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April 25, 2019

Mike Bratcher
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 2
811 S. First Street
Artesia, NM 88210

Crystal Weaver
Carlsbad Field Office
United States Department of the Interior
Bureau of Land Management
620 Greene Street
Carlsbad, NM 88220

Re: Remediation Summary, Deferral Request and Closure Report
Canvasback 13 Federal #002H
API No. 30-015-40538
GPS: Latitude 32.214831 Longitude -103.722968
UL "I", Sec. 13, T24S, R31E
Eddy County, NM
NMOCD Ref. No. 2RP-4813

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG), has prepared this *Remediation Summary, Deferral Request and Closure Report* for the Release Site known as the **Canvasback 13 Federal #002H.** Details of the Release are summarized below:

RELEASE DETAILS			
Type of Release: Produced Water		**Volume of Release:**	25 bbls
		Volume Recovered:	0 bbls
Source of Release: Flowline		**Date of Release:** 6/13/18	**Date of Discovery:** 6/13/18
Was Immediate Notice Given?	Yes	**If, YES, to Whom?**	NMOCD District II/BLM
Was a Watercourse Reached?	No	**If YES, Volume Impacting the Watercourse:**	NA
Surface Owner:	Federal	**Mineral Owner:**	Federal
Describe Cause of Problem and Remedial Action Taken:			
The release was caused by a ruptured flowline. The flowline has since been replaced.			

Topographical and Aerial Maps are provided as Attachments #1 and #2, respectively. General Site Photographs are provided as Attachment #7. A Copy of the Initial Release Notification and Corrective Action (NMOCD Form C-141) is provided as Attachment #8.

REGULATORY FRAMEWORK

Surface impacts from unauthorized releases of crude oil, gases, produced water, condensate or other oil field waste which occur during normal oilfield operations are generally regulated by the New Mexico Oil Conservation Division (NMOCD) in accordance with 19.15.29 of the New Mexico Administrative Code (NMAC). 19.15.29 NMAC establishes reporting, site assessment/characterization, remediation, closure, variance and enforcement procedures. Table I of 19.15.29.12 NMAC determines the closure criteria for soils impacted by a release based on the depth to groundwater and the following site charateristics:

Approximate Depth to Groundwater	~350'
Within 300 ft. of any continuously flowing or significant watercourse?	☐ Yes ☑ No
Within 200 ft. of any lakebed, sinkhole, or playa lake?	☐ Yes ☑ No
Within 300 ft. of an occupied permanent residence, school, hospital, or institution?	☐ Yes ☑ No
Within 500 ft. of a spring or private, domestic fresh water well?	☐ Yes ☑ No
Within 1,000 ft. of any fresh water well?	☐ Yes ☑ No
Within the incorporated municipal boundaries or within a municipal well field?	☐ Yes ☑ No
Within 300 ft. of a wetland?	☐ Yes ☑ No
Within the area overlying a subsurface mine?	☐ Yes ☑ No
Within an unstable area?	☐ Yes ☑ No
Within a 100-year floodplain?	☐ Yes ☑ No

A search of a groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) was conducted to determine the average depth to groundwater within a 1 Mile radius of the Release Site and identify any registered water wells within 1/2 Mile of the Release Site. If none were identified, the approximate depth to groundwater was extrapolated from a Depth to Groundwater Map utilized by the NMOCD. Depth to groundwater information is provided as Attachment #5.

Based on the approximate depth to groundwater and site characteristics, the NMOCD Closure Criteria are as follows:

Table I
Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/l TDS	Constituent	Method*	Limit**
> 100 feet	Chloride***	EPA 300.0	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500 mg/kg
	TPH (GRO+DRO)	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

INITIAL SITE ASSESSMENT

On **June 19-20, 2018**, TRC conducted an initial investigation at the Site. During the initial investigation, **fifteen (15) soil samples** were collected from multiple locations within the release margins in an effort to determine the vertical extent of soil impact. In addition, **eleven (11) soil samples** were collected from the inferred edges of the release margins in an effort to determine the horizontal extent of soil impacts. The collected soil samples were submitted to an NMOCD approved laboratory for analysis of chloride.

On **October 24, 2018**, TRC revisted the Site. During the site visit, **six (6) surface soil samples** were collected and submited to the laboratory for analysis of BTEX, TPH, and chloride. A table summarizing laboratory analytical results from soil samples collected from the Site is provided below:

Concentrations of BTEX, TPH and/or Chloride in Soil (Initial Soil Samples)

Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					E 300
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C_6-C_{10} (mg/kg)	DRO C_{10}-C_{28} (mg/kg)	GRO + DRO C_6-C_{28} (mg/kg)	ORO C_{28}-C_{35} (mg/kg)	TPH C_6-C_{35} (mg/kg)	Chloride (mg/kg)
HA-1 @ 6"	6/19/2018	6"	In-Situ	-	-	-	-	-	-	-	<25.0
HA-1 @ 1'	6/19/2018	1'	In-Situ	-	-	-	-	-	-	-	<25.0
HA-1B @ Surface	10/24/2018	0-3"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
HA-2 @ 6"	6/19/2018	6"	In-Situ	-	-	-	-	-	-	-	203
HA-2 @ 1'	6/19/2018	1'	In-Situ	-	-	-	-	-	-	-	<25.0
HA-2B @ Surface	10/24/2018	0-3"	In-Situ	<0.050	<0.300	<10.0	13.8	13.8	<10.0	13.8	80.0
HA-3 @ 6"	6/19/2018	6"	Excavated	-	-	<3.58	<25.0	<25.0	<25.0	<25.0	2,130
HA-3 @ 2'	6/19/2018	2'	In-Situ	-	-	-	-	-	-	-	28.7
HA-3B @ Surface	10/24/2018	0-3"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
HA-4 @ 6"	6/19/2018	6"	In-Situ	-	-	-	-	-	-	-	<25.0
HA-4B @ Surafce	10/24/2018	0-3"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
HA-5 @ 6"	6/19/2018	6"	Excavated	-	-	-	-	-	-	-	366
HA-6 @ 1'	6/19/2018	1'	Excavated	-	-	-	-	-	-	-	9,880
HA-6 @ 3'	6/19/2018	3'	In-Situ	-	-	-	-	-	-	-	319
HA-6 @ 4'	6/19/2018	4'	In-Situ	-	-	-	-	-	-	-	326
HA-6B @ Surafce	10/24/2018	0-3"	Excavated	<0.050	<0.300	<10.0	10.1	10.1	<10.0	10.1	16.0
Closure Criteria				**10**	**50**	**-**	**-**	**1,000**	**-**	**2,500**	**20,000**

Concentrations of BTEX, TPH and/or Chloride in Soil (Initial Soil Samples Continued)											
Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					E 300
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C_6-C_{10} (mg/kg)	DRO C_{10}-C_{28} (mg/kg)	GRO + DRO C_6-C_{28} (mg/kg)	ORO C_{28}-C_{35} (mg/kg)	TPH C_6-C_{35} (mg/kg)	Chloride (mg/kg)
HA-7 @ 1'	6/20/2018	1'	In-Situ	-	-	-	-	-	-	-	3,760
HA-7 @ 6'	6/20/2018	6'	In-Situ	-	-	-	-	-	-	-	472
HA-7 @ 7'	6/20/2018	7'	In-Situ	-	-	-	-	-	-	-	292
HA-7 @ 8'	6/20/2018	8'	In-Situ	-	-	-	-	-	-	-	390
HA-7B @ Surafce	10/24/2018	0-3"	In-Situ	<0.050	<0.300	<10.0	17.0	17.0	<10.0	17.0	48.0
N-1 @ 6"	6/19/2018	6"	In-Situ	-	-	-	-	-	-	-	<25.0
N-2 @ 1.5'	6/19/2018	1.5'	In-Situ	-	-	-	-	-	-	-	51.4
S-1 @ 6"	6/20/2018	6"	In-Situ	-	-	-	-	-	-	-	66.4
S-2 @ 1.5'	6/20/2018	1.5'	In-Situ	-	-	-	-	-	-	-	<25.0
E-1 @ 6"	6/20/2018	6"	Excavated	-	-	-	-	-	-	-	1,050
E-2 @ 1.5'	6/20/2018	1.5'	In-Situ	-	-	-	-	-	-	-	<25.0
E-3 @ 3.5'	6/20/2018	3.5'	In-Situ	-	-	-	-	-	-	-	30.7
W-1 @ 6"	6/20/2018	6"	In-Situ	-	-	-	-	-	-	-	370
W-2 @ 6"	6/20/2018	6"	In-Situ	-	-	-	-	-	-	-	228
W-3 @ 6"	6/20/2018	6"	In-Situ	-	-	-	-	-	-	-	<25.0
W-4 @ 6"	6/20/2018	6"	In-Situ	-	-	-	-	-	-	-	<25.0
Closure Criteria				**10**	**50**	**-**	**-**	**1,000**	**-**	**2,500**	**20,000**

A "Site & Initial Sample Location Map" is provided as Attachment #3. Laboratory analytical reports are provided as Attachment #6.

BLM Denial of Closure and Subsequent Requested Remediation

On December 14, 2018, the BLM denied the request for closure based on NMOCD regulatory guidelines, and requested soil located from surface to four (4) feet bgs be remediated to below six hundred (600) mg/kg for chloride concentrations. The areas represented by sample locations HA-3, HA-6, HA-7, and E-1 each exhibited chloride concentrations greater than six hundred (600) mg/kg in the surface to four (4) foot bgs interval.

On April 10, 2019, the three (3) areas represented by sample locations HA-3, HA-6, and E-1 were excavated until chloride concentrations, both laterally and vertically, were below six hundred (600) mg/kg. On April 12, 2019, eight (8) five point composite confirmation soil samples (A1-FL1 @ 1', A1-FL2 @ 1', A1-FL3 @ 1', A1-FL4 @ 1', A1-NW @ 6", A1-EW @ 6", A1-SW @ 6", and A1-WW @ 6") were collected from the floor and sidewalls of the area represented by initial soil sample location E-1, which was excavated to a depth of approximately one (1) foot bgs. Collected soil samples were submitted to the laboratory for TPH, BTEX, and/or chloride analyses. A review of analytical results indicated TPH and BTEX constituents were below the laboratory minimum detection limits (MDLs) in each sample analyzed for BTEX and TPH, and chloride concentrations were below NMOCD and BLM regulatory guidelines in the submitted samples. Ten (10) five point composite confirmation soil samples (A2-FL1 @ 1.5', A2-FL2 @ 1.5', A2-FL3 @ 1.5', A2-FL4 @ 1.5', A2-NW @ 9", A2-EW1 @ 9", A2-EW2 @ 9", A2-WW1 @ 9", A2-WW2 @ 9", and A2-SW @ 9") were collected from the floor and sidewalls of the area represented by intial soil sample location HA-6, which was excavated to a depth of approximately eighteen (18) inches bgs, and were submitted to the laboratory for TPH, BTEX, and/or chloride analyses.

A review of analytical results indicated TPH and BTEX constituents were below the respective laboratory MDLs in each sample analyzed for BTEX and TPH, and chloride concentrations were below NMOCD and BLM regulatory guidelines in the submitted samples, with the exception of A2-FL1 @ 1.5' and A2-FL4 @ 1.5'. Sixteen (16) five point composite confirmation soil samples (A3-FL1 @ 1', A3-FL2 @ 1', A3-FL3 @ 1', A3-FL4 @ 1', A3-FL5 @ 1', A3-FL6 @ 1', A3-FL7 @ 1', A3-FL8 @ 1', A3-FL9 @ 1', A3-FL10 @ 1', A3-NW @ 6", A3-EW1 @ 6", A3-EW2 @ 6", A3-WW1 @ 6", A3-WW2 @ 6", and A3-SW @ 6") were collected from the floor and sidewalls of the area represented by initial soil sample location HA-3, which was excavated to a depth of approximatly one (1) foot bgs. Collected soil samples were submitted to the laboratory for TPH, BTEX, and/or chloride analyses. A review of analytical results indicated TPH and BTEX constituents were below the respective laboratory MDLs in each sample analyzed for BTEX and TPH, and chloride concentrations were below NMOCD and BLM regulatory guidelines in the submitted soil samples, with the exception of A3-FL1 @ 1', A3-FL2 @ 1', and A3-FL4 @1'.

