

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1000 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

OIL CONS. DIV DIST. 3

SEP 08 2015

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: ConocoPhillips Company	Contact: John F. (Rick) Greiner
Address: 600 N. Dairy Ashford, MA 1004 Houston, TX 77079	Telephone No.: 281-293-3264
Facility Name: Newberry No. 8	Facility Type: Gas Well

Surface Owner: Federal	Mineral Owner: Federal	Lease No.: Fee
------------------------	------------------------	----------------

LOCATION OF RELEASE 30-045-10965

Unit Letter A	Section 9	Township T31N	Range R12W	Feet from the 990	North/South Line N	Feet from the 1187	East/West Line E	County San Juan
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Latitude 36.9178 N Longitude -108.09534 W

NATURE OF RELEASE

Type of Release: Unknown	Volume of Release: Unknown	Volume Recovered: 0
Source of Release: Historical	Date and Hour of Occurrence: Historical	Date and Hour of Discovery: August 16, 2011. Hour unknown
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? E-mail to Brandon Powell (NMOCD)	
By Whom? Kelsi G. Harrington, ConocoPhillips	Date and Hour: September 6, 2011, 4:31 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Historical release; source unknown. Initial excavation of an area approximately 20' x 15' x 4' deep; confirmation sample results from excavation were above NMOCD action levels on south and east sides. Additional assessment/soil removal necessary.

Describe Area Affected and Cleanup Action Taken.*

September 9, 2011- Additional excavation of impacted soil: excavation measures 50' x 48' x 25' deep. Confirmation samples collected from all sides and from bottom; bottom sample result exceeded NMOCD action level for TPH. September 16, 2011- Excavation deepened to 30' with final dimensions 50' x 48' x 30'. Bottom sample again exceeded NMOCD action level for TPH. September 21, 2011- Potassium permanganate was applied to the bottom of the excavation and then backfilled. November 11, 2011 - Three soil borings were advanced using direct-push technology to determine extent of soils impacts remaining after the September 2011 soil excavation. The DPT borings encountered refusal in shale at depths from 29' to 32'. Samples collected and submitted for lab analyses from total depths in DPT borings were below NMOCD action levels for TPH, BTEX and benzene. Some field screening samples from interim depths were in excess of NMOCD action levels based on PID readings. June 2, 2015 - Supplemental soil confirmation borings were auger drilled in approximate locations of original B-1 and B-2 borings at the request of NMOCD. Soil sample laboratory results from the June 2015 borings were below 1000 ppm TPH. Total BTEX in these samples ranged from <0.0279 ppm to 33.5 ppm, below NMOCD action levels. Soil borings terminated in hard, dry shale at 30 ft. below surface. Groundwater at site is estimated at greater than 80 feet deep. Please refer to July 2015 CRA Confirmation Boring Report and Site Closure Request Report (attached).

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: <i>Jeff Walker</i>	OIL CONSERVATION DIVISION	
Printed Name: Jeffrey L. Walker	Environmental Spec. <i>[Signature]</i>	
Sr. Project Manager-GHD Services, Inc.	Approved by District Supervisor:	Approval Date: 2/23/16 Expiration Date:
E-mail Address: jeff.walker@ghd.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 09-04-2015 Phone: 505-884-0672		

#NCS1605437986

85



John F. (Rick) Greiner, CPG, P.G.
ConocoPhillips Company
Risk Management & Remediation
Program Manager/Director Corp.
Waste Management Program
600 N. Dairy Ashford, MA 1004
Houston, TX 77079
Phone: 281-293-3264
E-mail: Rick.Greiner@conocophillips.com

OIL CONS. DIV DIST. 3

SEP 08 2015

Mr. Brandon Powell
New Mexico Oil Conservation Division
Energy, Minerals, & Natural Resources Department
1000 Rio Brazos
Aztec, NM 87410

September 3, 2015

**Re: API No. 30-045-10965, 2015 Confirmation Boring and Sampling Report and Site
Closure Request
Newberry No. 8, San Juan County, NM**

Dear Mr. Powell:

An unbound hard copy of the 2015 Boring Confirmation and Sampling Report for the Newberry No. 8 site accompanies this letter. This report, prepared by Conestoga-Rovers & Associates (CRA), contains the results of the supplementary confirmation soil boring and sampling events conducted June 2, 2015 at the referenced Site.

For this site ConocoPhillips requests an alternative closure standard of 1000 parts per million (ppm) for total petroleum hydrocarbons (TPH), 10 ppm for benzene, and 50 ppm for total benzene, toluene, ethylbenzene, and xylene (BTEX) based on the estimated depth to water, lack of threat to surface water and low remaining concentrations of benzene, ethylbenzene, toluene and xylenes.

Thank you for considering this request. Please feel free to contact me at (281) 293-3264 if you would like to discuss our request further.

Sincerely,

John F. (Rick) Greiner, CPG, RG

Enclosure



**CONESTOGA-ROVERS
& ASSOCIATES**

5551 Corporate Blvd., Suite 200, Baton Rouge, LA 70808
Telephone: (225) 292-9007 Fax: (225) 952-2978
www.CRAworld.com

July 13, 2015

Reference No. 074918-2AS00

Mr. Brandon Powell
New Mexico Oil Conservation Division
Energy, Minerals, & Natural Resources Department
1000 Rio Brazos Rd.
Aztec, New Mexico 87410

Dear Mr. Powell:

Re: Newberry No. 8 Confirmation Boring Letter Report
San Juan County, New Mexico

Conestoga-Rovers & Associates (CRA) submits herein to ConocoPhillips Company (ConocoPhillips) this report of the assessment performed at the Newberry No. 8 Well Site (Site). The Site is located in Section 9, Township 31N, Range 12W in San Juan County, New Mexico. The activities reported herein were conducted in response to a directive from the New Mexico Oil Conservation Division (NMOCD). **Figure 1** is a vicinity map that shows the site location on a USGS topographic map. Please note, CRA changed its name to GHD Services, Inc. (GHD) on July 1, 2015. This document was originally submitted under the CRA name prior to this date. However, in the interest of continuity, the CRA name will remain on this document after July 1, 2015.

1.0 Background

Initial Site assessment activities were conducted by Envirotech, Inc. (Envirotech) in August 2011 in response to the appearance of impacted soils discovered during placement of a below-grade tank at the Site. The Recommended Remediation Action Levels (RRALs) for soil at the Site, as communicated by Brandon Powell of the NMOCD to Kelsi Harrington of ConocoPhillips, on September 16, 2011 were determined to be 1,000 ppm Total Petroleum Hydrocarbons (TPH), 50 ppm BTEX (benzene, toluene, ethylbenzene, xylenes), and 10 ppm benzene. Soil samples were collected and screened in the field for total petroleum hydrocarbons (TPH) by method 418.1 and for volatile organic vapors (VOCs) by photoionization detector (PID). Soils thus screened were found to be above established RRALs and excavation was recommended.

Envirotech returned to the site September 16, 2011 to collect composite confirmation samples from an excavation with dimensions of approximately 50 feet (ft) X 48 ft X 25 ft deep. One composite sample was collected from the bottom of the excavation and one composite sample

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July 13, 2015

- 2 -

Reference No. 074918-2AS00

was collected from each of the four sidewalls. Samples were field screened similar to above and then submitted for laboratory analyses of TPH by EPA method 8015 and for BTEX constituents by EPA method 8021. The four sidewall samples were below the assigned RRALs while the bottom sample exceeded RRALs. It was determined at that time that the soil removal had reached the maximum practical depth of excavation and that potassium permanganate would be applied to the bottom and then backfilled with clean fill.

CRA returned to the site in November 2011 to drill and sample two confirmation borings through the previously excavated area. Borings B-1, B-2 and B-3 were advanced using direct push technology (DPT). **Figure 2** shows the location of these borings relative to the footprint of the excavated area and the former location of Site equipment. The Site equipment was moved to the east of its former location to allow for remediation of the impacted soil.

The DPT borings met refusal to drilling at depths of 29 to 31 ft bgs in hard weathered shale. Soils were sampled and field screened with a PID at 5 ft intervals. Samples obtained at the bottom of borings B-1 and B-2 were submitted for laboratory analyses of TPH by EPA method 8015, BTEX constituents by EPA method 8021 and for chlorides by EPA method 300. All sample results indicated concentrations below the RRALs. CRA submitted a summary report including a petition for Site closure and a No Further Action status in a July 20, 2012 report.

The NMOCD expressed concerns over elevated PID readings observed in borings B-1 and B-2 and did not grant the No Further Action status. Requests were made of ConocoPhillips to provide records of fill material used to backfill the excavation. Haul tickets were obtained and ConocoPhillips field staff involved with the excavation provided information regarding the source of material. This information was shared with NMOCD staff. The NMOCD, in a January 14, 2015 email correspondence, requested two additional confirmation borings be advanced in the general vicinity of the B-1 and B-2 borings and for any soil samples indicating field screening concentrations above 100 ppm be submitted for laboratory analysis.

2.0 Supplemental Confirmation Borings

Boring locations B-4 and B-5 were staked in advance and located in the approximate location of previous confirmation borings B-1 and B-2 based on existing Site maps and measurements from



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July 13, 2015

- 3 -

Reference No. 074918-2AS00

existing Site equipment. NMOCD staff visited the Site and provided concurrence with these locations. Boring locations B-1 through B-5 are depicted on **Figure 2**.

CRA mobilized to the site on June 2, 2015 to advance two borings with a hollow stem auger drill rig. Prior to drilling, a New Mexico One Call utility locate was performed and were boreholes pre-drilled via hydroexcavation to a depth of 5 ft bgs to verify the absence of subsurface features to that depth. The borings were drilled to a depth of 35 ft bgs and sampled at 5 ft intervals.

Collected samples were field screened using a PID. Borings encountered fill material consisting of a mix of sand and clay to a depth of approximately 25 ft bgs. At this depth, borings encountered a black clayey soil consistent with the expected reaction with potassium permanganate. Beginning at a depth of approximately 20 ft bgs extending to a depth of 30 ft bgs, field screening displayed a moderate to strong petroleum odor and PID readings ranged from 1749 (B-4 @ 25-26.5) parts per million (ppm) to 2653 ppm (B-5 @ 20-21.5). Nine soil samples that registered a PID reading of 100 ppm or over were submitted to Pace Analytical Laboratories for analysis of TPH by EPA method 8015 and BTEX by EPA method 8260.

The results of the laboratory analyses indicated that TPH concentrations from these samples ranged from <21.7 ppm (B-4 @ 35-36.5) to 748 ppm (B-4 @ 25-26.5). Total BTEX concentrations ranged from <0.0278 ppm (B-5 @ 15-16.5) to 33.50 ppm (B-4 @ 25-26.5). Benzene concentrations were below the laboratory detection limit in all samples. Total BTEX concentrations ranged <0.0278 ppm (B-5 @ 15-16.5) to 33.5 ppm (B-4 @ 25-26.5). The laboratory analyses indicated that the reported constituents were below the RRALs established for this Site and are summarized in the attached **Table 1**.

