0.358	
Toluene*	<0.050	0.050	02/22/2020	ND	1.87	93.4	2.00	0.169	
Ethylbenzene*	<0.050	0.050	02/22/2020	ND	1.87	93.6	2.00	0.568	
Total Xylenes*	<0.150	0.150	02/22/2020	ND	5.43	90.5	6.00	0.559	
Total BTEx	<0.300	0.300	02/22/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/24/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	193	96.4	200	2.80	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	188	94.0	200	2.59	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 84.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 87.4 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

COG OPERATING  
 SHELDON HITCHCOCK  
 P. O. BOX 1630  
 ARTESIA NM, 88210  
 Fax To: NONE

Received: 02/21/2020  
 Reported: 02/24/2020  
 Project Name: OSPREY 20 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: COG - LEA CO NM

Sampling Date: 02/21/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SW - 5 (H000556-14)**

BTEx 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/22/2020	ND	1.86	93.2	2.00	0.358	
Toluene*	<0.050	0.050	02/22/2020	ND	1.87	93.4	2.00	0.169	
Ethylbenzene*	<0.050	0.050	02/22/2020	ND	1.87	93.6	2.00	0.568	
Total Xylenes*	<0.150	0.150	02/22/2020	ND	5.43	90.5	6.00	0.559	
Total BTEx	<0.300	0.300	02/22/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	02/24/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/22/2020	ND	193	96.4	200	2.80	
DRO >C10-C28*	<10.0	10.0	02/22/2020	ND	188	94.0	200	2.59	
EXT DRO >C28-C36	<10.0	10.0	02/22/2020	ND					

Surrogate: 1-Chlorooctane 84.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 87.4 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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---

### 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

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



One Concho Center/600 Illinois  
Avenue/Midland, Texas  
Tel (432) 683-7443

Client Name:		COG-Artesia		Site Manager:		Sheldon Hitchcock	
Project Name:		Osprey 20 St. #3		Project #:			
Project Location:		Lea, NM		Project #:			
Invoice to:		Sheldon Hitchcock		Sampler Name:		Sheldon Hitchcock	
Receiving Laboratory:		Cardinal		Sampler Name:		Sheldon Hitchcock	
Comments:							

LAB #	LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	(C)omposite/(G)rab	TPH 8015M ( GRO - DRO - MRO)	BTX 8021B	Chloride	ANALYSIS REQUEST (Circle or Specify Method No.)	
			YEAR	DATE	WATER	SOIL	HCL	HNO <sub>3</sub>							ICE
			TIME	TIME											
1		BTH-1 3'	2/21	8:00	X				1	C	X	X			
2		BTH-2 3'		8:05					1	C	X	X			
3		BTH-3 3'		8:10					1	C	X	X			
4		BTH-4 3'		8:15					1	C	X	X			
5		BTH-5 3'		8:20					1	C	X	X			
6		BTH-6 3'		8:25					1	C	X	X			
7		BTH-7 3'		8:30					1	C	X	X			
8		BTH-8 3'		8:35					1	C	X	X			
9		BTH-9 3'		8:40					1	C	X	X			
10		BTH-10 3'		8:45					1	C	X	X			

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Sheldon Hitchcock			Sheldon Hitchcock	2-21-20	1200
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY	REMARKS:
Sample Temperature #113 °F D.L.C.	<input checked="" type="checkbox"/> RUSH: Same Day 24 hr 48 hr 72 hr <input type="checkbox"/> Rush Charges Authorized <input type="checkbox"/> Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY



## Analysis Request of Chain of Custody Record



One Concho Center/600/1111 Illinois  
Avenue/Midland, Texas  
Tel (432) 683-7443

Page 2 of 2

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(Circle) HAND DELIVERED FEDEX UPS Tracking #:





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---

February 25, 2020

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: OSPREY 20 ST. #3

Enclosed are the results of analyses for samples received by the laboratory on 02/24/20 10:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/24/2020  
Reported: 02/25/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 02/24/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SW - 3 (H000566-01)**

BTX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/24/2020	ND	1.59	79.5	2.00	24.0	
Toluene*	<0.050	0.050	02/24/2020	ND	1.58	79.0	2.00	24.4	
Ethylbenzene*	<0.050	0.050	02/24/2020	ND	1.58	79.0	2.00	23.9	
Total Xylenes*	<0.150	0.150	02/24/2020	ND	4.60	76.6	6.00	24.3	
Total BTX	<0.300	0.300	02/24/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

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	02/24/2020	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2020	ND	193	96.6	200	1.52	
DRO >C10-C28*	<10.0	10.0	02/25/2020	ND	185	92.4	200	1.34	
EXT DRO >C28-C36	<10.0	10.0	02/25/2020	ND					

Surrogate: 1-Chlorooctane 84.4 % 44.3-144

Surrogate: 1-Chlorooctadecane 86.5 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

---

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\*=Accredited Analyte

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A handwritten signature in cursive script, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

March 03, 2020

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: OSPREY 20 ST. #3

Enclosed are the results of analyses for samples received by the laboratory on 03/02/20 14:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

COG OPERATING  
 SHELDON HITCHCOCK  
 P. O. BOX 1630  
 ARTESIA NM, 88210  
 Fax To: NONE

Received: 03/02/2020  
 Reported: 03/03/2020  
 Project Name: OSPREY 20 ST. #3  
 Project Number: NONE GIVEN  
 Project Location: COG - LEA CO NM

Sampling Date: 03/02/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: B - 3 (H000667-01)**

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	03/03/2020	ND	432	108	400	0.00		

**Sample ID: B - 4 (H000667-02)**

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	03/03/2020	ND	432	108	400	0.00		

**Sample ID: B - 5 (H000667-03)**

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	03/03/2020	ND	432	108	400	0.00		

**Sample ID: B - 6 (H000667-04)**

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	03/03/2020	ND	432	108	400	0.00		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

COG OPERATING  
SHELDON HITCHCOCK  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 03/02/2020  
Reported: 03/03/2020  
Project Name: OSPREY 20 ST. #3  
Project Number: NONE GIVEN  
Project Location: COG - LEA CO NM

Sampling Date: 03/02/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: B - 7 (H000667-05)**

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	03/03/2020	ND	432	108	400	0.00		

**Sample ID: B - 8 (H000667-06)**

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	03/03/2020	ND	432	108	400	0.00	

**Sample ID: B - 9 (H000667-07)**

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	03/03/2020	ND	432	108	400	0.00		

**Sample ID: B - 10 (H000667-08)**

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	03/03/2020	ND	432	108	400	0.00	

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### 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 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

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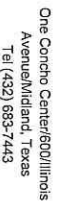
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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





## Sheldon Hitchcock

Hold

1

☐ Special Report Limits or TRRP Report

(Circle or Specify Method No.)

(Circle) HAND DELIVERED FEDEX UPS Tracking #

# APPENDIX D



NW

N

NE

330

0

30

60

☀ 15°N (T)   ● 32°27'52"N, 103°29'25"W ±16ft   ▲ 3716ft



21 Feb 2020, 09:36:45





☀ 60°NE (T)    ● 32°27'53"N, 103°29'25"W ±16ft    ▲ 3711ft



21 Feb 2020, 09:37:15