On April 15, 2019, the excavations at the five (5) areas exhibiting chloride concentrations above NMOCD and BLM regulatory guidelines were further vertically advanced. The areas represented by A2-FL1 @ 1.5' and A2-FL4 @ 1.5' were excavated to a depth of approximatly four (4) feet bgs. The areas represented by A3-FL1 @ 1', A3-FL2 @ 1', and A3-FL4 @ 1' were excavated to a depth of approximately eighteen (18) inches bgs. Five (5) five point composite confimation soil samples (A2-FL1 @ 4', A2-FL4 @ 4', A3-FL1 @ 1.5', A3-FL2 @ 1.5', and A3-FL4 @ 1.5') were collected from the excavated areas and submitted for chloride analyses. The soil samples collected from four (4) feet bgs are below the NMOCD and BLM requested remediation depth. Both four foot soil samples collected from area A2 were below NMOCD guidelines for chloride concentrations. In area A3, soil sample A3-FL1 @ 1.5' was below NMOCD and BLM regulatory guidelines, and soil samples A3-FL2 @ 1.5' AND A3-FL4 @ 1.5' were above NMOCD and BLM regulatory guidelines.

On April 18, 2019, the excavation in the areas represented by soil samples A3-FL2 @ 1.5' and A3-FL4 @ 1.5' were verticaly advanced to a depth of approximatly four (4) feet bgs. Two (2) five point composite soil samples (A3-FL2 @ 4' and A3-FL4 @ 4') were collected from the base of the excavated area and were submitted to the laboratory for chloride analysis. The soil samples collected from four (4) feet bgs are below the NMOCD and BLM requested remediation depth. The two (2) submitted soil samples were below NMOCD regulatory guidelines for chloride concentrations.

On April 18, 2019, the excavations in areas A1, A2, and A3 were backfilled with locally sourced 'non-impacted' like materail and returned to grade. Six hundred and sixty (660) cubic yards of impacted material was removed from the Release Site and disposed of at an NMOCD approved disposal facility. Please see Attachment 4A - Excavation and Sidewall Confirmation Soil Sample Location Map and Attachment 4B - Excavation and Floor Confirmation Soil Sample Location Map for the depth and extent of the excavated areas, as well as the location of all confirmation soil samples. The excavated areas associated with initial soil sample location HA-6 were excavated to the maximum lateral extent practicable, as the excavation extended to the margin of the area covered in surface lines, where further excavation poses a greater risk for property damage, saftey concerns and potential a for additional releases. The area represented by initial soil sample location HA-7 is currently entirely covered with surface lines. Please see Attachment 8 - General Photographs for photographic depiction of the area covered in surface lines. A table summarizing the analytical results of the confirmation soil sampling is provided on the subsequent page:

Concentrations of BTEX, TPH and/or Chloride in Soil (Confirmation Samples)											
Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					E 300
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C_6-C_{10} (mg/kg)	DRO C_{10}-C_{28} (mg/kg)	GRO + DRO C_6-C_{28} (mg/kg)	ORO C_{28}-C_{35} (mg/kg)	TPH C_6-C_{35} (mg/kg)	Chloride (mg/kg)
A1-FL1 @ 1'	4/12/2019	12"	In-Situ	-	-	-	-	-	-	-	112
A1-FL2 @ 1'	4/12/2019	12"	In-Situ	-	-	-	-	-	-	-	112
A1-FL3 @ 1'	4/12/2019	12"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
A1-FL4 @ 1'	4/12/2019	12"	In-Situ	-	-	-	-	-	-	-	176
A1-NW @ 6"	4/12/2019	6"	In-Situ	-	-	-	-	-	-	-	80.0
A1-EW @ 6"	4/12/2019	6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
A1-SW @6"	4/12/2019	6"	In-Situ	-	-	-	-	-	-	-	48.0
A1-WW @ 6"	4/12/2019	6"	In-Situ	-	-	-	-	-	-	-	64.0
A2-FL1 @ 1.5'	4/12/2019	18"	Excavated	-	-	-	-	-	-	-	**784**
A2-FL-1 @ 4'	4/16/2019	48"	In-Situ	-	-	-	-	-	-	-	960
A2-FL2 @ 1.5'	4/12/2019	18"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
A2-FL3 @ 1.5'	4/12/2019	18"	In-Situ	-	-	-	-	-	-	-	160
A2-FL4 @ 1.5'	4/12/2019	18"	Excavated	-	-	-	-	-	-	-	**1470**
A2-FL-4 @ 4'	4/17/2019	48"	In-Situ	-	-	-	-	-	-	-	720
A2-NW @ 9"	4/12/2019	9"	In-Situ	-	-	-	-	-	-	-	32.0
A2-EW1 @ 9"	4/12/2019	9"	In-Situ	-	-	-	-	-	-	-	64.0
A2-EW2 @ 9"	4/12/2019	9"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
A2-SW @ 9"	4/12/2019	9"	In-Situ	-	-	-	-	-	-	-	32.0
A2-WW1 @ 9"	4/12/2019	9"	In-Situ	-	-	-	-	-	-	-	176
A2-WW2 @ 9"	4/12/2019	9"	In-Situ	-	-	-	-	-	-	-	256
A3-FL1 @ 1'	4/12/2019	12"	Excavated	-	-	-	-	-	-	-	**832**
A3-FL-1 @ 1.5'	4/16/2019	18"	In-Situ	-	-	-	-	-	-	-	256
A3-FL2 @ 1'	4/12/2019	12"	Excavated	-	-	-	-	-	-	-	**1040**
A3-FL-2 @ 1.5'	4/16/2019	18"	Excavated	-	-	-	-	-	-	-	**2280**
A3-FL-2 @ 4'	4/18/2019	48"	In-Situ	-	-	-	-	-	-	-	4130
A3-FL3 @ 1'	4/12/2019	12"	In-Situ	-	-	-	-	-	-	-	32.0
A3-FL4 @ 1'	4/12/2019	12"	Excavated	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	**1310**
A3-FL-4 @ 1.5'	4/16/2019	18"	Excavated	-	-	-	-	-	-	-	**1580**
A3-FL-4 @ 4'	4/18/2019	48"	In-Situ	-	-	-	-	-	-	-	616
A3-FL5 @ 1'	4/12/2019	12"	In-Situ	-	-	-	-	-	-	-	176
A3-FL6 @ 1'	4/12/2019	12"	In-Situ	-	-	-	-	-	-	-	112
A3-FL7 @ 1'	4/12/2019	12"	In-Situ	-	-	-	-	-	-	-	48.0
A3-FL8 @ 1'	4/12/2019	12"	In-Situ	-	-	-	-	-	-	-	48.0
A3-FL9 @ 1'	4/12/2019	12"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
A3-FL10 @ 1'	4/12/2019	12"	In-Situ	-	-	-	-	-	-	-	80.0
A3-NW @ 6"	4/12/2019	6"	In-Situ	-	-	-	-	-	-	-	80.0
A3-EW1 @ 6'	4/12/2019	6"	In-Situ	-	-	-	-	-	-	-	48.0
A3-EW2 @ 6"	4/12/2019	6"	In-Situ	-	-	-	-	-	-	-	80.0
A3-SW @ 6"	4/12/2019	6"	In-Situ	-	-	-	-	-	-	-	32.0
A3-WW1 @ 6"	4/12/2019	6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
A3-WW2 @ 6"	4/12/2019	6"	In-Situ	-	-	-	-	-	-	-	<16.0
Closure Criteria				**10**	**50**	**-**	**-**	**1,000**	**-**	**2,500**	**600 20,000**

DEFERRAL REQUEST

COG maintains excavation and backfilling of the affected area represented by soil sample location HA-7 @ 1' underlying above-ground pipelines would pose a risk which could result in potentially hazardous conditions and property damage. The area represented by soil sample location HA-7 does not exceed NMOCD and BLM regulatory guidelines at any other sampled depths except the one (1) foot bgs interval. Based on laboratory analytical results, site characteristics, and field observations made during the intial site visit and subsequent visits, COG requests remediation, restoration and reclamation of the area represented by soil sample HA-7 @ 1' be deferred until the equipment is removed during other operations and/or at time abandonment, whichever occurs first.

SITE CLOSURE REQUEST

Based on laboratory analytical results from soil samples collected during the initial site assessment and supplemental surface sampling, impacted soil within the release margins, with the exception of the requested defered area, has been determined to be below the Table I of 19.15.29.12 NMAC Closure Criteria for Soils Impacted by a Release in all areas with the exception of the area of requested deferral. Additionally, chloride impact from the surface to four (4) foot bgs interval has been removed from the Site per the BLM request. Approximately six hundred and sixty (660) cubic yards of material was removed from the Release Site to a NMOCD approved disposal facility. The remediated area was returned to grade utilizing commercially sourced non-impacted 'like' material. TRC on behalf of COG Operating, LLC respectfully requests the NMOCD and BLM grant closure approval for the Canvasback 13 Federal #002H release which occurred on June 13, 2018.

RESTORATION, RECLAMATION AND RE-VEGETATION

Areas affected by the Release were substantially restored to the condition which existed prior to the release to the maximum extent practicable.

If you have any questions, or if additional information is required, please feel free to contact Becky Haskell or either of the undersigned by phone or email.

Respectfully,
TRC Environmental Corp.