One sample, B-4 @ 20-21.5 ft bgs, collected in the potassium permanganate affected soil zone, was analyzed for manganese to ascertain the effects of the reaction on Site soils with this application of this substance. The concentration in this sample, 135 ppm, is below the New Mexico Environment Department Health and Human Risk Based Soil Screening Levels. A copy of the full analytical laboratory report is included as an attachment to this report.



**CONESTOGA-ROVERS
& ASSOCIATES**

July 13, 2015

- 4 -

Reference No. 074918-2AS00

Soil borings were plugged and abandoned with a high solids bentonite grout introduced to the boring from bottom to top via tremmie pipe.

Hydrocarbon-impacted soil cuttings were drummed and disposed of at Industrial Ecosystems Inc. landfarm in Aztec, NM.

3.0 Conclusions and Recommendations

Soil samples were collected in June 2015 from two soil borings placed in the general vicinity of two previous borings drilled after an impacted soil excavation at the site in 2011. A PID was used to field screen soils collected as the boreholes were advanced. Confirmation laboratory samples were submitted and results indicate all concentrations of analyzed constituents are below RRALs established for the Site.

The depth to groundwater beneath the Site is expected to be greater than 80 ft bgs based on groundwater data obtained from a cathodic protection well located at the Culpepper Martin No. 16 site located approximately one mile west of Newberry No. 8. Soil borings encountered a hard, dry, weathered shale at a depth of 30 ft bgs that serves as a confining unit limiting any vertical migration of hydrocarbons remaining in Site soils. This is confirmed by laboratory results from the bottom-most samples in both borings that indicated TPH concentrations of <21.7ppm and 15 TPH respectively in borings B-4 and B-5.

Remaining hydrocarbon-impacted soils at the Site are located at a depth of at least 5 ft bgs and pose no threat to surface water bodies. The nearest surface water body, as defined in the NMOCD Guidelines for Remediation of Leaks, Spills and Releases, is approximately 5 miles to the west. **Figure 3** shows the USGS streams within 1000 feet of the site.

Based on the above information, CRA, on behalf of ConocoPhillips respectfully requests that No Further Action Status be granted for the Newberry No. 8 Site.



**CONESTOGA-ROVERS
& ASSOCIATES**

July 13, 2015

- 5 -

Reference No. 074918-2AS00

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Jeff Walker, CPG, PMP

Bernie Bockisch, PMP

JW/amm/1

Encl. Table 1- Soil Laboratory Analytical Results Summary
Figure 1- Vicinity Map
Figure 2- Boring Location Map
Figure 3- USGS Stream Proximity Map
Laboratory Report

Figures




FIGURE 1.

Site Location Map

ConocoPhillips Company
Newberry No. 8
San Juan County, NM



 ConocoPhillips Company
Newberry No. 8 Site
Location

Latitude: 36.91791° N
Longitude: -108.09528° W



TABLE 1

SOIL LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
NEWBERRY No. 8
SAN JUAN COUNTY, NM

Boring ID	Sample Interval (ft)	Sample ID	Date	PID (ppm)	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Toluene (mg/kg)	Xylenes (total) (mg/kg)	Total BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	Total TPH (mg/kg)
B-1	(28-29)	S-074918-111111-CM-B1(28-29)	11/11/11	18.8	<0.0064	0.0069	<0.0064	0.0873	0.0942	<11.1	<19.3	< 30.4
B-2	(30-31)	S-074918-111111-CM-B2(30-31)	11/11/11	1890	<0.0065	0.0181	0.0129	0.2360	0.2670	36.2	30.1	66.3
B-4	20-21.5	S-074918-060215-CB-B4-20-21.5	6/2/2015	2155	< 0.27	0.6500	0.3900	9.0000	10.04	356.0	69.0	425.00
B-4	25-26.5	S-074918-060215-CB-B4-25-26.5	6/2/2015	1326	< 0.31	2.4000	3.0000	28.1000	33.50	308.0	440.0	748.00
B-4	30-31.5	S-074918-060215-CB-B4-30-31.5	6/2/2015	1749	< 0.0056	0.0110	< 0.0056	0.1900	0.201	85.2	43.8	129.00
B-4	35-36.5	S-074918-060215-CB-B4-35-36.5	6/2/2015	5.2	< 0.0055	< 0.0055	< 0.0055	0.0460	0.046	< 10.8	< 10.9	< 21.7
B-5	15-16.5	S-074918-060215-CB-B5-15-16.5	6/2/2015	137.1	< 0.0056	< 0.0056	< 0.0056	< 0.011	< 0.0278	36.8	< 11.1	36.8
B-5	20-21.5	S-074918-060215-CB-B5-20-21.5	6/2/2015	2653	< 0.26	< 0.26	< 0.26	< 0.52	< 1.04	135.0	19.5	154.50
B-5	25-26.5	S-074918-060215-CB-B5-25-26.5	6/2/2015	2493	< 0.30	< 0.30	< 0.30	1.2000	1.20	154.0	58.2	212.20
B-5	30-31.5	S-074918-060215-CB-B5-30-31.5	6/2/2015	1989	< 0.29	< 0.29	< 0.29	1.8000	1.80	79.3	37.0	116.30
B-5	35-36.5	S-074918-060215-CB-B5-35-36.5	6/2/2015	135.9	< 0.0054	< 0.0054	< 0.0054	0.0220	0.022	15.0	< 10.8	15.0
NMOCD Soil Guidelines					10.0	NE	NE	NE	50.0	NE	NE	1000

Notes:

NMOCD = New Mexico Oil Conservation Division

mg/kg = milligrams per kilogram (parts per million)

BTEX = benzene, toluene, ethylbenzene, and xylenes

TPH = total petroleum hydrocarbons

DRO = diesel range organics

GRO = gasoline range organics

<0.001 = Below laboratory detection limit of 0.001 mg/L

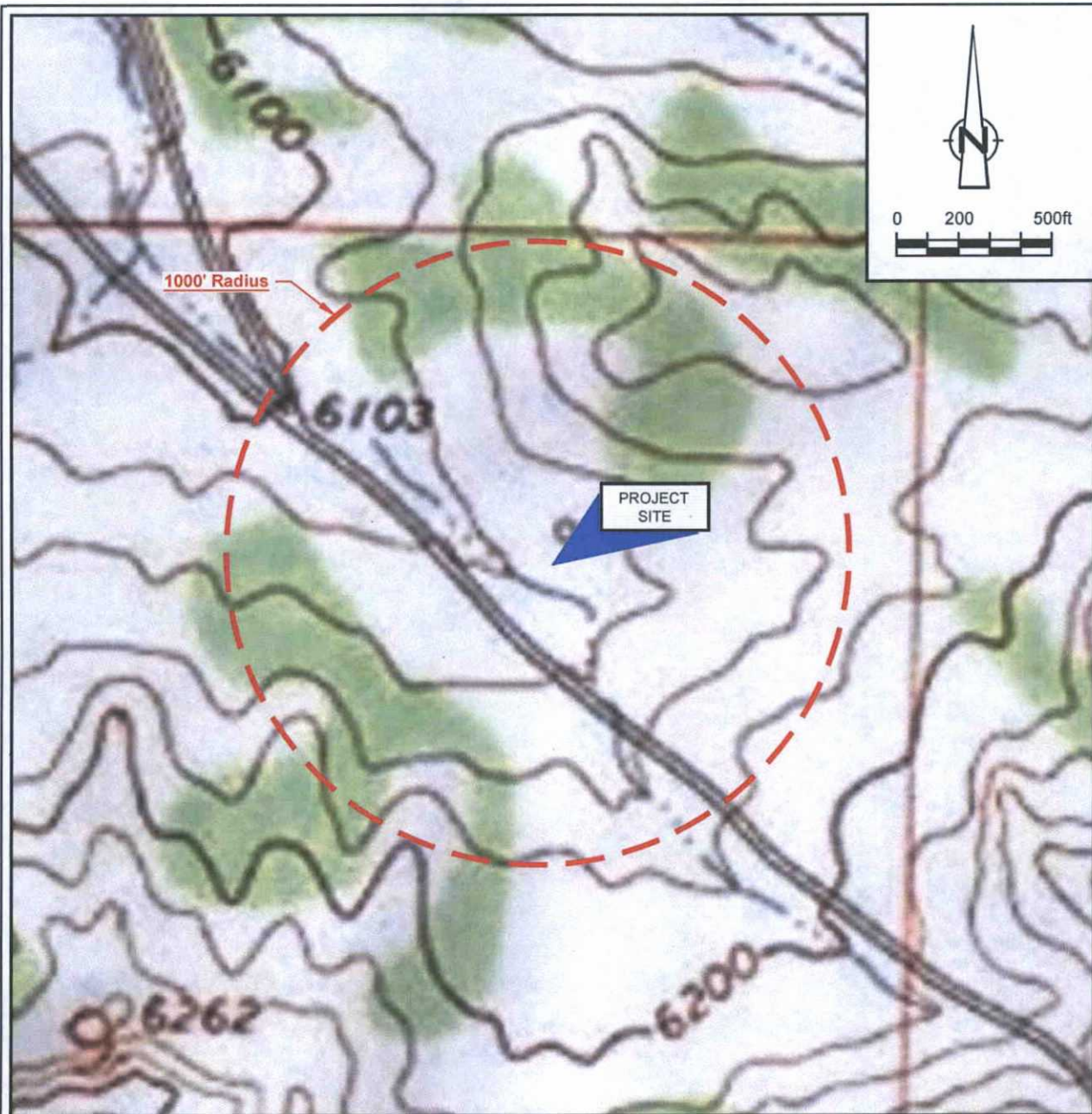
Bold = concentrations that exceed the NMOCD guidelines



Figure 2

SITE MAP
NEWBERRY No. 8 NATURAL GAS PRODUCTION SITE
SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company





SOURCE: USGS 7.5 MINUTE QUAD
"ADOBE DOWNS RANCH, NEW MEXICO"

LAT/LONG: 36.9177° NORTH, 108.0959° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO WEST

Figure 3
USGS STREAM PROXIMITY MAP
NEWBERRY No. 8 NATURAL GAS PRODUCTION SITE
SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company



Tables



Appendix A

Soil Boring Logs

PROJECT NAME: Newberry No. 8
 LOCATION: San Juan County, New Mexico
 FIELD LOGGED BY: Cassie Brown
 SURFACE ELEVATION (msl): No Survey Available
 GROUNDWATER ELEVATION (msl): N/A
 REMARKS:
 COORDINATES: 36° 55' 3.72", -108° 5' 45.96"

SOIL BORING NO: B-4
 DRILL TYPE: Hollow Stem Auger
 CME-85
 BORE HOLE DIAMETER: 7 7/8"
 DRILLED BY: National EWP
 DATE/TIME HOLE STARTED: June 2, 2015 at 0845
 DATE/TIME HOLE COMPLETED: June 2, 2015 at 1010

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	TPH (mg/kg)	DEPTH (bgs) - ft
0					SC: Sand, clayey, fine grained, brown, some small cobbles and large gravel			0
-5					Light brown, trace sandstone gravel	1.2		-5
-10					Some gravel	1.4		-10
-15					SP: Sand, poorly graded, fine to medium grained, brown, some silt and clay, trace small gravel	10.5		-15
-20	X	B-4 (20- 21.5)			Trace silt and clay, some black staining between 20' and 21.5'	2155	425	-20
-25	X	B-4 (25- 26.5)			CL: Clay, black to light gray, with silt and some fine grained sand	1326	748	-25
-30	X	B-4 (30- 31.5)			Weathered shale: hard, gray, dry, trace fine grained sand	1749	129	-30
-35	X	B-4 (35- 36.5)			Sandstone: well sorted, fine grained, tan, some silt	5.2	< 21.7	-35

TD = 36.5 feet bgs



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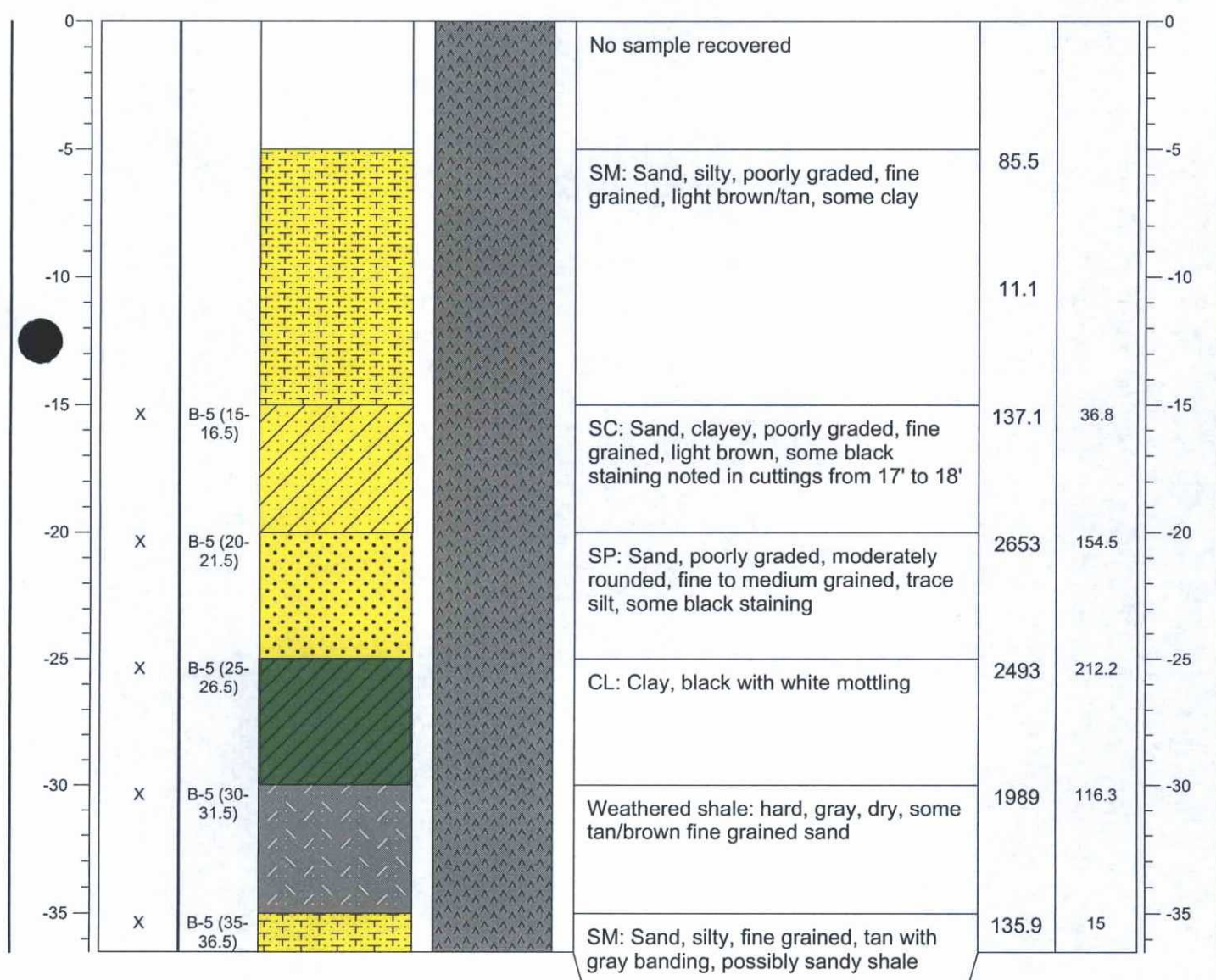
BORING LOG AND
WELL COMPLETION FORM

page 1 of 1

PROJECT NAME: Newberry No. 8
 LOCATION: San Juan County, New Mexico
 FIELD LOGGED BY: Cassie Brown
 SURFACE ELEVATION (msl): No Survey Available
 GROUNDWATER ELEVATION (msl): N/A
 REMARKS:
 COORDINATES: 36° 55' 4", -108° 5' 46"

SOIL BORING NO: B-5
 DRILL TYPE: Hollow Stem Auger
 CME-85
 BORE HOLE DIAMETER: 7 7/8"
 DRILLED BY: National EWP
 DATE/TIME HOLE STARTED: June 2, 2015 at 1040
 DATE/TIME HOLE COMPLETED: June 2, 2015 at 1150

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	TPH (mg/kg)	DEPTH (bgs) - ft
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TD = 36.5 feet bgs



CONESTOGA-ROVERS
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BORING LOG AND
WELL COMPLETION FORM

page 1 of 1

Appendix B

Analytical Data





Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 18, 2015

Angela Bown
Conestoga Rovers & Associates
9033 Meridian Way
West Chester, OH 45069

RE: Project: 074918 Newberry No 8
Pace Project No.: 60195666

Dear Angela Bown:

Enclosed are the analytical results for sample(s) received by the laboratory on June 04, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alice Flanagan
alice.flanagan@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: 074918 Newberry No 8
Pace Project No.: 60195666

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: 074918 Newberry No 8
Pace Project No.: 60195666

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60195666001	S-074918-060215-CB-B4-20-21.5	Solid	06/02/15 09:30	06/04/15 08:25
60195666002	S-074918-060215-CB-B4-25-26.5	Solid	06/02/15 09:38	06/04/15 08:25
60195666003	S-074918-060215-CB-B4-30-31.5	Solid	06/02/15 09:45	06/04/15 08:25
60195666004	S-074918-060215-CB-B4-35-36.5	Solid	06/02/15 10:15	06/04/15 08:25
60195666005	S-074918-060215-CB-B5-15-16.5	Solid	06/02/15 10:55	06/04/15 08:25
60195666006	S-074918-060215-CB-B5-20-21.5	Solid	06/02/15 11:00	06/04/15 08:25
60195666007	S-074918-060215-CB-B5-25-26.5	Solid	06/02/15 11:12	06/04/15 08:25
60195666008	S-074918-060215-CB-B5-30-31.5	Solid	06/02/15 11:22	06/04/15 08:25
60195666009	S-074918-060215-CB-B5-35-36.5	Solid	06/02/15 11:30	06/04/15 08:25
60195666010	TB-074918-060215-CB-TB	Solid	06/02/15 11:00	06/04/15 08:25

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 074918 Newberry No 8
Pace Project No.: 60195666

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60195666001	S-074918-060215-CB-B4-20-21.5	EPA 8015B	ACW	3
		EPA 8015B	JTK	2
		EPA 6010	JGP	1
		EPA 5035A/8260	TJT	7
		ASTM D2974	DWC	1
60195666002	S-074918-060215-CB-B4-25-26.5	EPA 8015B	ACW	3
		EPA 8015B	JTK	2
		EPA 5035A/8260	TJT	7
		ASTM D2974	DWC	1
60195666003	S-074918-060215-CB-B4-30-31.5	EPA 8015B	ACW	3
		EPA 8015B	JTK	2
		EPA 5035A/8260	TJT	7
		ASTM D2974	DWC	1
60195666004	S-074918-060215-CB-B4-35-36.5	EPA 8015B	ACW	3
		EPA 8015B	JTK	2
		EPA 5035A/8260	TJT	7
		ASTM D2974	DWC	1
60195666005	S-074918-060215-CB-B5-15-16.5	EPA 8015B	ACW	3
		EPA 8015B	JTK	2
		EPA 5035A/8260	TJT	7
		ASTM D2974	DWC	1
60195666006	S-074918-060215-CB-B5-20-21.5	EPA 8015B	ACW	3
		EPA 8015B	JTK	2
		EPA 5035A/8260	TJT	7
		ASTM D2974	DWC	1
60195666007	S-074918-060215-CB-B5-25-26.5	EPA 8015B	ACW	3
		EPA 8015B	JTK	2
		EPA 5035A/8260	TJT	7
		ASTM D2974	DWC	1
60195666008	S-074918-060215-CB-B5-30-31.5	EPA 8015B	ACW	3
		EPA 8015B	JTK	2
		EPA 5035A/8260	TJT	7
		ASTM D2974	DWC	1
60195666009	S-074918-060215-CB-B5-35-36.5	EPA 8015B	ACW	3
		EPA 8015B	JTK	2
		EPA 5035A/8260	TJT	7
		ASTM D2974	DWC	1

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SAMPLE ANALYTE COUNT

Project: 074918 Newberry No 8
Pace Project No.: 60195666

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60195666010	TB-074918-060215-CB-TB	EPA 5035A/8260	TJT	7

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ANALYTICAL RESULTS

Project: 074918 Newberry No 8
Pace Project No.: 60195666

Sample: S-074918-060215-CB-B4-20-21.5 Lab ID: 60195666001 Collected: 06/02/15 09:30 Received: 06/04/15 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 3546								
TPH-DRO	356	mg/kg	10.7	1	06/05/15 00:00	06/07/15 05:10		
Surrogates								
n-Tetracosane (S)	167	%	18-139	1	06/05/15 00:00	06/07/15 05:10	646-31-1	1e
p-Terphenyl (S)	82	%	51-120	1	06/05/15 00:00	06/07/15 05:10	92-94-4	
Gasoline Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
TPH-GRO	69.0	mg/kg	10.8	1	06/12/15 15:17	06/15/15 13:54		
Surrogates								
4-Bromofluorobenzene (S)	83	%	68-144	1	06/12/15 15:17	06/15/15 13:54	460-00-4	
6010 MET ICP Red. Interference								
Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Manganese	135	mg/kg	0.50	1	06/08/15 11:00	06/17/15 15:17	7439-96-5	
8260 MSV GRO and Oxygenates								
Analytical Method: EPA 5035A/8260								
Benzene	ND	mg/kg	0.27	50		06/05/15 12:30	71-43-2	
Ethylbenzene	0.65	mg/kg	0.27	50		06/05/15 12:30	100-41-4	
Toluene	0.39	mg/kg	0.27	50		06/05/15 12:30	108-88-3	
Xylene (Total)	9.0	mg/kg	0.54	50		06/05/15 12:30	1330-20-7	
Surrogates								
Toluene-d8 (S)	105	%	82-137	50		06/05/15 12:30	2037-26-5	
4-Bromofluorobenzene (S)	105	%	82-119	50		06/05/15 12:30	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	81-142	50		06/05/15 12:30	17060-07-0	
Percent Moisture								
Analytical Method: ASTM D2974								
Percent Moisture	7.2	%	0.50	1		06/05/15 00:00		