Jared E. Stoffel, PG
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(432) 238-3003

Curt Stanley
Senior Project Manager
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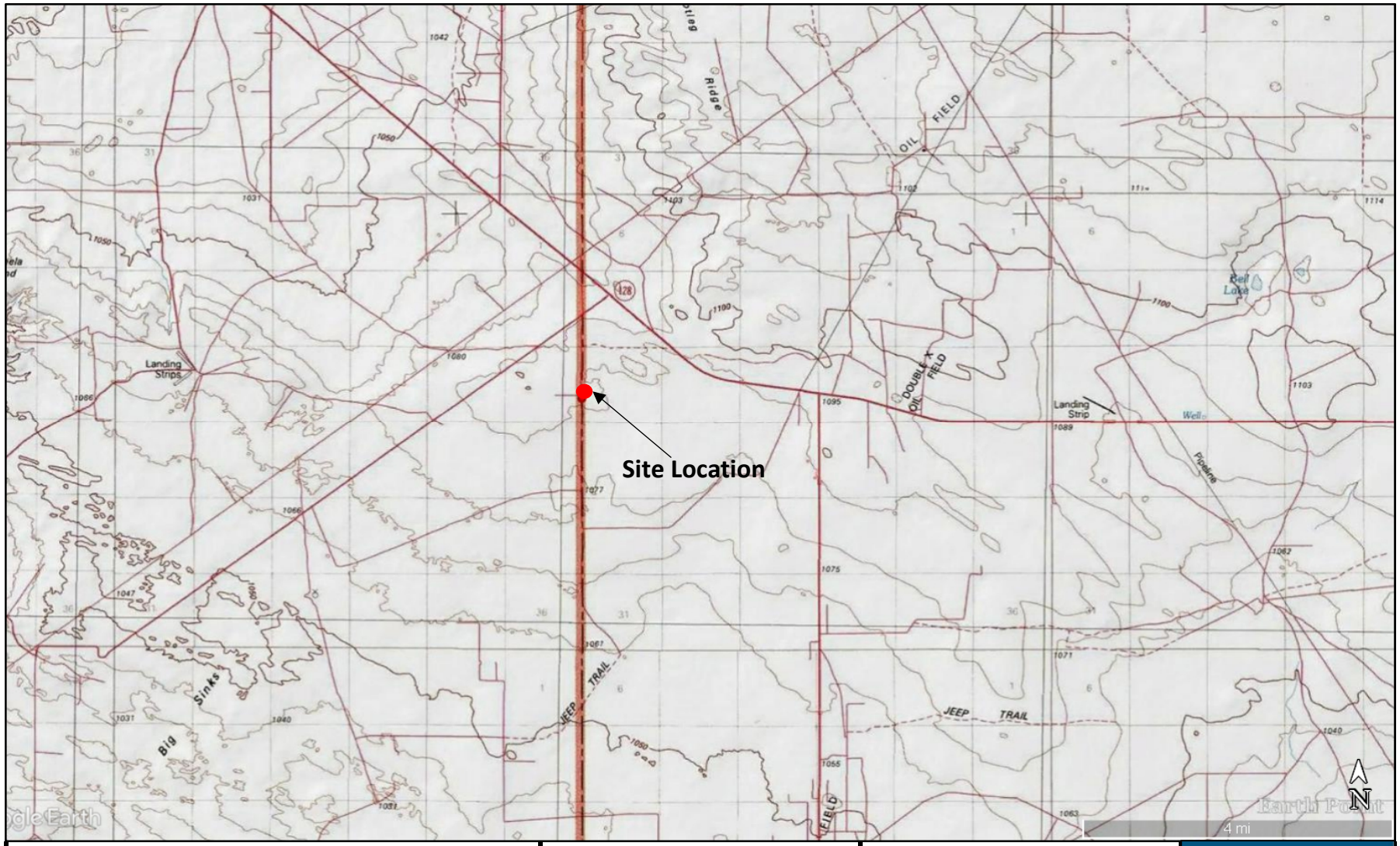
(432) 559-3296

Attachments:

Attachment #1-	Figure 1 - Topographical Map
Attachment #2-	Figure 2 - Aerial Map
Attachment #3-	Figure 3 - Site & Initial Sample Location Map
Attachment #4-	Figure 4 - Excavation & Confirmation Soil Sample Location Map
Attachment #5	Depth to Groundwater Information
Attachment #6-	Laboratory Analytical Reports
Attachment #7-	General Site Photographs
Attachment #8-	Release Notification and Corrective Action (FORM C-141)



LEGEND:

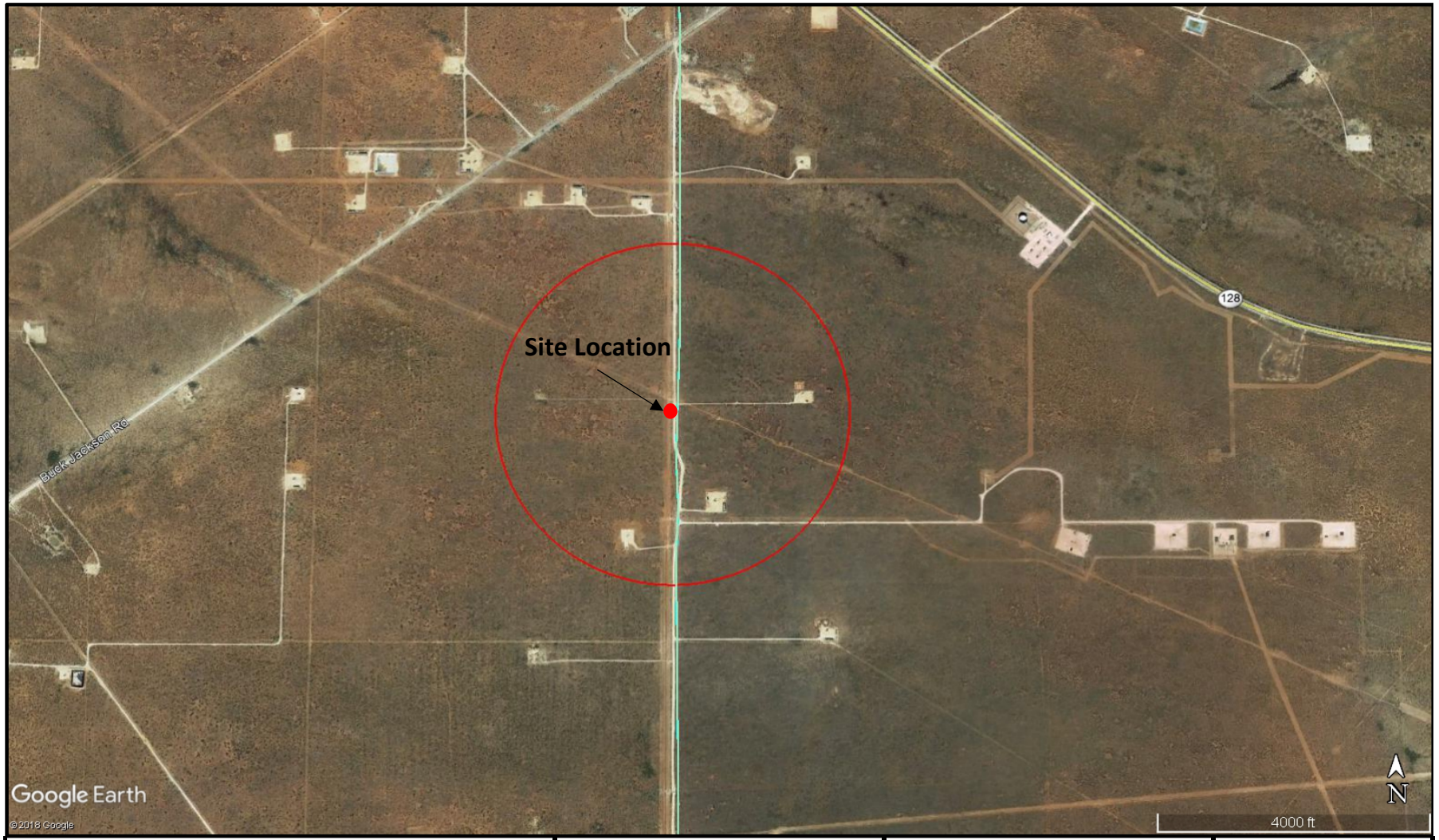
● Site Location

Figure 1

Topographical Map
COG Operating, LLC
Canvasback 13 Federal #002H
Eddy County, NM

Drafted by: BC | Checked by: ZC	
Draft: November 7, 2018	
GPS:	32.214831 -103.722968
UL "I", Sec. 13, T24S, R31E	
TRC Proj. No:	308403

TRC Results you can rely on



LEGEND:

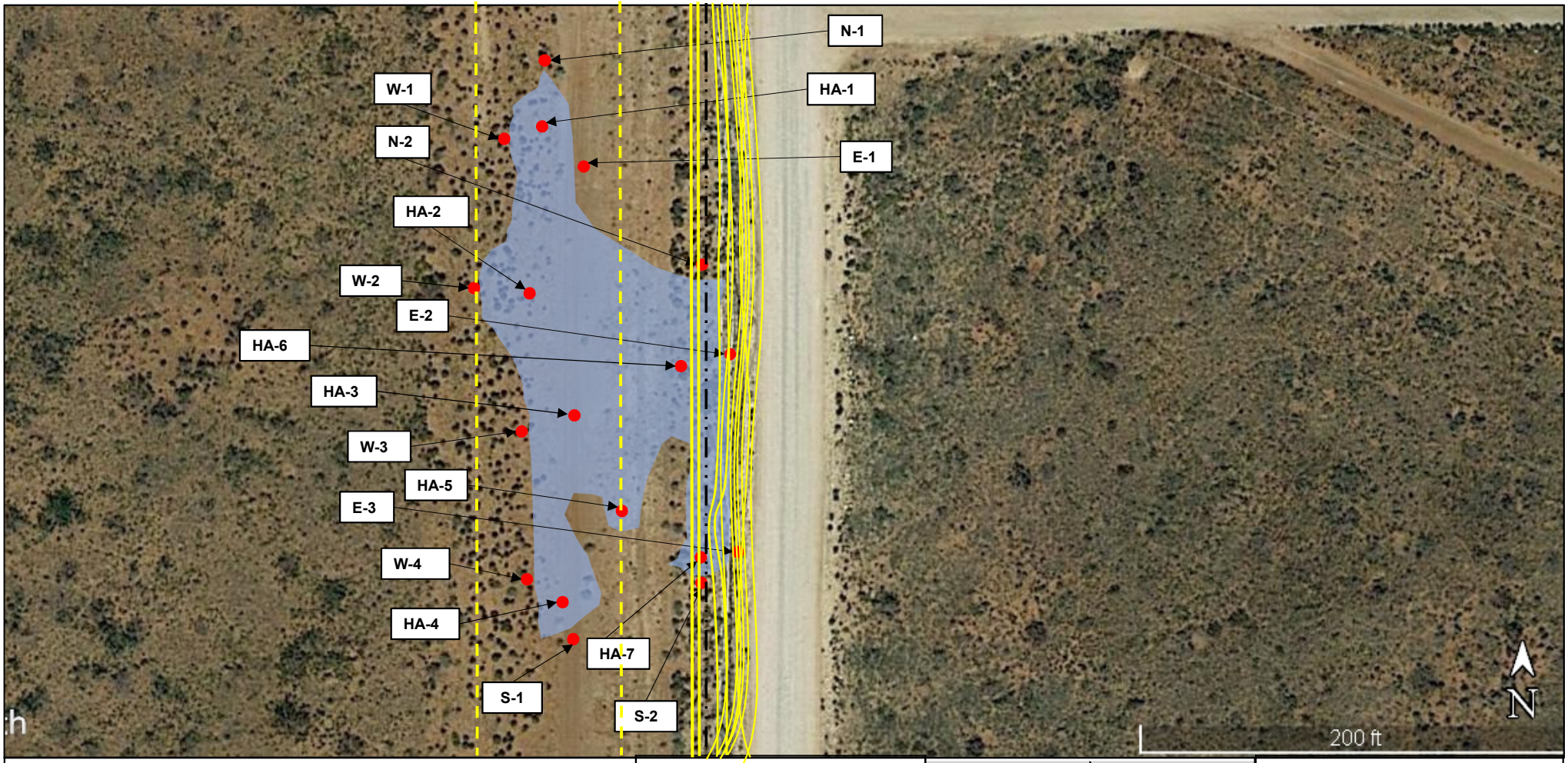
- Site Location
- Fresh Water Well
- 100-Year Floodplain
- High/Critical Karst
- Non-Industrial Building
- Municipal Well Field
- Subsurface Mine
- 1/2 Mile Radius

Figure 2

Aerial Map
COG Operating, LLC
Canvasback 13 Federal #002H
Eddy County, NM

Drafted by: BC | Checked by: ZC	
Draft: November 7, 2018	
GPS:	32.214831 -103.722968
UL "I", Sec. 13, T24S, R31E	
TRC Proj. No:	308403

TRC Results you can rely on



LEGEND:

- Soil Sample Location
- Inferred Release Margins
- Above Ground Pipeline (2")
- Above Ground Pipeline (4")
- Above Ground Pipeline (10")
- Below Ground Surface Pipeline
- Fence