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ANALYTICAL RESULTS

Project: 074918 Newberry No 8

Pace Project No.: 60195666

Sample: S-074918-060215-CB-B4-25-26.5 **Lab ID:** 60195666002 **Collected:** 06/02/15 09:38 **Received:** 06/04/15 08:25 **Matrix:** Solid*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics Analytical Method: EPA 8015B Preparation Method: EPA 3546								
TPH-DRO	308	mg/kg	12.2	1	06/05/15 00:00	06/07/15 05:18		
Surrogates								
n-Tetracosane (S)	134	%	18-139	1	06/05/15 00:00	06/07/15 05:18	646-31-1	
p-Terphenyl (S)	66	%	51-120	1	06/05/15 00:00	06/07/15 05:18	92-94-4	
Gasoline Range Organics Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
TPH-GRO	440	mg/kg	12.2	1	06/12/15 15:17	06/15/15 14:43		
Surrogates								
4-Bromofluorobenzene (S)	94	%	68-144	1	06/12/15 15:17	06/15/15 14:43	460-00-4	
8260 MSV GRO and Oxygenates Analytical Method: EPA 5035A/8260								
Benzene	ND	mg/kg	0.31	50		06/05/15 13:16	71-43-2	
Ethylbenzene	2.4	mg/kg	0.31	50		06/05/15 13:16	100-41-4	
Toluene	3.0	mg/kg	0.31	50		06/05/15 13:16	108-88-3	
Xylene (Total)	28.1	mg/kg	0.62	50		06/05/15 13:16	1330-20-7	
Surrogates								
Toluene-d8 (S)	117	%	82-137	50		06/05/15 13:16	2037-26-5	
4-Bromofluorobenzene (S)	106	%	82-119	50		06/05/15 13:16	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	81-142	50		06/05/15 13:16	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974								
Percent Moisture	18.6	%	0.50	1		06/05/15 00:00		

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ANALYTICAL RESULTS

Project: 074918 Newberry No 8
Pace Project No.: 60195666

Sample: S-074918-060215-CB-B4-30-31.5 Lab ID: 60195666003 Collected: 06/02/15 09:45 Received: 06/04/15 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 3546								
TPH-DRO	85.2	mg/kg	11.2	1	06/05/15 00:00	06/07/15 05:26		
Surrogates								
n-Tetracosane (S)	106	%	18-139	1	06/05/15 00:00	06/07/15 05:26	646-31-1	
p-Terphenyl (S)	84	%	51-120	1	06/05/15 00:00	06/07/15 05:26	92-94-4	
Gasoline Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
TPH-GRO	43.8	mg/kg	11.2	1	06/12/15 15:17	06/15/15 15:00		
Surrogates								
4-Bromofluorobenzene (S)	86	%	68-144	1	06/12/15 15:17	06/15/15 15:00	460-00-4	
8260 MSV GRO and Oxygenates								
Analytical Method: EPA 5035A/8260								
Benzene	ND	mg/kg	0.0056	1		06/05/15 16:58	71-43-2	
Ethylbenzene	0.011	mg/kg	0.0056	1		06/05/15 16:58	100-41-4	
Toluene	ND	mg/kg	0.0056	1		06/05/15 16:58	108-88-3	
Xylene (Total)	0.19	mg/kg	0.011	1		06/05/15 16:58	1330-20-7	
Surrogates								
Toluene-d8 (S)	110	%	82-137	1		06/05/15 16:58	2037-26-5	
4-Bromofluorobenzene (S)	103	%	82-119	1		06/05/15 16:58	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	81-142	1		06/05/15 16:58	17060-07-0	
Percent Moisture								
Analytical Method: ASTM D2974								
Percent Moisture	11.1	%	0.50	1		06/05/15 00:00		

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ANALYTICAL RESULTS

Project: 074918 Newberry No 8
Pace Project No.: 60195666

Sample: S-074918-060215-CB-B4-35-36.5 Lab ID: 60195666004 Collected: 06/02/15 10:15 Received: 06/04/15 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics Analytical Method: EPA 8015B Preparation Method: EPA 3546								
TPH-DRO	ND	mg/kg	10.8	1	06/05/15 00:00	06/07/15 05:34		
Surrogates								
n-Tetracosane (S)	82	%	18-139	1	06/05/15 00:00	06/07/15 05:34	646-31-1	
p-Terphenyl (S)	76	%	51-120	1	06/05/15 00:00	06/07/15 05:34	92-94-4	
Gasoline Range Organics Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
TPH-GRO	ND	mg/kg	10.9	1	06/12/15 15:17	06/15/15 15:17		
Surrogates								
4-Bromofluorobenzene (S)	88	%	68-144	1	06/12/15 15:17	06/15/15 15:17	460-00-4	
8260 MSV GRO and Oxygenates Analytical Method: EPA 5035A/8260								
Benzene	ND	mg/kg	0.0055	1		06/05/15 17:13	71-43-2	
Ethylbenzene	ND	mg/kg	0.0055	1		06/05/15 17:13	100-41-4	
Toluene	ND	mg/kg	0.0055	1		06/05/15 17:13	108-88-3	
Xylene (Total)	0.046	mg/kg	0.011	1		06/05/15 17:13	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	82-137	1		06/05/15 17:13	2037-26-5	
4-Bromofluorobenzene (S)	99	%	82-119	1		06/05/15 17:13	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	81-142	1		06/05/15 17:13	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974								
Percent Moisture	8.6	%	0.50	1		06/05/15 00:00		

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Page 9 of 25

ANALYTICAL RESULTS

Project: 074918 Newberry No 8
Pace Project No.: 60195666

Sample: S-074918-060215-CB-B5-15-16.5 Lab ID: 60195666005 Collected: 06/02/15 10:55 Received: 06/04/15 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 3546								
TPH-DRO	36.8	mg/kg	11.1	1	06/05/15 00:00	06/07/15 05:42		
Surrogates								
n-Tetracosane (S)	96	%	18-139	1	06/05/15 00:00	06/07/15 05:42	646-31-1	
p-Terphenyl (S)	86	%	51-120	1	06/05/15 00:00	06/07/15 05:42	92-94-4	
Gasoline Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
TPH-GRO	ND	mg/kg	11.1	1	06/12/15 15:17	06/15/15 15:33		
Surrogates								
4-Bromofluorobenzene (S)	85	%	68-144	1	06/12/15 15:17	06/15/15 15:33	460-00-4	
8260 MSV GRO and Oxygenates								
Analytical Method: EPA 5035A/8260								
Benzene	ND	mg/kg	0.0056	1		06/05/15 12:14	71-43-2	
Ethylbenzene	ND	mg/kg	0.0056	1		06/05/15 12:14	100-41-4	
Toluene	ND	mg/kg	0.0056	1		06/05/15 12:14	108-88-3	
Xylene (Total)	ND	mg/kg	0.011	1		06/05/15 12:14	1330-20-7	
Surrogates								
Toluene-d8 (S)	97	%	82-137	1		06/05/15 12:14	2037-26-5	
4-Bromofluorobenzene (S)	101	%	82-119	1		06/05/15 12:14	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	81-142	1		06/05/15 12:14	17060-07-0	
Percent Moisture								
Analytical Method: ASTM D2974								
Percent Moisture	10	%	0.50	1		06/05/15 00:00		

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ANALYTICAL RESULTS

Project: 074918 Newberry No 8
Pace Project No.: 60195666

Sample: S-074918-060215-CB-B5-20-21.5 Lab ID: 60195666006 Collected: 06/02/15 11:00 Received: 06/04/15 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics Analytical Method: EPA 8015B Preparation Method: EPA 3546								
TPH-DRO	135	mg/kg	10.2	1	06/05/15 00:00	06/07/15 05:50		
Surrogates								
n-Tetracosane (S)	126	%	18-139	1	06/05/15 00:00	06/07/15 05:50	646-31-1	
p-Terphenyl (S)	83	%	51-120	1	06/05/15 00:00	06/07/15 05:50	92-94-4	
Gasoline Range Organics Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
TPH-GRO	19.5	mg/kg	10.3	1	06/12/15 15:17	06/15/15 15:50		
Surrogates								
4-Bromofluorobenzene (S)	87	%	68-144	1	06/12/15 15:17	06/15/15 15:50	460-00-4	
8260 MSV GRO and Oxygenates Analytical Method: EPA 5035A/8260								
Benzene	ND	mg/kg	0.26	50		06/05/15 14:02	71-43-2	
Ethylbenzene	ND	mg/kg	0.26	50		06/05/15 14:02	100-41-4	
Toluene	ND	mg/kg	0.26	50		06/05/15 14:02	108-88-3	
Xylene (Total)	ND	mg/kg	0.52	50		06/05/15 14:02	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	82-137	50		06/05/15 14:02	2037-26-5	D3
4-Bromofluorobenzene (S)	98	%	82-119	50		06/05/15 14:02	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	81-142	50		06/05/15 14:02	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974								
Percent Moisture	3.6	%	0.50	1		06/05/15 00:00		

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Page 11 of 25

ANALYTICAL RESULTS

Project: 074918 Newberry No 8

Pace Project No.: 60195666

Sample: S-074918-060215-CB-B5-25-26.5 Lab ID: 60195666007 Collected: 06/02/15 11:12 Received: 06/04/15 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 3546								
TPH-DRO	154	mg/kg	12.1	1	06/05/15 00:00	06/07/15 05:57		
Surrogates								
n-Tetracosane (S)	111	%	18-139	1	06/05/15 00:00	06/07/15 05:57	646-31-1	
p-Terphenyl (S)	79	%	51-120	1	06/05/15 00:00	06/07/15 05:57	92-94-4	
Gasoline Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
TPH-GRO	58.2	mg/kg	12.2	1	06/12/15 15:17	06/15/15 16:40		
Surrogates								
4-Bromofluorobenzene (S)	88	%	68-144	1	06/12/15 15:17	06/15/15 16:40	460-00-4	
8260 MSV GRO and Oxygenates								
Analytical Method: EPA 5035A/8260								
Benzene	ND	mg/kg	0.30	50		06/05/15 14:17	71-43-2	
Ethylbenzene	ND	mg/kg	0.30	50		06/05/15 14:17	100-41-4	
Toluene	ND	mg/kg	0.30	50		06/05/15 14:17	108-88-3	
Xylene (Total)	1.2	mg/kg	0.61	50		06/05/15 14:17	1330-20-7	
Surrogates								
Toluene-d8 (S)	102	%	82-137	50		06/05/15 14:17	2037-26-5	
4-Bromofluorobenzene (S)	100	%	82-119	50		06/05/15 14:17	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	81-142	50		06/05/15 14:17	17060-07-0	
Percent Moisture								
Analytical Method: ASTM D2974								
Percent Moisture	17.9	%	0.50	1		06/05/15 00:00		