Figure 3

Site & Sample Location Map

COG Operating, LLC

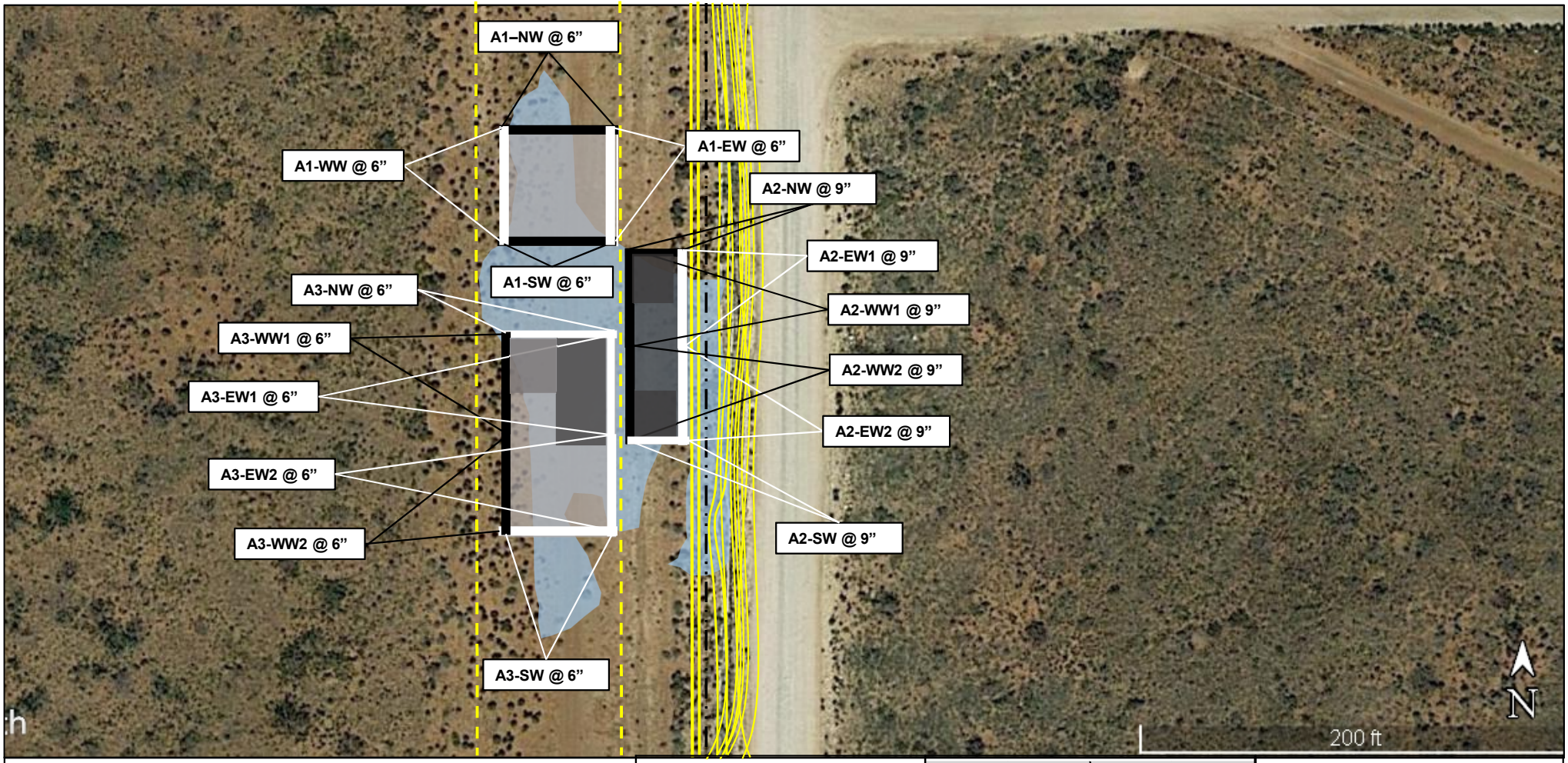
Canvasback 13 Federal #002H

Eddy County, New Mexico

Drafted by: BC	Checked by: CS
Draft: February 19, 2018	
Lat. N 32.214831 Long. W -103.722968	
UL "I", Sec. 13, T24S, R31E	
TRC Proj. No.: 308403	

TRC Results you can rely on

10 Desta Drive Suite 150E
Midland, Texas 79705
432.520.7720



LEGEND:

- Inferred Release Margins
- Excavated Area 1’
- Excavated Area 1.5’
- Excavated Area 4’
- Fence
- Above Ground Pipeline (10”)
- Below Ground Surface Pipeline
- Above Ground Pipeline (2”)
- Above Ground Pipeline (4”)

Figure 4A

Excavation & Confirmation Sample Location

COG Operating, LLC

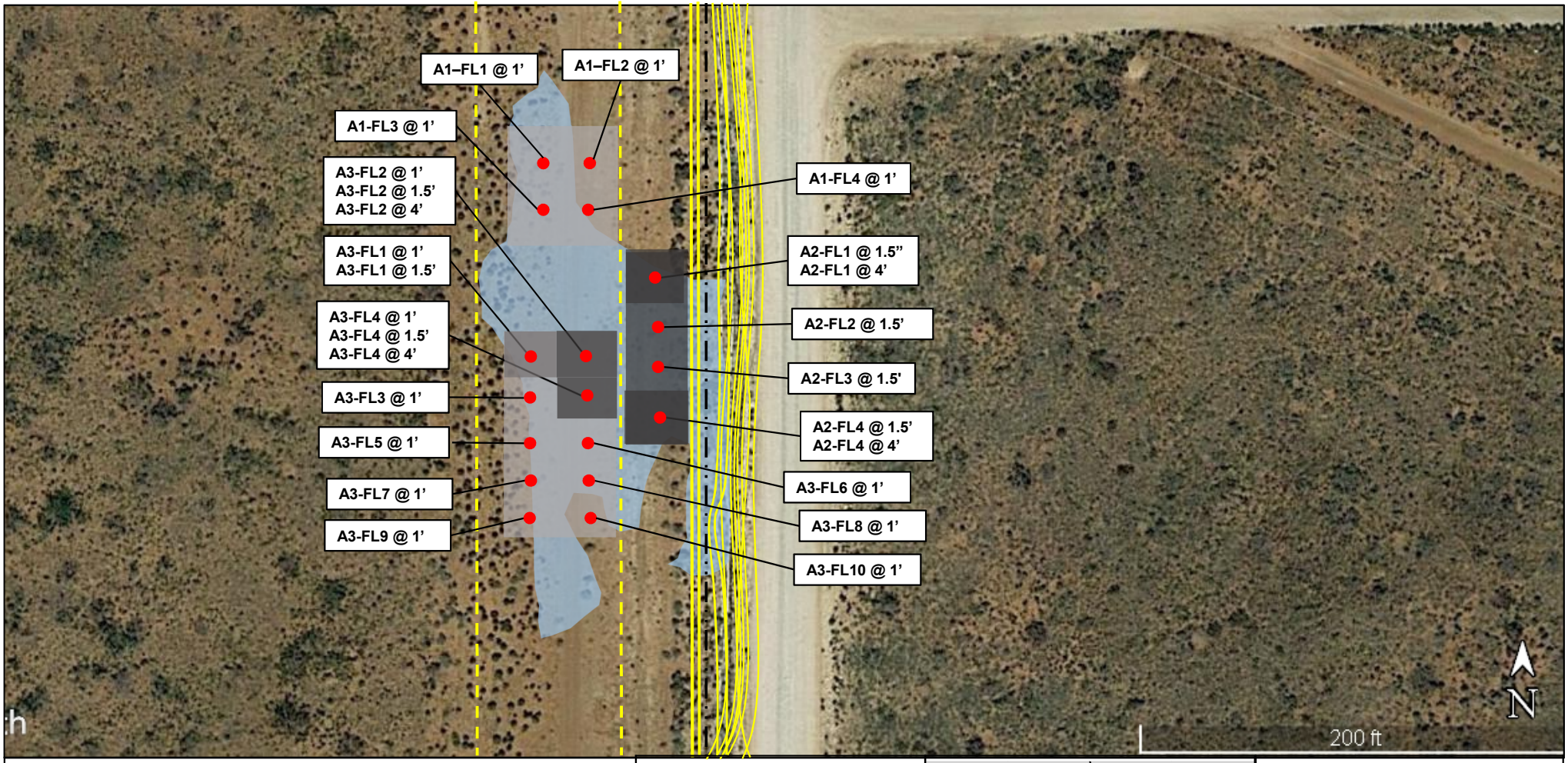
Canvasback 13 Federal #002H

Eddy County, New Mexico

Drafted by: BC	Checked by: CS
Draft: April 23, 2018	
Lat. N 32.214831 Long. W -103.722968	
UL "I", Sec. 13, T24S, R31E	
TRC Proj. No.: 308403	

TRC Results you can rely on

10 Desta Drive Suite 150E
Midland, Texas 79705
432.520.7720



LEGEND:

- Inferred Release Margins
- Excavated Area 1’
- Excavated Area 1.5’
- Excavated Area 4’
- Fence
- 5-Point Composite Location
- Above Ground Pipeline (10”)
- Below Ground Surface Pipeline
- Above Ground Pipeline (2”)
- Above Ground Pipeline (4”)

Figure 4B

Excavation & Confirmation Sample Location

COG Operating, LLC

Canvasback 13 Federal #002H

Eddy County, New Mexico

Drafted by: BC	Checked by: CS
Draft: April 23, 2018	
Lat. N 32.214831 Long. W -103.722968	
UL "I", Sec. 13, T24S, R31E	
TRC Proj. No.: 308403	

TRC Results you can rely on

10 Desta Drive Suite 150E
Midland, Texas 79705
432.520.7720

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 03530 POD1		C	LE	3	4	3	07	24S	32E	620886	3566156	1315	550		

Average Depth to Water: --
Minimum Depth: --
Maximum Depth: --

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 620346.83 **Northing (Y):** 3564957 **Radius:** 1609.3

7/2/18 8:45 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Analytical Report 590231

for

TRC Solutions, Inc

Project Manager: Joel Lowry

Canvasback 13 FED 002H (61318)

28-JUN-18

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

28-JUN-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **590231**
Canvasback 13 FED 002H (61318)
Project Address: Eddy Co. NM

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 590231. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 590231 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 590231

TRC Solutions, Inc, Midland, TX

Canvasback 13 FED 002H (61318)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
HA-1 @ 6"	S	06-19-18 08:00	6 In	590231-001
HA-1 @ 1'	S	06-19-18 08:10	1 In	590231-002
HA-2 @ 6"	S	06-19-18 08:20	6 In	590231-003
HA-2 @ 1'	S	06-19-18 08:30	1 In	590231-004
HA-3 @ 6"	S	06-19-18 08:40	6 In	590231-005
HA-3 @ 2'	S	06-19-18 08:50	2 In	590231-006
HA-4 @ 6"	S	06-19-18 09:00	6 In	590231-007
HA-5 @ 6"	S	06-19-18 09:10	6 In	590231-008
HA-6 @ 1'	S	06-19-18 09:20	1 In	590231-009
HA-6 @ 3'	S	06-19-18 09:40	3 In	590231-010
HA-6 @ 4'	S	06-19-18 09:50	4 In	590231-011
HA-7 @ 1'	S	06-20-18 10:00	1 In	590231-012
HA-7 @ 6'	S	06-20-18 08:00	6 In	590231-013
HA-7 @ 7'	S	06-20-18 08:10	7 In	590231-014
HA-7 @ 8'	S	06-20-18 08:20	8 In	590231-015
N-1 @ 6"	S	06-19-18 10:10	6 In	590231-016
N-2 @ 1.5'	S	06-19-18 10:20	6 In	590231-017
S-1 @ 6"	S	06-20-18 09:20	6 In	590231-018
S-2 @ 1.5'	S	06-20-18 09:40	1.5 In	590231-019
E-1 @ 6"	S	06-20-18 09:50	6 In	590231-020
E-2 @ 1.5'	S	06-20-18 10:00	1.5 In	590231-021
E-3 @ 3.5'	S	06-20-18 10:10	3.5 In	590231-022
W-1 @ 6"	S	06-20-18 10:20	6 In	590231-023
W-2@ 6"	S	06-20-18 10:30	6 In	590231-024
W-3 @ 6"	S	06-20-18 10:40	6 In	590231-025
W-4 @ 6"	S	06-20-18 10:50	6 In	590231-026

CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Canvasback 13 FED 002H (61318)

Project ID:
Work Order Number(s): *590231*

Report Date: *28-JUN-18*
Date Received: *06/22/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3054683 Chloride by EPA 300
Lab Sample ID 590231-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 590231-005, -006, -007, -008, -009, -010, -011, -012, -013.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3054770 Chloride by EPA 300
Lab Sample ID 590231-023 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 590231-014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024, -025, -026.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 590231

TRC Solutions, Inc, Midland, TX

Project Name: Canvasback 13 FED 002H (61318)

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Fri Jun-22-18 03:00 pm

Report Date: 28-JUN-18

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	590231-001		590231-002		590231-003		590231-004		590231-005		590231-006	
	Field Id:	HA-1 @ 6"		HA-1 @ 1'		HA-2 @ 6"		HA-2 @ 1'		HA-3 @ 6"		HA-3 @ 2'	
	Depth:	6- In		1- In		6- In		1- In		6- In		2- In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-19-18 08:00		Jun-19-18 08:10		Jun-19-18 08:20		Jun-19-18 08:30		Jun-19-18 08:40		Jun-19-18 08:50	
Chloride by EPA 300	***Extracted:***	Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30	
	Analyzed:	Jun-26-18 18:39		Jun-26-18 18:51		Jun-26-18 19:04		Jun-26-18 19:16		Jun-26-18 20:18		Jun-26-18 21:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<25.0	25.0	<25.0	25.0	203	25.0	<25.0	25.0	2130 D	125	28.7	25.0
DRO-ORO By SW8015B	***Extracted:***									Jun-26-18 13:30			
	Analyzed:									Jun-27-18 04:51			
	Units/RL:									mg/kg	RL		
Diesel Range Organics (DRO)										<25.0	25.0		
Oil Range Hydrocarbons (ORO)										<25.0	25.0		
TPH GRO by EPA 8015 Mod.	***Extracted:***									Jun-25-18 13:00			
	Analyzed:									Jun-26-18 09:59			
	Units/RL:									mg/kg	RL		
TPH-GRO										<3.58	3.58		

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 590231

TRC Solutions, Inc, Midland, TX

Project Name: Canvasback 13 FED 002H (61318)

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Fri Jun-22-18 03:00 pm

Report Date: 28-JUN-18

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	590231-007		590231-008		590231-009		590231-010		590231-011		590231-012	
	Field Id:	HA-4 @ 6"		HA-5 @ 6"		HA-6 @ 1'		HA-6 @ 3'		HA-6 @ 4'		HA-7 @ 1'	
	Depth:	6- In		6- In		1- In		3- In		4- In		1- In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-19-18 09:00		Jun-19-18 09:10		Jun-19-18 09:20		Jun-19-18 09:40		Jun-19-18 09:50		Jun-20-18 10:00	
Chloride by EPA 300	***Extracted:***	Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30	
	Analyzed:	Jun-26-18 21:20		Jun-26-18 21:33		Jun-26-18 21:45		Jun-26-18 21:58		Jun-26-18 22:10		Jun-26-18 22:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<25.0	25.0	366	50.0	9880	2500	319	25.0	326	25.0	3760	1250

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 590231

TRC Solutions, Inc, Midland, TX

Project Name: Canvasback 13 FED 002H (61318)

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Fri Jun-22-18 03:00 pm

Report Date: 28-JUN-18

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	590231-013		590231-014		590231-015		590231-016		590231-017		590231-018	
	Field Id:	HA-7 @ 6'		HA-7 @ 7'		HA-7 @ 8'		N-1 @ 6"		N-2 @ 1.5'		S-1 @ 6"	
	Depth:	6- In		7- In		8- In		6- In		6- In		6- In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-20-18 08:00		Jun-20-18 08:10		Jun-20-18 08:20		Jun-19-18 10:10		Jun-19-18 10:20		Jun-20-18 09:20	
Chloride by EPA 300	***Extracted:***	Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30	
	Analyzed:	Jun-26-18 22:35		Jun-27-18 09:51		Jun-27-18 10:41		Jun-27-18 10:53		Jun-27-18 11:06		Jun-27-18 11:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		472	50.0	292	25.0	390	50.0	<25.0	25.0	51.4	25.0	66.4	25.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 590231

TRC Solutions, Inc, Midland, TX

Project Name: Canvasback 13 FED 002H (61318)

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Fri Jun-22-18 03:00 pm

Report Date: 28-JUN-18

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	590231-019		590231-020		590231-021		590231-022		590231-023		590231-024	
	Field Id:	S-2 @ 1.5'		E-1 @ 6"		E-2 @ 1.5'		E-3 @ 3.5'		W-1 @ 6"		W-2@ 6"	
	Depth:	1.5- In		6- In		1.5- In		3.5- In		6- In		6- In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-20-18 09:40		Jun-20-18 09:50		Jun-20-18 10:00		Jun-20-18 10:10		Jun-20-18 10:20		Jun-20-18 10:30	
Chloride by EPA 300	***Extracted:***	Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30		Jun-26-18 08:30	
	Analyzed:	Jun-27-18 11:31		Jun-27-18 11:43		Jun-27-18 11:56		Jun-27-18 12:08		Jun-27-18 12:33		Jun-27-18 13:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<25.0	25.0	1050	125	<25.0	25.0	30.7	25.0	370	25.0	228	25.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 590231

TRC Solutions, Inc, Midland, TX

Project Name: Canvasback 13 FED 002H (61318)

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Fri Jun-22-18 03:00 pm

Report Date: 28-JUN-18

Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	590231-025		590231-026					
	Field Id:	W-3 @ 6"		W-4 @ 6"					
	Depth:	6- In		6- In					
	Matrix:	SOIL		SOIL					
	Sampled:	Jun-20-18 10:40		Jun-20-18 10:50					
Chloride by EPA 300	***Extracted:***	Jun-26-18 08:30		Jun-26-18 08:30					
	Analyzed:	Jun-27-18 13:35		Jun-27-18 13:47					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		<25.0	25.0	<25.0	25.0				

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: Canvasback 13 FED 002H (61318)

Work Orders : 590231,

Project ID:

Lab Batch #: 3054610 **Sample:** 590231-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/18 09:59

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.110	0.100	110	76-123	
a,a,a-Trifluorotoluene	1.62	1.79	91	69-120	

Lab Batch #: 3054675 **Sample:** 590231-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/27/18 04:51

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	9.73	10.0	97	65-144	
n-Triacontane	10.2	10.0	102	46-152	

Lab Batch #: 3054610 **Sample:** 7657268-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/18 00:50

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0821	0.100	82	76-123	
a,a,a-Trifluorotoluene	2.34	2.00	117	69-120	

Lab Batch #: 3054675 **Sample:** 7657369-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/18 17:32

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	8.49	10.0	85	65-144	
n-Triacontane	7.93	10.0	79	46-152	

Lab Batch #: 3054610 **Sample:** 7657268-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/18 13:10

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0828	0.100	83	76-123	
a,a,a-Trifluorotoluene	1.81	2.00	91	69-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Canvasback 13 FED 002H (61318)

Work Orders : 590231,

Project ID:

Lab Batch #: 3054675 **Sample:** 7657369-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/18 18:11

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	10.8	10.0	108	65-144	
n-Triacontane	7.89	10.0	79	46-152	

Lab Batch #: 3054610 **Sample:** 7657268-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/18 13:37

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0840	0.100	84	76-123	
a,a,a-Trifluorotoluene	1.80	2.00	90	69-120	

Lab Batch #: 3054675 **Sample:** 7657369-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/18 18:51

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	10.7	10.0	107	65-144	
n-Triacontane	8.47	10.0	85	46-152	

Lab Batch #: 3054610 **Sample:** 590084-005 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/18 02:39

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.115	0.100	115	76-123	
a,a,a-Trifluorotoluene	1.70	1.98	86	69-120	

Lab Batch #: 3054675 **Sample:** 590084-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/18 20:46

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.2	10.0	112	65-144	
n-Triacontane	10.0	10.0	100	46-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Canvasback 13 FED 002H (61318)

Work Orders : 590231,

Project ID:

Lab Batch #: 3054610 **Sample:** 590084-005 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/18 03:07

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.104	0.100	104	76-123	
a,a,a-Trifluorotoluene	1.45	2.00	73	69-120	

Lab Batch #: 3054675 **Sample:** 590084-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/18 21:22

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.0	10.0	110	65-144	
n-Triacontane	9.17	10.0	92	46-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Canvasback 13 FED 002H (61318)

Work Order #: 590231 **Project ID:**

Analyst: RNL **Date Prepared:** 06/26/2018 **Date Analyzed:** 06/26/2018

Lab Batch ID: 3054680 **Sample:** 7657385-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	254	102	250	257	103	1	90-110	20	

Analyst: RNL **Date Prepared:** 06/26/2018 **Date Analyzed:** 06/26/2018

Lab Batch ID: 3054683 **Sample:** 7657388-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	257	103	250	255	102	1	90-110	20	

Analyst: RNL **Date Prepared:** 06/26/2018 **Date Analyzed:** 06/27/2018

Lab Batch ID: 3054770 **Sample:** 7657439-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	252	101	250	253	101	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Canvasback 13 FED 002H (61318)

Work Order #: 590231 **Project ID:**

Analyst: PGM **Date Prepared:** 06/26/2018 **Date Analyzed:** 06/26/2018

Lab Batch ID: 3054675 **Sample:** 7657369-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Diesel Range Organics (DRO)	<25.0	100	105	105	100	98.1	98	7	63-139	20	

Analyst: MIT **Date Prepared:** 06/25/2018 **Date Analyzed:** 06/26/2018

Lab Batch ID: 3054610 **Sample:** 7657268-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH-GRO	<4.00	20.0	21.8	109	20.0	21.9	110	0	35-129	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: Canvasback 13 FED 002H (61318)

Work Order # : 590231 **Project ID:**

Lab Batch ID: 3054680 **QC- Sample ID:** 589735-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/26/2018 **Date Prepared:** 06/26/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	281	112	250	279	112	1	80-120	20	

Lab Batch ID: 3054680 **QC- Sample ID:** 590084-009 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/26/2018 **Date Prepared:** 06/26/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	513	250	1820	523	250	1800	515	1	80-120	20	X

Lab Batch ID: 3054683 **QC- Sample ID:** 590231-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/26/2018 **Date Prepared:** 06/26/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	1650	250	2390	296	250	2380	292	0	80-120	20	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: Canvasback 13 FED 002H (61318)

Work Order # : 590231 **Project ID:**

Lab Batch ID: 3054770 **QC- Sample ID:** 590231-014 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/27/2018 **Date Prepared:** 06/26/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	292	250	685	157	250	635	137	8	80-120	20	X