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ANALYTICAL RESULTS

Project: 074918 Newberry No 8

Pace Project No.: 60195666

Sample: S-074918-060215-CB-B5-30-31.5 Lab ID: 60195666008 Collected: 06/02/15 11:22 Received: 06/04/15 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 3546								
TPH-DRO	79.3	mg/kg	11.5	1	06/05/15 00:00	06/07/15 06:05		
Surrogates								
n-Tetracosane (S)	101	%	18-139	1	06/05/15 00:00	06/07/15 06:05	646-31-1	
p-Terphenyl (S)	82	%	51-120	1	06/05/15 00:00	06/07/15 06:05	92-94-4	
Gasoline Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
TPH-GRO	37.0	mg/kg	11.6	1	06/12/15 15:17	06/15/15 16:56		
Surrogates								
4-Bromofluorobenzene (S)	84	%	68-144	1	06/12/15 15:17	06/15/15 16:56	460-00-4	
8260 MSV GRO and Oxygenates								
Analytical Method: EPA 5035A/8260								
Benzene	ND	mg/kg	0.29	50		06/05/15 14:32	71-43-2	
Ethylbenzene	ND	mg/kg	0.29	50		06/05/15 14:32	100-41-4	
Toluene	ND	mg/kg	0.29	50		06/05/15 14:32	108-88-3	
Xylene (Total)	1.8	mg/kg	0.57	50		06/05/15 14:32	1330-20-7	
Surrogates								
Toluene-d8 (S)	102	%	82-137	50		06/05/15 14:32	2037-26-5	
4-Bromofluorobenzene (S)	100	%	82-119	50		06/05/15 14:32	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	81-142	50		06/05/15 14:32	17060-07-0	
Percent Moisture								
Analytical Method: ASTM D2974								
Percent Moisture	13.6	%	0.50	1		06/05/15 00:00		

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ANALYTICAL RESULTS

Project: 074918 Newberry No 8
Pace Project No.: 60195666

Sample: S-074918-060215-CB-B5-35-36.5 Lab ID: 60195666009 Collected: 06/02/15 11:30 Received: 06/04/15 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 3546								
TPH-DRO	15.0	mg/kg	10.8	1	06/05/15 00:00	06/07/15 06:13		
Surrogates								
n-Tetracosane (S)	133	%	18-139	1	06/05/15 00:00	06/07/15 06:13	646-31-1	
p-Terphenyl (S)	79	%	51-120	1	06/05/15 00:00	06/07/15 06:13	92-94-4	
Gasoline Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
TPH-GRO	ND	mg/kg	10.8	1	06/12/15 15:17	06/15/15 17:13		
Surrogates								
4-Bromofluorobenzene (S)	89	%	68-144	1	06/12/15 15:17	06/15/15 17:13	460-00-4	
8260 MSV GRO and Oxygenates								
Analytical Method: EPA 5035A/8260								
Benzene	ND	mg/kg	0.0054	1		06/09/15 04:05	71-43-2	
Ethylbenzene	ND	mg/kg	0.0054	1		06/09/15 04:05	100-41-4	
Toluene	ND	mg/kg	0.0054	1		06/09/15 04:05	108-88-3	
Xylene (Total)	0.022	mg/kg	0.011	1		06/09/15 04:05	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	82-137	1		06/09/15 04:05	2037-26-5	
4-Bromofluorobenzene (S)	98	%	82-119	1		06/09/15 04:05	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	81-142	1		06/09/15 04:05	17060-07-0	
Percent Moisture								
Analytical Method: ASTM D2974								
Percent Moisture	8.0	%	0.50	1		06/05/15 00:00		

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ANALYTICAL RESULTS

Project: 074918 Newberry No 8
Pace Project No.: 60195666

Sample: TB-074918-060215-CB-TB Lab ID: 60195666010 Collected: 06/02/15 11:00 Received: 06/04/15 08:25 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates		Analytical Method: EPA 5035A/8260						
Benzene	ND	mg/kg	0.0050	1		06/05/15 11:13	71-43-2	
Ethylbenzene	ND	mg/kg	0.0050	1		06/05/15 11:13	100-41-4	
Toluene	ND	mg/kg	0.0050	1		06/05/15 11:13	108-88-3	
Xylene (Total)	ND	mg/kg	0.010	1		06/05/15 11:13	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	82-137	1		06/05/15 11:13	2037-26-5	
4-Bromofluorobenzene (S)	100	%	82-119	1		06/05/15 11:13	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	81-142	1		06/05/15 11:13	17060-07-0	

REPORT OF LABORATORY ANALYSIS

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Date: 06/18/2015 01:02 PM

Page 15 of 25

QUALITY CONTROL DATA

Project: 074918 Newberry No 8
Pace Project No.: 60195666

QC Batch: GCV/5094 Analysis Method: EPA 8015B
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 60195666001, 60195666002, 60195666003, 60195666004, 60195666005, 60195666006, 60195666007, 60195666008, 60195666009

METHOD BLANK: 1584706 Matrix: Solid
Associated Lab Samples: 60195666001, 60195666002, 60195666003, 60195666004, 60195666005, 60195666006, 60195666007, 60195666008, 60195666009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	06/15/15 11:33	
4-Bromofluorobenzene (S)	%	90	68-144	06/15/15 11:33	

LABORATORY CONTROL SAMPLE: 1584707

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	43.4	87	67-115	
4-Bromofluorobenzene (S)	%			91	68-144	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1584708 1584709

Parameter	Units	60195666001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
TPH-GRO	mg/kg	69.0	53.9	53.9	129	117	112	89	49-122	10	
4-Bromofluorobenzene (S)	%						91	91	68-144	14	

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QUALITY CONTROL DATA

Project: 074918 Newberry No 8
Pace Project No.: 60195666

QC Batch:	MPRP/32086	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3050	Analysis Description:	6010 MET
Associated Lab Samples:	60195666001		

METHOD BLANK: 1581352 Matrix: Solid
Associated Lab Samples: 60195666001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese	mg/kg	ND	0.50	06/12/15 15:57	

LABORATORY CONTROL SAMPLE: 1581353

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	mg/kg	100	106	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1581354 1581355

Parameter	Units	60195669001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Manganese	mg/kg	62.2	159	166	220	229	99	101	75-125	4 20	

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QUALITY CONTROL DATA

Project: 074918 Newberry No 8

Pace Project No.: 60195666

QC Batch: MSV/69888 Analysis Method: EPA 5035A/8260
QC Batch Method: EPA 5035A/8260 Analysis Description: 8260 MSV GRO and Oxygenates
Associated Lab Samples: 60195666001, 60195666002, 60195666003, 60195666004, 60195666005, 60195666006, 60195666007, 60195666008, 60195666010

METHOD BLANK: 1580303

Matrix: Solid

Associated Lab Samples: 60195666001, 60195666002, 60195666003, 60195666004, 60195666005, 60195666006, 60195666007, 60195666008, 60195666010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0050	06/05/15 10:57	
Ethylbenzene	mg/kg	ND	0.0050	06/05/15 10:57	
Toluene	mg/kg	ND	0.0050	06/05/15 10:57	
Xylene (Total)	mg/kg	ND	0.010	06/05/15 10:57	
1,2-Dichloroethane-d4 (S)	%	100	81-142	06/05/15 10:57	
4-Bromofluorobenzene (S)	%	99	82-119	06/05/15 10:57	
Toluene-d8 (S)	%	99	82-137	06/05/15 10:57	

LABORATORY CONTROL SAMPLE: 1580304

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.1	0.10	100	76-120	
Ethylbenzene	mg/kg	.1	0.097	97	70-129	
Toluene	mg/kg	.1	0.097	97	73-125	
Xylene (Total)	mg/kg	.3	0.29	97	71-128	
1,2-Dichloroethane-d4 (S)	%			99	81-142	
4-Bromofluorobenzene (S)	%			99	82-119	
Toluene-d8 (S)	%			100	82-137	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1580305 1580306

Parameter	Units	60195666001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Benzene	mg/kg	ND	5.4	5.4	5.3	5.2	99	97	23-143	2	30
Ethylbenzene	mg/kg	0.65	5.4	5.4	5.4	5.3	89	86	10-161	3	30
Toluene	mg/kg	0.39	5.4	5.4	5.2	5.1	90	87	14-153	2	33
Xylene (Total)	mg/kg	9.0	16.1	16.1	19.1	18.9	63	61	10-168	1	64
1,2-Dichloroethane-d4 (S)	%						97	97	81-142		
4-Bromofluorobenzene (S)	%						104	104	82-119		
Toluene-d8 (S)	%						102	101	82-137		

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QUALITY CONTROL DATA

Project: 074918 Newberry No 8
Pace Project No.: 60195666

QC Batch: MSV/69930 Analysis Method: EPA 5035A/8260
QC Batch Method: EPA 5035A/8260 Analysis Description: 8260 MSV GRO and Oxygenates
Associated Lab Samples: 60195666009

METHOD BLANK: 1581609 Matrix: Solid
Associated Lab Samples: 60195666009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0050	06/08/15 22:58	
Ethylbenzene	mg/kg	ND	0.0050	06/08/15 22:58	
Toluene	mg/kg	ND	0.0050	06/08/15 22:58	
Xylene (Total)	mg/kg	ND	0.010	06/08/15 22:58	
1,2-Dichloroethane-d4 (S)	%	97	81-142	06/08/15 22:58	
4-Bromofluorobenzene (S)	%	98	82-119	06/08/15 22:58	
Toluene-d8 (S)	%	99	82-137	06/08/15 22:58	

LABORATORY CONTROL SAMPLE: 1581610

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.1	0.10	101	76-120	
Ethylbenzene	mg/kg	.1	0.094	94	70-129	
Toluene	mg/kg	.1	0.095	95	73-125	
Xylene (Total)	mg/kg	.3	0.28	95	71-128	
1,2-Dichloroethane-d4 (S)	%			98	81-142	
4-Bromofluorobenzene (S)	%			99	82-119	
Toluene-d8 (S)	%			100	82-137	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1581618 1581619