Lab Batch ID: 3054770 **QC- Sample ID:** 590231-023 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/27/2018 **Date Prepared:** 06/26/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	370	250	673	121	250	637	107	5	80-120	20	X

Lab Batch ID: 3054675 **QC- Sample ID:** 590084-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/26/2018 **Date Prepared:** 06/26/2018 **Analyst:** PGM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Diesel Range Organics (DRO)	<25.1	100	88.1	88	100	91.9	92	4	63-139	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: Canvasback 13 FED 002H (61318)

Work Order # : 590231 **Project ID:**

Lab Batch ID: 3054610 **QC- Sample ID:** 590084-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/26/2018 **Date Prepared:** 06/25/2018 **Analyst:** MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH-GRO	<3.97	19.8	17.2	87	20.0	16.3	82	5	35-129	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

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Phoenix, Arizona (480-355-0900)
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590231

Xenco Job # 590231

Client / Reporting Information	Project Information
Company Name / Branch: TRC Environmental Corporation	Project Name/Number: Canvasback 13 Fed 002H (61318)
Company Address: 2057 Commerce Drive, Midland, TX 79703	Project Location: Eddy Co. NM
Email: jlowry@trcsolutions.com Phone No: 432-466-4450	Invoice To: COG Operating C/O Becky Haskell
Project Contact: Joel Lowry	Invoice:
Samplers's Name Joel Lowry	

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Field Comments
1	HA-1 @ 6"	6"	6/19/2018	8:00	s	1										X		1
2	HA-1 @ 1'	1'	6/19/2018	8:10	s	1										X		2
3	HA-2 @ 6"	6"	6/19/2018	8:20	s	1										X		3
4	HA-2 @ 1'	1'	6/19/2018	8:30	s	1										X		4
5	HA-3 @ 6"	6"	6/19/2018	8:40	s	1									X	X	X	5
6	HA-3 @ 2'	2'	6/19/2018	8:50	s	1										X		6
7	HA-4 @ 6"	6"	6/19/2018	9:00	s	1										X		7
8	HA-5 @ 6"	6"	6/19/2018	9:10	s	1										X		8
9																		
10																		

Matrix Codes: W = Water; S = Soil/Sed/Solid; GW = Ground Water; DW = Drinking Water; P = Product; SW = Surface water; SL = Sludge; OW = Ocean/Sea Water; WI = Wipe; O = Oil; WW = Waste Water; A = Air

Data Deliverable Information

- [ ] Same Day TAT
- [ ] Next Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 3 Day EMERGENCY
- [ ] 5 Day TAT
- [ ] 7 Day TAT
- [x] Contract TAT
- [ ] Level II Std QC
- [ ] Level III Std QC+ Forms
- [ ] Level 3 (CLP Forms)
- [ ] TRRP Checklist
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] TRRP Level IV
- [ ] UST / RG -411

TAT Starts Day received by Lab, if received by 5:00 pm

Notes:
jlowry@trcsolutions.com bcooper@trcsolutions.com
rhaskell@concho.com
zconder@trcsolutions.com
dneel2@concho.com
FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler: 1	Date Time:	Received By: 1	Relinquished By: 2	Date Time:	Received By: 2
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X

Cooler Temp. 4.7 Thermo. Corr. Factor IR3

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

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CHAIN OF CUSTODY

Xenco Job # 590231

Client / Reporting Information	Project Information
Company Name / Branch: TRC Environmental Corporation	Project Name/Number: Canvasback 13 Fed 002H (61318)
Company Address: 2057 Commerce Drive, Midland, TX 79703	Project Location: Eddy Co. NM
Email: jlowry@trcsolutions.com	Phone No: 432-466-4450
Project Contact: Joel Lowry	Invoice To: COG Operating C/O Becky Haskell
Samplers's Name Joel Lowry	Invoice:

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Field Comments
1	HA-6 @ 1'	1'	6/19/2018	9:20	s	1										X		9
2	HA-6 @ 3'	3'	6/19/2018	9:40	s	1										X		10
3	HA-6 @ 4'	4'	6/19/2018	9:50	s	1										X		11
4	HA-7 @ 1'	1'	6/19/2018	10:00	s	1										X		12
5	HA-7 @ 6'	6'	6/20/2018	8:00	s	1										X		13
6	HA-7 @ 7'	7'	6/20/2018	8:10	s	1										X		14
7	HA-7 @ 8'	8'	6/20/2018	8:20	s	1										X		15
8	N-1 @ 6"	6"	6/19/2018	10:10	s	1										X		16
9	N-2 @ 1.5'	1.5'	6/19/2018	10:20	s	1										X		17
10																		

Matrix Codes: W = Water; S = Soil/Sed/Solid; GW = Ground Water; DW = Drinking Water; P = Product; SW = Surface water; SL = Sludge; OW = Ocean/Sea Water; WI = Wipe; O = Oil; WW = Waste Water; A = Air

Data Deliverable Information			
☐ Same Day TAT	☐ 5 Day TAT	☐ Level II Std QC	☐ Level IV (Full Data Pkg /raw data)
☐ Next Day EMERGENCY	☐ 7 Day TAT	☐ Level III Std QC+ Forms	☐ TRRP Level IV
☐ 2 Day EMERGENCY	☒ Contract TAT	☐ Level 3 (CLP Forms)	☐ UST / RG -411
☐ 3 Day EMERGENCY		☐ TRRP Checklist	
TAT Starts Day received by Lab, if received by 5:00 pm			

Notes:

jlowry@trcsolutions.com bcooper@trcsolutions.com

rhaskell@concho.com

zconder@trcsolutions.com

dneel2@concho.com

FED-EX / UPS: Tracking #

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Relinquished by Sampler: 1	Date Time:	Received By: 1	Relinquished By: 2	Date Time:	Received By: 2
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X

Cooler Temp. 4.7 Thermo. Corr. Factor VR3

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Xenco Job # 590231

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation
Company Address: 2057 Commerce Drive, Midland, TX 79703
Email: jlowry@trcsolutions.com
Phone No: 432-466-4450
Project Contact: Joel Lowry
Samplers's Name Joel Lowry

Project Information

Project Name/Number: Canvasback 13 Fed 002H (61318)
Project Location: Eddy Co. NM
Invoice To: COG Operating C/O Becky Haskell
Invoice:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Field Comments
1	S-1 @ 6"	6"	6/20/2018	9:20	s	1										X		~~19~~ 18
2	S-2 @ 3.5'	3.5'	6/20/2018	9:40	s	1										X		~~20~~ 19
3	E-1 @ 6"	6"	6/20/2018	9:50	s	1										X		~~21~~ 20
4	E-2 @ 1.5'	1.5'	6/20/2018	10:00	s	1										X		~~22~~ 21
5	E-3 @ 3.5'	3.5'	6/20/2018	10:10	s	1										X		~~23~~ 22
6	W-1 @ 6"	6"	6/20/2018	10:20	s	1										X		~~24~~ 23
7	W-2 @ 6"	6"	6/20/2018	10:30	s	1										X		~~25~~ 24
8	W-3 @ 6"	6"	6/20/2018	10:40	s	1										X		~~26~~ 25
9	W-4 @ 6"	6"	6/20/2018	10:50	s	1										X		~~27~~ 24
10																		

Data Deliverable Information

- [ ] Same Day TAT
- [ ] Next Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 3 Day EMERGENCY
- [ ] 5 Day TAT
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Notes:

jlowry@trcsolutions.com bcooper@trcsolutions.com
rhaskell@concho.com
zconder@trcsolutions.com
dneel2@concho.com
FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		1	2		2
Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
5		5			X 4.9 IR3

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 06/22/2018 03:00:00 PM

Work Order #: 590231

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-3

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.7
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 06/24/2018

Checklist reviewed by: Kelsey Brooks Date: 06/25/2018

CARDINAL Laboratories

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

October 25, 2018

REBECCA HASKELL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: CANVASBACK 13 FEDERAL #2H

Enclosed are the results of analyses for samples received by the laboratory on 10/24/18 16:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
REBECCA HASKELL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	10/24/2018	Sampling Date:	10/24/2018
Reported:	10/25/2018	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HA - 1B @ SURFACE (H803057-01)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2018	ND	2.05	102	2.00	0.757	
Toluene*	<0.050	0.050	10/25/2018	ND	1.95	97.5	2.00	0.0918	
Ethylbenzene*	<0.050	0.050	10/25/2018	ND	1.94	97.0	2.00	0.831	
Total Xylenes*	<0.150	0.150	10/25/2018	ND	5.84	97.3	6.00	0.672	
Total BTEX	<0.300	0.300	10/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *90.7 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	10/25/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/25/2018	ND	194	96.9	200	1.34	
DRO >C10-C28*	<10.0	10.0	10/25/2018	ND	207	103	200	2.01	
EXT DRO >C28-C36	<10.0	10.0	10/25/2018	ND					

Surrogate: 1-Chlorooctane *97.1 %* *41-142*

Surrogate: 1-Chlorooctadecane *85.9 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
REBECCA HASKELL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	10/24/2018	Sampling Date:	10/24/2018
Reported:	10/25/2018	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HA - 2B @ SURFACE (H803057-02)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2018	ND	2.05	102	2.00	0.757	
Toluene*	<0.050	0.050	10/25/2018	ND	1.95	97.5	2.00	0.0918	
Ethylbenzene*	<0.050	0.050	10/25/2018	ND	1.94	97.0	2.00	0.831	
Total Xylenes*	<0.150	0.150	10/25/2018	ND	5.84	97.3	6.00	0.672	
Total BTEX	<0.300	0.300	10/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.6 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	10/25/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/25/2018	ND	194	96.9	200	1.34	
DRO >C10-C28*	**13.8**	10.0	10/25/2018	ND	207	103	200	2.01	
EXT DRO >C28-C36	<10.0	10.0	10/25/2018	ND					

Surrogate: 1-Chlorooctane *89.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *83.4 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
REBECCA HASKELL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	10/24/2018	Sampling Date:	10/24/2018
Reported:	10/25/2018	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HA - 3B @ SURFACE (H803057-03)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2018	ND	2.05	102	2.00	0.757	
Toluene*	<0.050	0.050	10/25/2018	ND	1.95	97.5	2.00	0.0918	
Ethylbenzene*	<0.050	0.050	10/25/2018	ND	1.94	97.0	2.00	0.831	
Total Xylenes*	<0.150	0.150	10/25/2018	ND	5.84	97.3	6.00	0.672	
Total BTEX	<0.300	0.300	10/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.7 %* *69.8-142*

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	10/25/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/25/2018	ND	194	96.9	200	1.34	
DRO >C10-C28*	<10.0	10.0	10/25/2018	ND	207	103	200	2.01	
EXT DRO >C28-C36	<10.0	10.0	10/25/2018	ND					

Surrogate: 1-Chlorooctane *100 %* *41-142*

Surrogate: 1-Chlorooctadecane *88.8 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
REBECCA HASKELL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	10/24/2018	Sampling Date:	10/24/2018
Reported:	10/25/2018	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HA - 4B @ SURFACE (H803057-04)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2018	ND	2.05	102	2.00	0.757	
Toluene*	<0.050	0.050	10/25/2018	ND	1.95	97.5	2.00	0.0918	
Ethylbenzene*	<0.050	0.050	10/25/2018	ND	1.94	97.0	2.00	0.831	
Total Xylenes*	<0.150	0.150	10/25/2018	ND	5.84	97.3	6.00	0.672	
Total BTEX	<0.300	0.300	10/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.5 %* *69.8-142*

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	10/25/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/25/2018	ND	194	96.9	200	1.34	
DRO >C10-C28*	<10.0	10.0	10/25/2018	ND	207	103	200	2.01	
EXT DRO >C28-C36	<10.0	10.0	10/25/2018	ND					

Surrogate: 1-Chlorooctane *94.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *86.8 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
REBECCA HASKELL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	10/24/2018	Sampling Date:	10/24/2018
Reported:	10/25/2018	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HA - 6B @ SURFACE (H803057-05)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2018	ND	2.05	102	2.00	0.757	
Toluene*	<0.050	0.050	10/25/2018	ND	1.95	97.5	2.00	0.0918	
Ethylbenzene*	<0.050	0.050	10/25/2018	ND	1.94	97.0	2.00	0.831	
Total Xylenes*	<0.150	0.150	10/25/2018	ND	5.84	97.3	6.00	0.672	
Total BTEX	<0.300	0.300	10/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.0 %* *69.8-142*

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	10/25/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/25/2018	ND	194	96.9	200	1.34	
DRO >C10-C28*	**10.1**	10.0	10/25/2018	ND	207	103	200	2.01	
EXT DRO >C28-C36	<10.0	10.0	10/25/2018	ND					

Surrogate: 1-Chlorooctane *90.4 %* *41-142*

Surrogate: 1-Chlorooctadecane *81.0 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
REBECCA HASKELL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	10/24/2018	Sampling Date:	10/24/2018
Reported:	10/25/2018	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HA - 7B @ SURFACE (H803057-06)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2018	ND	2.05	102	2.00	0.757	
Toluene*	<0.050	0.050	10/25/2018	ND	1.95	97.5	2.00	0.0918	
Ethylbenzene*	<0.050	0.050	10/25/2018	ND	1.94	97.0	2.00	0.831	
Total Xylenes*	<0.150	0.150	10/25/2018	ND	5.84	97.3	6.00	0.672	
Total BTEX	<0.300	0.300	10/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.7 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	10/25/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/25/2018	ND	194	96.9	200	1.34	
DRO >C10-C28*	**17.0**	10.0	10/25/2018	ND	207	103	200	2.01	
EXT DRO >C28-C36	<10.0	10.0	10/25/2018	ND					

Surrogate: 1-Chlorooctane *95.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *87.6 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

Rush 4

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	TRC Solutions	BILL TO	
Project Manager:	Joel Lowry	P.O. #:	
Address:	10 Desta Drive Suite 150E	Company:	COG
City:	Midland	State: TX Zip: 79705	Attn:
Phone #:	432-466-4450	Fax #:	Address:
Project #:		Project Owner:	City:
Project Name:	Canvasback 13 Federal #002H		State: Zip:
Project Location:			Phone #:
Sampler Name:	Kyle Schmaicke		Fax #:

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Cl-	TPH	BTEX
H803057																	
1	HA-1B@Sur	G	1			X					X		10-24-18	2:30	X	X	X
2	HA-2B@Sur	G	1			X					X			2:35	X	X	X
3	HA-3B@Sur	G	1			X					X			2:40	X	X	X
4	HA-4B@Sur	G	1			X					X			2:45	X	X	X
5	HA-6B@Sur	G	1			X					X			2:50	X	X	X
6	HA-7B@Sur	G	1			X					X			2:55	X	X	X

Relinquished By:	Date: 10-24-18	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 16:45		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: ZCONDER@TRCSOLUTIONS.COM BCOOPER@TRCSOLUTIONS.COM BGRIFFIN@TRCSOLUTIONS.COM RHASKELL@CONCHO.COM
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	0.8°C #97	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) YO

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

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

April 15, 2019

IKE TAVAREZ

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: CANVASBACK 13 FEDERAL #2H

Enclosed are the results of analyses for samples received by the laboratory on 04/12/19 16:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A1 - FL1 @ 1' (H901367-01)

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	04/15/2019	ND	400	100	400	3.92	

Sample ID: A1 - FL2 @ 1' (H901367-02)

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	04/15/2019	ND	400	100	400	3.92	

Sample ID: A1 - FL3 @ 1' (H901367-03)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	**0.221**	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.4 %* *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	**32.0**	16.0	04/15/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A1 - FL3 @ 1' (H901367-03)

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane	*98.8 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*94.1 %*	*37.6-147*

Sample ID: A1 - FL4 @ 1' (H901367-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	04/15/2019	ND	400	100	400	3.92	

Sample ID: A1 - NW @ 6" (H901367-05)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	04/15/2019	ND	400	100	400	3.92	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A1 - EW @ 6'' (H901367-06)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.3 %* *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	**32.0**	16.0	04/15/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *97.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *92.7 %* *37.6-147*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A1 - SW @ 6'' (H901367-07)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	04/15/2019	ND	400	100	400	3.92	

Sample ID: A1 - WW @ 6'' (H901367-08)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	04/15/2019	ND	400	100	400	3.92	

Sample ID: A2 - FL1 @ 1.5' (H901367-09)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**784**	16.0	04/15/2019	ND	400	100	400	3.92	

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Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A2 - FL2 @ 1.5' (H901367-10)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.6 %* *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	**144**	16.0	04/15/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *101 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.5 %* *37.6-147*

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Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A2 - FL3 @ 1.5' (H901367-11)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	04/15/2019	ND	400	100	400	3.92	

Sample ID: A2 - FL4 @ 1.5' (H901367-12)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1470**	16.0	04/15/2019	ND	400	100	400	3.92	

Sample ID: A2 - NW @ 9'' (H901367-13)

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	04/15/2019	ND	400	100	400	0.00	

Sample ID: A2 - EW1 @ 9'' (H901367-14)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	04/15/2019	ND	400	100	400	0.00	

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Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A2 - EW2 @ 9" (H901367-15)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.9 %* *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	**80.0**	16.0	04/15/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *99.7 %* *41-142*

Surrogate: 1-Chlorooctadecane *96.0 %* *37.6-147*

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Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A2 - SW @ 9'' (H901367-16)

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	04/15/2019	ND	400	100	400	0.00	

Sample ID: A2 - WW1 @ 9'' (H901367-17)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	04/15/2019	ND	400	100	400	0.00	

Sample ID: A2 - WW2 @ 9'' (H901367-18)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	04/15/2019	ND	400	100	400	0.00	

Sample ID: A3 - FL1 @ 1' (H901367-19)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**832**	16.0	04/15/2019	ND	400	100	400	0.00	

Sample ID: A3 - FL2 @ 1' (H901367-20)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1040**	16.0	04/15/2019	ND	400	100	400	0.00	

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Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A3 - FL3 @ 1' (H901367-21)

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	04/15/2019	ND	400	100	400	0.00	

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Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A3 - FL4 @ 1' (H901367-22)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.5 %* *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	**1310**	16.0	04/15/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *95.1 %* *41-142*

Surrogate: 1-Chlorooctadecane *91.0 %* *37.6-147*

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Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A3 - FL5 @ 1' (H901367-23)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	04/15/2019	ND	400	100	400	0.00	

Sample ID: A3 - FL6 @ 1' (H901367-24)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	04/15/2019	ND	400	100	400	0.00	

Sample ID: A3 - FL7 @ 1' (H901367-25)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	04/15/2019	ND	400	100	400	0.00	

Sample ID: A3 - FL8 @ 1' (H901367-26)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	04/15/2019	ND	400	100	400	0.00	

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Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A3 - FL9 @ 1' (H901367-27)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.2 %* *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	**32.0**	16.0	04/15/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *93.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *91.1 %* *37.6-147*

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Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A3 - FL10 @ 1' (H901367-28)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	04/15/2019	ND	400	100	400	0.00	

Sample ID: A3 - NW @ 6'' (H901367-29)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	04/15/2019	ND	400	100	400	0.00	

Sample ID: A3 - EW1 @ 6'' (H901367-30)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	04/15/2019	ND	400	100	400	0.00	

Sample ID: A3 - EW2 @ 6'' (H901367-31)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	04/15/2019	ND	400	100	400	0.00	

Sample ID: A3 - SW @ 6'' (H901367-32)

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	04/15/2019	ND	400	100	400	0.00	

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Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A3 - WW1 @ 6'' (H901367-33)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	1.95	97.5	2.00	1.19	
Toluene*	<0.050	0.050	04/15/2019	ND	1.91	95.3	2.00	1.24	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.03	102	2.00	2.39	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.33	106	6.00	2.63	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.2 %* *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	**32.0**	16.0	04/15/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	198	99.1	200	4.68	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	188	93.9	200	5.65	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane *99.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *96.3 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
IKE TAVAREZ
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/12/2019	Sampling Date:	04/12/2019
Reported:	04/15/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13 FEDERAL #2H	Sampling Condition:	Cool & Intact
Project Number:	308403	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY		

Sample ID: A3 - WW2 @ 6'' (H901367-34)

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	04/15/2019	ND	400	100	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	TRC Solutions
Project Manager:	~~Holbrook~~ Jared Staffel
Address:	10 Desta Drive Suite 150E
City:	Midland 432-278-3003 State: TX Zip: 79705
Phone #:	[redacted] Fax #:
Project #:	308403 Project Owner: COG
Project Name:	Canvasback 13 Fed #002H
Project Location:	Eddy County
Sampler Name:	Brian Cooper

BILL TO

P.O. #:	
Company:	COG
Attn:	Ike Tavarez
Address:	600 W. Illinois
City:	Midland
State:	TX Zip: 79701
Phone #:	432-683-7443
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chloride E300	RUSH 24HR Turnaround	TPH 8015 M Ext(GRO)	BTEX 8021B
1	A1-FL1@1'	C	1			X							4/12	8:00				
2	A1-FL2@1'	C	1			X								8:10				
3	A1-FL3@1'	C	1			X								8:20			X	X
4	A1-FL4@1'	C	1			X								8:30				
5	A1-NW@6"	C	1			X								8:40				
6	A1-EW@6"	C	1			X								8:50			X	X
7	A1-SW@6"	C	1			X								9:00				
8	A1-WW@6"	C	1			X								9:10				
9	A2-FL1@1.5'	C	1			X								9:20				
10	A2-FL2@1.5'	C	1			X								9:30			X	X

Relinquished By:	Date: 4-12-19	Received By:	
Relinquished By:	Time: 16:40	Received By:	
	Date:		
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 4.1c #97

Sample Condition: Cool Yes / No; Intact Yes / No

CHECKED BY: (Initials) TO

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:
BCooper@trcsolutions.com
JStaffel@trcsolutions.com
Itavarez@[redacted]concho.com
RHaskell@concho.com

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	TRC Solutions
Project Manager:	~~Joel Lowry~~
Address:	10 Desta Drive Suite 150E
City:	Midland
State:	TX
Zip:	79705
Phone #:	~~432-686-7150~~
Fax #:	
Project #:	
Project Owner:	
Project Name:	
Project Location:	
Sampler Name:	

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

Chloride E300 | RUSH 24HR Turnaround | TPH 8015 M Ext/Calc | BTEX 8021B

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	TIME	Chloride E300	RUSH 24HR Turnaround	TPH 8015 M Ext/Calc	BTEX 8021B
11	A2-FL3@1.5'	C	1			X							4/12	9:40				
12	A2-FL4@1.5'	C	1			X								9:50				
13	A2-NW@9"	C	1			X								10:00				
14	A2-EW1@9"	C	1			X								10:10			X	X
15	A2-EW2@9"	C	1			X								10:20				
16	A2-SW@9"	C	1			X								10:30				
17	A2-WW1@9"	C	1			X								10:40				
18	A2-WW2@9"	C	1			X								10:50				
19	A3-FL1@1'	C	1			X								11:00				
20	A3-FL2@1'	C	1			X								11:10				

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 the client for the 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 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 4-12-19	Received By:	
	Time: 16:40		
Relinquished By:	Date:	Received By:	
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 4.1° #97

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials) T.B.