Parameter	Units	60195786001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Benzene	mg/kg	ND	.11	.11	0.074	0.085	69	77	23-143	14	30
Ethylbenzene	mg/kg	ND	.11	.11	0.068	0.078	64	71	10-161	14	30
Toluene	mg/kg	ND	.11	.11	0.069	0.079	64	71	14-153	14	33
Xylene (Total)	mg/kg	ND	.33	.33	0.20	0.23	62	70	10-168	14	64
1,2-Dichloroethane-d4 (S)	%						104	104	81-142		
4-Bromofluorobenzene (S)	%						99	99	82-119		
Toluene-d8 (S)	%						98	99	82-137		

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QUALITY CONTROL DATA

Project: 074918 Newberry No 8
Pace Project No.: 60195666

QC Batch:	OEXT/49675	Analysis Method:	EPA 8015B
QC Batch Method:	EPA 3546	Analysis Description:	EPA 8015B
Associated Lab Samples:	60195666001, 60195666002, 60195666003, 60195666004, 60195666005, 60195666006, 60195666007, 60195666008, 60195666009		

METHOD BLANK: 1580188 Matrix: Solid
Associated Lab Samples: 60195666001, 60195666002, 60195666003, 60195666004, 60195666005, 60195666006, 60195666007, 60195666008, 60195666009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO	mg/kg	ND	10	06/07/15 04:39	
n-Tetracosane (S)	%	89	18-139	06/07/15 04:39	
p-Terphenyl (S)	%	84	51-120	06/07/15 04:39	

LABORATORY CONTROL SAMPLE: 1580189

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO	mg/kg	82.9	85.2	103	76-115	
n-Tetracosane (S)	%			95	18-139	
p-Terphenyl (S)	%			90	51-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1580190 1580191

Parameter	Units	60195666001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
TPH-DRO	mg/kg	356	89.2	88.7	484	444	143	99	12-159	9	37
n-Tetracosane (S)	%						165	167	18-139		1e
p-Terphenyl (S)	%						80	82	51-120		

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Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: 074918 Newberry No 8
Pace Project No.: 60195666

QC Batch: PMST/10795 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60195666001, 60195666002, 60195666003, 60195666004, 60195666005, 60195666006, 60195666007,
60195666008, 60195666009

METHOD BLANK: 1580143 Matrix: Solid
Associated Lab Samples: 60195666001, 60195666002, 60195666003, 60195666004, 60195666005, 60195666006, 60195666007,
60195666008, 60195666009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	06/05/15 00:00	

SAMPLE DUPLICATE: 1580144

Parameter	Units	60195673001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.3	10.0	2	20	

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Date: 06/18/2015 01:02 PM

Page 21 of 25

QUALIFIERS

Project: 074918 Newberry No 8
Pace Project No.: 60195666

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1e	Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by re-analysis).
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074918 Newberry No 8

Pace Project No.: 60195666

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60195666001	S-074918-060215-CB-B4-20-21.5	EPA 3546	OEXT/49675	EPA 8015B	GCSV/19082
60195666002	S-074918-060215-CB-B4-25-26.5	EPA 3546	OEXT/49675	EPA 8015B	GCSV/19082
60195666003	S-074918-060215-CB-B4-30-31.5	EPA 3546	OEXT/49675	EPA 8015B	GCSV/19082
60195666004	S-074918-060215-CB-B4-35-36.5	EPA 3546	OEXT/49675	EPA 8015B	GCSV/19082
60195666005	S-074918-060215-CB-B5-15-16.5	EPA 3546	OEXT/49675	EPA 8015B	GCSV/19082
60195666006	S-074918-060215-CB-B5-20-21.5	EPA 3546	OEXT/49675	EPA 8015B	GCSV/19082
60195666007	S-074918-060215-CB-B5-25-26.5	EPA 3546	OEXT/49675	EPA 8015B	GCSV/19082
60195666008	S-074918-060215-CB-B5-30-31.5	EPA 3546	OEXT/49675	EPA 8015B	GCSV/19082
60195666009	S-074918-060215-CB-B5-35-36.5	EPA 3546	OEXT/49675	EPA 8015B	GCSV/19082
60195666001	S-074918-060215-CB-B4-20-21.5	EPA 5035A/5030B	GCV/5094	EPA 8015B	GCV/5095
60195666002	S-074918-060215-CB-B4-25-26.5	EPA 5035A/5030B	GCV/5094	EPA 8015B	GCV/5095
60195666003	S-074918-060215-CB-B4-30-31.5	EPA 5035A/5030B	GCV/5094	EPA 8015B	GCV/5095
60195666004	S-074918-060215-CB-B4-35-36.5	EPA 5035A/5030B	GCV/5094	EPA 8015B	GCV/5095
60195666005	S-074918-060215-CB-B5-15-16.5	EPA 5035A/5030B	GCV/5094	EPA 8015B	GCV/5095
60195666006	S-074918-060215-CB-B5-20-21.5	EPA 5035A/5030B	GCV/5094	EPA 8015B	GCV/5095
60195666007	S-074918-060215-CB-B5-25-26.5	EPA 5035A/5030B	GCV/5094	EPA 8015B	GCV/5095
60195666008	S-074918-060215-CB-B5-30-31.5	EPA 5035A/5030B	GCV/5094	EPA 8015B	GCV/5095
60195666009	S-074918-060215-CB-B5-35-36.5	EPA 5035A/5030B	GCV/5094	EPA 8015B	GCV/5095
60195666001	S-074918-060215-CB-B4-20-21.5	EPA 3050	MPRP/32086	EPA 6010	ICP/23770
60195666001	S-074918-060215-CB-B4-20-21.5	EPA 5035A/8260	MSV/69888		
60195666002	S-074918-060215-CB-B4-25-26.5	EPA 5035A/8260	MSV/69888		
60195666003	S-074918-060215-CB-B4-30-31.5	EPA 5035A/8260	MSV/69888		
60195666004	S-074918-060215-CB-B4-35-36.5	EPA 5035A/8260	MSV/69888		
60195666005	S-074918-060215-CB-B5-15-16.5	EPA 5035A/8260	MSV/69888		
60195666006	S-074918-060215-CB-B5-20-21.5	EPA 5035A/8260	MSV/69888		
60195666007	S-074918-060215-CB-B5-25-26.5	EPA 5035A/8260	MSV/69888		
60195666008	S-074918-060215-CB-B5-30-31.5	EPA 5035A/8260	MSV/69888		
60195666009	S-074918-060215-CB-B5-35-36.5	EPA 5035A/8260	MSV/69930		
60195666010	TB-074918-060215-CB-TB	EPA 5035A/8260	MSV/69888		
60195666001	S-074918-060215-CB-B4-20-21.5	ASTM D2974	PMST/10795		
60195666002	S-074918-060215-CB-B4-25-26.5	ASTM D2974	PMST/10795		
60195666003	S-074918-060215-CB-B4-30-31.5	ASTM D2974	PMST/10795		
60195666004	S-074918-060215-CB-B4-35-36.5	ASTM D2974	PMST/10795		
60195666005	S-074918-060215-CB-B5-15-16.5	ASTM D2974	PMST/10795		
60195666006	S-074918-060215-CB-B5-20-21.5	ASTM D2974	PMST/10795		
60195666007	S-074918-060215-CB-B5-25-26.5	ASTM D2974	PMST/10795		
60195666008	S-074918-060215-CB-B5-30-31.5	ASTM D2974	PMST/10795		
60195666009	S-074918-060215-CB-B5-35-36.5	ASTM D2974	PMST/10795		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO#: 60195666



Client Name: CRA CORP NA

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

Tracking #: 7807 5949 1025

Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other ☐

Thermometer Used: CF-0.1 T-239 / CF-0.5 T-262

Type of Ice: Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 6/9

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Includes date/time/ID/analyses Matrix: <u>9L</u>		13.
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>020915-3</u>		15.
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	17. List State: <u>NM</u>

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AAF

Date: 06/04/15

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

Start: <u>1045</u>	Start:
End: <u>1052</u>	End:
Temp:	Temp:

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	CRA COP NM	Report To:	Brown, Cassie	Attention:	
Address:	6121 Indian School Rd	Copy To:	Jeff Walker	Company Name:	
Suite:	200, Albuquerque, NM 87110	Angela Bown		Address:	
Email:	gbrown@craworld.com	Purchase Order #:	4076164	Pace Quote:	
Phone:	505-884-0872	Project Name:	074918 Newberry No. 8	Pace Project Manager:	alice.fanagan@pacerlabs.com
Requested Due Date:		Project #:		Pace Profile #:	8443.3

Page: 1 Of 1

Regulatory Agency	
State / Location	
NM	

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Sample IDs must be unique	MATRIX Drinking Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	COLLECTED		SAMPLE TYPE (G-GRAB C-COMP)	MATRIX CODE (see valid codes to left)	SAMPLE TEMP AT COLLECTION				# OF CONTAINERS	Preservatives							Analyses Test	Y/N	B260 BTEX	B015 DRO	GRO by B015B	Mn by LDO	Residual Chlorine (Y/N)	60195666																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
				START	END			H2SO4	HNO3	HCl	NaOH		Na2S2O3	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
1	S. 074918. 000215. CB. BA. 20-21.5	SLG		---	12/15/00	---	44																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please collect GRO from BTEX container if GRO volume	Angela Bown / CRA	12/15/00	1100	J. S. Brown	6/4	0825	12 Y Y Y

SAMPLER NAME AND SIGNATURE:		DATE SIGNED:
PRINT Name of SAMPLER:		06/15
SIGNATURE of SAMPLER:		

Kelly, Jonathan, EMNRD

From: Walker, Jeffrey <jwalker@craworld.com>
Sent: Thursday, March 20, 2014 11:42 AM
To: Kelly, Jonathan, EMNRD
Subject: Newberry No. 8

Follow Up Flag: Follow up
Flag Status: Flagged

Jonathan/Brandon,

In response to your questions about the boring logs and field screening results for the subject site closure petition, I have inquired of people involved with the excavation observation and with collection of confirmation borings and have been offered the following explanations:

Boring Log Descriptions:

Eric Smith, the On-Site project manager for the excavation and backfill work at this site, said that Aztec Machine (Aztec) was used as a source for clean fill at that time. Aztec owns a large tract of land where they have been digging into a hillside to create level terraces. Eric said that the sandstone from the Aztec property sometimes has a light grey coating on it that he described as "caliche-like." Eric thinks that could be what was described as "staining." When told about the report of brick being brought to the surface from the augering, Eric mentioned that the fill from Aztec sometimes contains some fairly large rocks or rock fragments that could be mistaken for brick. He doubts very much that there was any man-made brick in the fill.

Eric said that Brandon Powell would know exactly what is meant by the caliche-like staining on the sandstone. Eric also offered to arrange for the OCD to visit the Aztec Machine property to see the source for the fill, if needed.

PID Readings:

Two possibilities were offered- 1) a small portion of the originally excavated material that had been stockpiled outside of the excavation was pushed back in the excavation; 2) the last Envirotech excavation bottom sample from 30 feet (September 16, 2011) indicated TPH was still in excess of NMOCD guidelines. This must have been the limit of backhoe's reach, and therefore why potassium permanganate was then introduced. Remaining hydrocarbons at bottom may have off-gassed into subsequent clean fill then introduced into excavation resulting in elevated PID readings.