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	TRC Solutions
Project Manager:	[redacted]ry
Address:	10 Desta Drive Suite 150E
City:	Midland
State:	TX
Zip:	79705
Phone #:	[redacted]
Fax #:	
Project #:	
Project Owner:	
Project Name:	
Project Location:	
Sampler Name:	

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

Chlorides E300
RUSH 24HR Turnaround
TPH 8015 M Ext (Calc)
BTEX 8021B

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides E300	RUSH 24HR Turnaround	TPH 8015 M Ext (Calc)	BTEX 8021B
21	A3-FL3@1'	C	1			X							4/12	11:20				
22	A3-FL4@1'	C	1			X								11:30			X	X
23	A3-FL5@1'	C	1			X								11:40				
24	A3-FL6@1'	C	1			X								11:50				
25	A3-FL7@1'	C	1			X								12:00				
26	A3-FL8@1'	C	1			X								12:10				
27	A3-FL9@1'	C	1			X								12:20			X	X
28	A3-FL10@1'	C	1			X								12:30				
29	A3-NW@6"	C	1			X								12:40				
30	A3-EW1@6"	C	1			X								12:50				

Relinquished By:	Date: 4-12-19	Received By:	
Relinquished By:	Time: 16:40	Received By:	
	Date:		
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 4.1c #97

Sample Condition: Cool: ☑ Yes ☐ No; Intact: ☑ Yes ☐ No

CHECKED BY: (Initials) TO

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	TRC Solutions
Project Manager:	[redacted]
Address:	10 Desta Drive Suite 150E
City:	Midland
State:	TX
Zip:	79705
Phone #:	[redacted]
Fax #:	
Project #:	
Project Owner:	
Project Name:	
Project Location:	
Sampler Name:	

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Chloride E300	RUSH 24HR Turnaround	TPH 8015 (GRO/DRO)	BTEX 8021 B
31	A3-EW2@6'	C	1			X							4/12	1:00				
32	A3-SW@6'	C	1			X								1:10			X	X
33	A3-WW1@6'	C	1			X								1:20				
34	A3-WW2@6'	C	1			X								1:30				

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 the client for the 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 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 4-12-19	Received By: Tamara Oldaker	
Relinquished By:	Time: 14:40	Received By:	
	Date:		
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 4.1C #97

Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No

CHECKED BY: (Initials) TO

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

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

April 17, 2019

JARED STOFFEL

TRC

10 DESTA DR. SUITE 150 E

MIDLAND, TX 79705

RE: CANVASBACK 13

Enclosed are the results of analyses for samples received by the laboratory on 04/17/19 14:07.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TRC
JARED STOFFEL
10 DESTA DR. SUITE 150 E
MIDLAND TX, 79705
Fax To:

Received:	04/17/2019	Sampling Date:	04/16/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	JAL, NM		

Sample ID: A3-FL-1 @ 1.5' (H901393-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	04/17/2019	ND	416	104	400	3.77	

Sample ID: A3-FL-2 @ 1.5' (H901393-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2280**	16.0	04/17/2019	ND	416	104	400	3.77	

Sample ID: A3-FL-4 @ 1.5' (H901393-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1580**	16.0	04/17/2019	ND	416	104	400	3.77	

Sample ID: A2-FL-1 @ 4' (H901393-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**960**	16.0	04/17/2019	ND	416	104	400	3.77	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TRC
JARED STOFFEL
10 DESTA DR. SUITE 150 E
MIDLAND TX, 79705
Fax To:

Received:	04/17/2019	Sampling Date:	04/17/2019
Reported:	04/17/2019	Sampling Type:	Soil
Project Name:	CANVASBACK 13	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	JAL, NM		

Sample ID: A2-FL-4 @ 4' (H901393-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**720**	16.0	04/17/2019	ND	416	104	400	3.77	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: TRC	**BILL TO**
Project Manager: Jared Stoffel	P.O. #:
Address: 10 Desta Dr. STE 150E	Company: COG
City: Midland State: TX Zip: 79705	Attn: Becky Haskell
Phone #: 432-238-3003 Fax #:	Address:
Project #: Project Owner:	City:
Project Name: Canvasback 13	State: Zip:
Project Location: Jal, NM	Phone #:
Sampler Name: Tania Babu	Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides (4500)
H901393															
1	A3-FL-1 @ 1.5'	C	1			X					X		4-16-19	1240	X
2	A3-FL-2 @ 1.5'	C	1			X					X		4-16-19	1250	X
3	A3-FL-4 @ 1.5'	C	1			X					X		4-16-19	1300	X
4	A2-FL-1 @ 4'	C	1			X					X		4-16-19	1430	X
5	A2-FL-4 @ 4'	C	1			X					X		4-17-19	1145	X

Relinquished By: Tania Babu	Date: 4-17-19 Time: 3:07pm	Received By: Jodi Henson	
Relinquished By:	Date: 15:07 Time:	Received By:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 8.4°C / #97	Sample Condition Cool: ☐ Yes ☑ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS: Rush verbals to Jared (432) 238-3003

Analytical Report 621816

for

TRC Solutions, Inc

Project Manager: Jared Stoffel

Canvasback 13

23-APR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

23-APR-19

Project Manager: **Jared Stoffel**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **621816**
Canvasback 13
Project Address: ---

Jared Stoffel:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 621816. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 621816 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kalei Stout
Midland Laboratory Director

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 621816

TRC Solutions, Inc, Midland, TX

Canvasback 13

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
A3-FL-2 @ 4'	S	04-18-19 09:05	4 ft	621816-001
A3-FL-4 @ 4'	S	04-18-19 08:55	4 ft	621816-002

Version: 1.%

CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Canvasback 13

Project ID: ---
Work Order Number(s): *621816*

Report Date: *23-APR-19*
Date Received: *04/22/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 621816

TRC Solutions, Inc, Midland, TX

Project Name: Canvasback 13

Project Id: ---
Contact: Jared Stoffel
Project Location: ---

Date Received in Lab: Mon Apr-22-19 10:26 am
Report Date: 23-APR-19
Project Manager: Kalei Stout

Analysis Requested													
	Lab Id:	621816-001		621816-002									
	Field Id:	A3-FL-2 @ 4'		A3-FL-4 @ 4'									
	Depth:	4- ft		4- ft									
	Matrix:	SOIL		SOIL									
	Sampled:	Apr-18-19 09:05		Apr-18-19 08:55									
Chloride by EPA 300	***Extracted:***	Apr-22-19 14:00		Apr-22-19 14:00									
	Analyzed:	Apr-22-19 19:37		Apr-22-19 19:43									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Chloride		4130	49.9	616	4.99								

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.%

Kalei Stout
Midland Laboratory Director

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

BS / BSD Recoveries

Project Name: Canvasback 13

Work Order #: 621816 **Project ID:** ---

Analyst: CHE **Date Prepared:** 04/22/2019 **Date Analyzed:** 04/22/2019

Lab Batch ID: 3086555 **Sample:** 7676296-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	251	100	250	248	99	1	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

Form 3 - MS / MSD Recoveries

Project Name: Canvasback 13

Work Order # : 621816 **Project ID:** ---

Lab Batch ID: 3086555 **QC- Sample ID:** 621249-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/22/2019 **Date Prepared:** 04/22/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	791	250	1020	92	250	1010	88	1	90-110	20	X

Lab Batch ID: 3086555 **QC- Sample ID:** 621249-008 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/22/2019 **Date Prepared:** 04/22/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	457	250	713	102	250	697	96	2	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Chain of Custody

Work Order No: 402190

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

www.xenco.com Page 1 of 1

Project Manager:	Jace Stoffel	Bill to: (if different)	Becky Haskell
Company Name:	TRC	Company Name:	COG
Address:	10 Desta Dr STE 150E	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	(432) 238-3003	Email:	jstoffel@tresolutions.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Canvasback 13	Turn Around	
Project Number:		Routine ☐	
P.O. Number:		Rush: 24 hr TAT	
Sampler's Name:	J. Stoffel	Due Date: 4/23/19	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.5	Thermometer ID:	D8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Chloride (E300)
A3-FL-2 @ 4'	soil	4/18/19	0905	4'	1	X
A3-FL-4 @ 4'	soil	4/18/19	0855	4'	1	X

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		4/22/19 1024	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 04/22/2019 10:26:00 AM

Work Order #: 621816

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 04/22/2019

Brianna Teel

Checklist reviewed by: Kalei Stout Date: 04/22/2019

Kalei Stout

Photo 1 - View of affected area and above ground pipelines, facing South.

Photo 2- View of affected area and above ground pipelines, facing North.

Photo 3 - View of excavated area A1 facing east (4/16/19).

Photo 4 - View of excavated area A2 facing southeast (4/17/19).

Photo 5 - View of excavated area A3 facing southwest (4/16/19).

Photo 6 - View of excavation to four ft. bgs in area A3 facing northeast (4/18/19).

Photo 7 - View of the remediated area facing south (4/18/19).

Photo 8 - View of remediated area facing southeast (4/18/19).

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

JUN 14 2018
DISTRICT II-ARTESIA O.C.D.

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

nAB1817150139

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Production, LLC (OGRID #217955)	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland, TX 79701	Telephone No. 432-683-7443
Facility Name: **Canvasback 13 Federal #002H**	Facility Type: Flowline

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-40538

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	13	24S	31E					Eddy

Latitude 32.214831 **Longitude** -103.722968 NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 25 bbl.	Volume Recovered 0 bbl.
Source of Release Flowline Leak	Date and Hour of Occurrence June 13, 2018 2:00pm	Date and Hour of Discovery June 13, 2018 2:00pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher – NMOCD Crystal Weaver – NMOCD Henryetta Price - BLM	
By Whom? Sheldon Hitchcock	Date and Hour: June 13, 2018 4:08pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release was caused by a flowline rupture. The flowline is being replaced.

Describe Area Affected and Cleanup Action Taken.*

The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant 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 NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: DeAnn Grant	OIL CONSERVATION DIVISION Approved by Environmental Specialist: Signed By: Mike Bratcher
Printed Name: DeAnn Grant	
Title: HSE Administrative Assistant	Approval Date: 6/15/18 Expiration Date: N/A
E-mail Address: agrant@concho.com	Conditions of Approval: See attached Attached ☐ 2RP-4813
Date: June 14, 2018 Phone: (432) 253-4513	

* Attach Additional Sheets If Necessary

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4813
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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4813
Facility ID	
Application ID	

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: Rebecca Haskell Title: Senior HSE Coordinator

Signature: Rebecca Haskell Date: 4/25/19

email: rhaskell@concho.com Telephone: 432-818-2372

OCD Only

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4813
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: Rebecca Haskell Title: Senior HSE Coordinator

Signature: Rebecca Haskell Date: 4/25/19

email: rhaskell@concho.com Telephone: 432-818-2372

OCD Only

Received by: _____ Date: _____

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

Signature: Brittany Hall Date: 11/28/2022

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4813
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: Rebecca Haskell Title: Senior HSE Coordinator

Signature: Rebecca Haskell Date: 4/25/19

email: rhaskell@concho.com Telephone: 432-818-2372

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: _____

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 161588

CONDITIONS

Operator:	OGRID:
COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	217955
	Action Number: 161588
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	Deferral of contamination located at and around HA-7 approved until retrofit of area or abandonment of site, which ever comes first. Closure of incident not approved until area of HA-7 remediated. A complete closure report for the release will need to be submitted when all remediation is completed.	11/28/2022
bhall	2RP-4813 closed. Please refer to incident #NAB1817150139 for future communication.	11/28/2022