While these scenarios may fall short of completely explaining the high PID readings in 2011, it is worth emphasizing that confirmatory Geoprobe samples collected from the bottom of the excavation in November 2011 were below action levels, there is no longer a large hydrocarbon source remaining-certainly minimal at most, and such that would not present a risk to groundwater at ~80 feet deep-and a significant volume of clean fill was used to backfill the excavation.

We appreciate your willingness to reconsider this request for closure, and for being afforded the opportunity to address these very valid questions. CRA, on behalf of ConocoPhillips, reasserts the request for closure for the Newberry No. 8 site based on the significant amount of source removal, application of potassium permanganate to address any residual hydrocarbons, and the depth to water. COP will abide by your decision and will appreciate guidance towards achieving closure for the Newberry No. 8 site should it not be granted at this time.

Thank you-Jeff Walker

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: ConocoPhillips Company	Contact: Terry Lauck
Address: 1380G Plaza Office Bldg., 315 Johnstone Ave., Bartlesville, OK 74004	Telephone No.: 918-661-0935
Facility Name: Newberry No. 8	Facility Type: Gas Well

Surface Owner: Federal	Mineral Owner: Federal	Lease No.: Fee
------------------------	------------------------	----------------

LOCATION OF RELEASE

Unit Letter A	Section 9	Township T31N	Range R12W	Feet from the 990	North/South Line N	Feet from the 1187	East/West Line E	County San Juan
------------------	--------------	------------------	---------------	----------------------	-----------------------	-----------------------	---------------------	--------------------

Latitude 36.9178 N Longitude -108.09534 W

NATURE OF RELEASE

Type of Release: Unknown	Volume of Release: Unknown	Volume Recovered: 0
Source of Release: Historical	Date and Hour of Occurrence: Historical	Date and Hour of Discovery: August 16, 2011. Hour unknown
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? E-mail to Brandon Powell (NMOCD)	
By Whom? Kelsi G. Harrington, ConocoPhillips	Date and Hour: September 6, 2011, 4:31 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

RCVD FEB 5 '14
OIL CONS. DIV.
DIST. 3

If a Watercourse was Impacted, Describe Fully.*

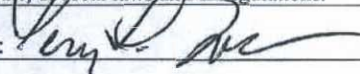

Describe Cause of Problem and Remedial Action Taken.*

Historical release; source unknown. Initial excavation of an area approximately 20' x 15' x 4' deep; confirmation sample results from excavation were above NMOCD action levels on south and east sides. Additional assessment/soil removal necessary.

Describe Area Affected and Cleanup Action Taken.*

September 9, 2011- Additional excavation of impacted soil: excavation measures 50' x 48' x 25' deep. Confirmation samples collected from all sides and from bottom; bottom sample result exceeded NMOCD action level for TPH. September 16, 2011- Excavation deepened to 30' with final dimensions 50' x 48' x 30'. Bottom sample again exceeded NMOCD action level for TPH. September 21, 2011- Potassium permanganate was applied to the bottom of the excavation and then backfilled. November 11, 2011 - Three soil borings advanced using direct-push technology to determine extent of soils impacts remaining after the September 2011 soil excavation. The DPT borings encountered refusal in shale at depths from 29' to 32'. However, samples collected from total depths in DPT borings were below NMOCD action levels for TPH, BTEX and benzene. Groundwater at site is estimated at approximately 80 feet deep based on cathodic protection well records at adjacent site. Please refer to July 2012 CRA Boring Installation, Soil Sampling and Site Closure Request Report (attached). ConocoPhillips does not plan to take any further action with respect to site assessment 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: 	OIL CONSERVATION DIVISION	
Printed Name: Terry S. Lauck	Approved by District Supervisor: 	
Title: Program Manager, Risk Management & Remediation	Approval Date:	Expiration Date:
E-mail Address: Terry.S.Lauck@conocophillips.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 01-31-2014 Phone: 918-661-0935		

* Attach Additional Sheets If Necessary



**CONESTOGA-ROVERS
& ASSOCIATES**

6121 Indian School Road, NE Suite 200
Albuquerque, NM, USA 87110
Telephone: (505) 884-0672 Fax: (505) 884-4932
<http://www.craworld.com>

July 20, 2012

Reference No. 074918

Mr. Brandon Powell
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

Re: Newberry No. 8 - Boring Installation, Soil Sampling, and Site Closure Request

Dear Mr. Powell:

Enclosed, please find a copy of the above-referenced document as compiled by Conestoga-Rovers and Associates, Inc.

If you have any questions or require additional information, please contact me at (505) 884-0672 or keblanchard@craworld.com.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Kelly E. Blanchard
Project Manager

KB/cd/1
Encl.

cc: Terry Lauck, ConocoPhillips (electronic only)

RCVD FEB 5 '14

OIL CONS. DIV.

DIST. 3

Equal
Employment Opportunity
Employer



RCVD FEB 5 '14
OIL CONS. DIV.
DIST. 3

Boring Installation, Soil Sampling, and Site Closure Request Report

**CONOCOPHILLIPS NEWBERRY NO. 8
SAN JUAN COUNTY, NEW MEXICO
API# 30-045-10965
NMOCD# TBD**

Prepared For:

**ConocoPhillips Company
Risk Management and Remediation
420 South Keeler Avenue
Bartlesville, OK, 74004**

**JULY 2012
074918 (3)**

This report is printed on recycled paper.

TABLE OF CONTENTS

	Page
1.0 PURPOSE AND NEED	1
2.0 SITE HISTORY	2
2.1 SITE ACTIVITIES	2
3.0 SUMMARY OF WORK	3
3.1 PRE FIELD WORK PREPARATION	3
3.2 SITE INVESTIGATION	3
3.2.1 SOIL BORING ADVANCEMENT AND SOIL SAMPLE COLLECTION ...	3
3.2.2 INVESTIGATION DERIVED WASTE.....	4
3.3 QUALITY ASSURANCE AND QUALITY CONTROL	4
4.0 CONCLUSIONS AND RECOMMENDATIONS	6

LIST OF FIGURES
(Following Text)

FIGURE 1	SITE LOCATION MAP
FIGURE 2	SOIL BORING LOCATION MAP

LIST OF TABLES

TABLE 1	LABORATORY ANALYTICAL SUMMARY TABLE
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LIST OF APPENDICES

APPENDIX A	SOIL BORING LOG FORMS
APPENDIX B	LABORATORY ANALYTICAL REPORT

1.0 PURPOSE AND NEED

This document presents a summary of soil boring activities performed under the supervision of Conestoga-Rovers & Associates (CRA) during the month of November, 2011 at the ConocoPhillips Company (ConocoPhillips) Newberry No. 8 gas well site (Site) located on federal land within Section 9, Township 31N, Range 12W, San Juan County, New Mexico (Latitude: 36.91791° N; Longitude: 108.09528° W). CRA, on behalf of ConocoPhillips, is submitting this document in order to request no further action at the site based on the results presented herein.

2.0 SITE HISTORY

Chronologies of activities previously performed at the Site are presented below. Soil boring activities performed under the supervision of CRA during November of 2011 are summarized following the site activities section.

2.1 SITE ACTIVITIES

DATE	ACTIVITY
March 26, 1957	Well spudded by El Paso Natural Gas Company
November 1, 1986	Change in operatorship from El Paso Natural Gas Company to Meridian Oil Inc., a wholly owned subsidiary of Burlington Resources Inc.
July 11, 1996	Change in operatorship from Meridian Oil Inc. to Burlington Resources Oil and Gas Company
March 31, 2006	ConocoPhillips Company completed acquisition of Burlington Resources
August 17, 2011	Hydrocarbon impacted soil was discovered during tank upgrade and relocation activities at the site. ConocoPhillips subsequently began excavating impacted soil. Envirotech, Inc. collected composite samples from the four walls and bottom of the excavation measuring 15x20x4 on August 17, 2011. Samples were analyzed for total petroleum hydrocarbons (TPH) by EPA method 418.1 and organic vapors by heated headspace method. Samples to the south and east of the excavation were above New Mexico Oil Conservation Division (NMOCD) recommended action levels.
September 9, 2011	Envirotech arrived onsite to collect soil samples from the excavation measuring 50x48x25. Composite soil samples were collected from each wall and from the bottom of the excavation and submitted for laboratory analysis of TPH diesel range organics (DRO) and gasoline range organics (GRO); and of benzene, toluene, ethylbenzene, and total xylenes (BTEX). The composite sample from the excavation bottom exceeded the NMOCD action level for total TPH. Envirotech recommended further vertical excavation and then confirmation sampling.
September 16, 2011	Envirotech arrived onsite to collect a composite soil sample from the excavation measuring 50x48x30 feet deep. A soil sample was also collected from the excavation bottom which returned results exceeding the NMOCD action level for TPH.
September 21, 2011	Potassium permanganate was applied to the excavation bottom under the supervision of Envirotech.
November 11, 2011	CRA supervised the advancement of three Geoprobe® soil borings B-1, B-2 and B-3 by JR Drilling.

The Recommended Remediation Action Levels for soil at the Site, as communicated by Brandon Powell of the NMOCD to Kelsi Herrington of ConocoPhillips, on September 16, 2011 are 1,000 ppm TPH, 50 ppm BTEX, and 10 ppm benzene.

3.0 SUMMARY OF WORK

Work conducted at the Site consisted of field preparation prior to the start of work (Section 3.1), a Site investigation (Section 3.2) consisting of soil boring advancement and soil sample collection (Section 3.2.1), and proper handling and disposal of investigation-derived waste (Section 3.2.2). Quality assurance/quality control (QA/QC) is discussed in Section 4.0. **Figure 1** is a Site location map, and **Figure 2** displays the Site layout and location of the soil borings that were advanced. A Table and Appendices follow the Figures and include:

- Table 1 – Laboratory Analytical Summary Table
- Appendix B – Soil Boring Logs
- Appendix C – Soil Laboratory Analytical Report

3.1 PRE FIELD WORK PREPARATION

The soil boring locations were selected in order to determine horizontal and vertical extent of hydrocarbon-impacted soil that may remain following excavation activities (**Figure 2**). Once the boring locations were marked, a New Mexico One-Call was performed and a utility locate was done within a 250 foot radius from the Newberry No. 8 wellhead. Boring locations were pre-cleared for utilities by hydroexcavation by Riley Industrial Services of Farmington, New Mexico using a vacuum truck. No underground utilities were encountered during pre-clearing or boring advancement.

3.2 SITE INVESTIGATION

3.2.1 SOIL BORING ADVANCEMENT AND SOIL SAMPLE COLLECTION

Three soil borings, B-1, B-2 and B-3 were advanced using a truck-mounted, direct-push Geoprobe® rig operated by JR Drilling of Mountainair, New Mexico to determine the spatial extent of soil impacts that remain following the September soil excavation (**Figure 2**). Depth to groundwater at the Site is expected to be greater than 80 feet below ground surface (bgs) based on groundwater data obtained from a cathodic protection well located at the Culpepper Martin No. 16 site located approximately one mile west of Newberry No. 8. During a previous hydrocarbon release response investigation at the Culpepper Martin No. 16, bedrock was encountered at approximately 60 feet, at which point hydrocarbon impacts ceased and groundwater was not encountered.

Soil samples were collected from B-1, B-2, and B-3 with a split spoon sampling device utilizing acetate liners. Soil descriptions were recorded to the total depth of each boring using CRA boring log forms included as **Appendix A**. Soil samples were collected continuously for field screening with a photo-ionization organic vapor detector (PID) using the heated headspace method. Headspace PID readings were recorded on the CRA boring log forms. Because the previously excavated area had been back-filled with clean soil, samples from the uppermost 25 feet of borings were collected at various intervals in order to confirm the excavation location. One soil sample was collected from the bottom of borings B-1 and B-2 and submitted for laboratory analysis. Geoprobe® refusal was met in both borings B-1 and B-2 at 29 feet bgs and 31 feet bgs, respectively. The samples were placed in laboratory prepared containers, packed on ice and shipped under chain of custody documentation to Pace Analytical Services Inc. located in Lenexa, KS for following analytical parameters:

- Benzene, toluene, ethylbenzene and xylenes (BTEX), EPA Method 8021
- TPH, gasoline range organics (GRO), EPA Method 8015B
- TPH, diesel range organics (DRO), EPA Method 8015B
- Chloride, EPA Method 300.0

Analytical results obtained from soil samples collected from both B-1 and B-2 borings indicate BTEX, TPH and benzene concentrations are below NMOCD Recommended Remediation Action Levels for the Site. A summary of analytical results is included as **Table 1**.

3.2.2 INVESTIGATION DERIVED WASTE

Soil cuttings were field screened using a PID and were spread on-Site if the results were less than 100 ppm. Any soil cuttings that had a PID results greater than 100 ppm, were containerized and transported to Industrial Ecosystems, Inc. (IEI) a ConocoPhillips-approved waste disposal facility located at 49 Road 3150 Aztec, NM. Approximately 15 pounds of soil was disposed of at IEI.

3.3 QUALITY ASSURANCE AND QUALITY CONTROL

A quality assurance evaluation was conducted by Pace Analytical Laboratories on collected samples to check for accuracy, precision and reliability of each reported analyte

concentration. Sample spiked-matrix batch samples were analyzed to determine the accuracy of laboratory results. Quality assurance documentation is provided in the laboratory analytical report included as **Appendix B**.

4.0 CONCLUSIONS AND RECOMMENDATIONS

CRA, on behalf of ConocoPhillips, recommends that no further action be granted for the Newberry No. 8 site. Soil samples collected from borings located within the previously excavated area at a depth of 29 feet bgs in B-1 and 31 feet bgs in B-2 indicate that TPH, BTEX, and benzene are below NMOCD Recommended Remediation Action Levels for the Site. Groundwater is estimated to be at a depth of approximately 80 feet bgs in the area of the site and was not encountered during prior excavation or during the advancement of the soil borings discussed in this report.

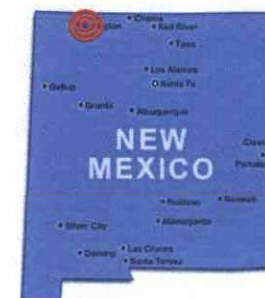
FIGURES




FIGURE 1.

Site Location Map

ConocoPhillips Company
Newberry No. 8
San Juan County, NM



 ConocoPhillips Company
Newberry No. 8 Site
Location

Latitude: 36.91791° N
Longitude: -108.09528° W





LEGEND

- Approximate Location of August 2011 Excavation
- November 2011 Boring Location
- ⊙ Newberry No. 8 Wellhead
- ⊙ 01 - ⊙ 08 Excavation Boundary GPS Points
- mg/kg Milligrams per Kilogram
- ug/kg Micrograms per Kilogram



0 FEET 50

Figure 2

**Soil Boring Location and Analytical Results Map
 NEWBERRY NO. 8 NATURAL GAS PRODUCTION SITE
 SAN JUAN COUNTY, NEW MEXICO**



TABLES

TABLE 1

SOIL LABORATORY ANALYTICAL RESULTS SUMMARY
 CONOCOPHILLIPS COMPANY
 NEWBERRY No. 8
 SAN JUAN COUNTY, NM

Well ID	Sample Interval (ft)	Sample ID	Date	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Toluene (mg/kg)	Xylenes (total) (mg/kg)	Total BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)
B-1	(28-29)	S-074918-111111-CM-B1(28-29)	11/11/11	<0.0064	0.0069	<0.0064	0.0873	0.0942	<11.1	<19.3
B-2	(30-31)	S-074918-111111-CM-B2(30-31)	11/11/11	<0.0065	0.0181	0.0129	0.2360	0.2670	36.2	30.1
NMOCD Soil Guidelines				10.0	NE	NE	NE	50.0	1000	

Notes:

NMOCD = New Mexico Oil Conservation Division

mg/kg = milligrams per kilogram (parts per million)

BTEX = benzene, toluene, ethylbenzene, and xylenes

TPH = total petroleum hydrocarbons

DRO = diesel range organics

GRO = gasoline range organics

<0.001 = Below laboratory detection limit of 0.001 mg/L

Bold = concentrations that exceed the NMOCD guidelines

APPENDIX A

SOIL BORING LOG FORMS

STRATIGRAPHY LOG (OVERBURDEN)

PAGE ____ OF ____

PROJECT NAME Newberry
PROJECT NUMBER 0749118
CLIENT C.P.
LOCATION _____

DRILLING CONTRACTOR _____
DRILLER R. Dallas
SURFACE ELEVATION _____
WEATHER (A.M.) c. 1st + cloudy - 70°
(P.M.) _____

HOLE DESIGNATION B-1
DATE/TIME STARTED 11-11-11
DATE/TIME COMPLETED _____
DRILLING METHOD Geoprobe
CRA SUPERVISOR _____

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS)			SAMPLE DESCRIPTION	S A M P L E #	S A M P L E P E T H I N O D	SAMPLE DETAILS							S A M P L E I N T E R V A L	P I D / F I D (ppm)	C H E M I C A L	G R A I N S I Z E
F R O M	A T	T O				PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES)										
			ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) - PRIMARY COMPONENT(S), (NATURE OF DEPOSIT), SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE, COLOUR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL (INDICATE IF MOISTURE WAS ADDED OR NOT).			6"	6"	6"	6"	N	R					
14.5		16	presumed fill - 100% top 6" hard, dry, dark brown to gray, mix of sand & small gravel											3.0		
16		20	90% recovery, presumed fill brown to gray mix of sand and clay layers											747		
20		24	1/2 brown, brown, gray, black, sil. intermittent chunks of dry shale, damp to dry fine to coarse sand, slight hydrocarbon odor & staining observed.											1957		
24		28	75% recovery first 2' damp presumed fill, mix of sand and clay @ 27 - possible interface of native soil, damp, gray pulverized shale											1170		
														248	27-28	
28		28.5	100% recovery damp gray possible pulverized shale - some f.g. sand present											18.9		
28.5		29	100% recovery damp gray possible pulverized shale													
NOTES AND COMMENTS			DEPTH OF BOREHOLE CAVING/ _____ DEPTH OF FIRST GROUNDWATER ENCOUNTER _____ TOPSOIL THICKNESS _____ WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____ AFTER _____ HOURS _____ COMPLETION DETAILS: _____ NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, SAMPLE RECOVERY LENGTH, AND SAMPLE INTERVAL. NOTES: _____													



STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME Newberry
PROJECT NUMBER 0749187
CLIENT CRA
LOCATION _____

DRILLING CONTRACTOR _____
DRILLER JR Drilling
SURFACE ELEVATION _____
WEATHER (A.M.) cold, overcast, ~40°
(P.M.) _____

HOLE DESIGNATION B-2
DATE/TIME STARTED 11.11.11
DATE/TIME COMPLETED _____
DRILLING METHOD _____
CRA SUPERVISOR _____

PAGE ____ OF ____

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS)			SAMPLE DESCRIPTION	SAMPLE DETAILS										CHEMICAL ANALYSIS	GRAIN SIZE		
FROM	TO	AT	ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) - PRIMARY COMPONENT(S). (NATURE OF DEPOSIT), SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE, COLOUR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL (INDICATE IF MOISTURE WAS ADDED OR NOT).	S A M P L E #	S A M M P L E I N T E R V A L	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES)						S A M P L E	I N T E R V A L			P I D /F I D (ppm)	
						6"	8"	6"	6"	N	R						
5	8		fill - shale sandstone (tan-yellow), dry sand														
8	12		fill - shale (gray) sand dry 80% recovery														
12	16		fill 75% recovery dry, shale, sandstone sandy silts grey to brown														
16	20		fill 70% recovery damp gray o-brown shale, gray clay, sandy silt-brown														
120	20	24	75% recovery top 6" likely fill rest silty sand with trace to little clay damp, gray with several small (<4") sand lenses more gray toward bottom of core, slight gray staining throughout														
NOTES AND COMMENTS			DEPTH OF BOREHOLE CAVING _____ DEPTH OF FIRST GROUNDWATER ENCOUNTER _____ TOPSOIL THICKNESS _____ WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____, AFTER _____ HOURS _____ COMPLETION DETAILS: _____ NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, SAMPLE RECOVERY LENGTH, AND SAMPLE INTERVAL. NOTES: _____														



Q. 10

DRILLING CONTRACTOR _____
DRILLER SR Drilling
SURFACE ELEVATION _____
WEATHER (A.M.) _____
(P.M.) cold, overcast, n45

BZ

[illegible]

PROJECT NAME Newberry N8
 PROJECT NUMBER _____
 CLIENT _____
 LOCATION _____

STRATIGRAPHY LOG (OVERBURDEN)

DRILLING CONTRACTOR _____
 DRILLER _____
 SURFACE ELEVATION _____
 WEATHER (A.M.) _____
 (P.M.) _____

HOLE DESIGNATION B-3
 DATE/TIME STARTED _____
 DATE/TIME COMPLETED _____
 DRILLING METHOD _____
 CRA SUPERVISOR _____

PAGE ____ OF ____

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS)			SAMPLE DESCRIPTION	SAMPLE DETAILS										CHEMICAL	ANALYSIS	GRAIN SIZE
FROM	TO	AT	ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) - PRIMARY COMPONENT(S), (NATURE OF DEPOSIT), SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE, COLOUR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL (INDICATE IF MOISTURE WAS ADDED OR NOT).	S A M P L E #	S A M P L E H I G H T N O D	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES)						S A M P L E I N T E R V A L	P I D / F I D (ppm)			
						6"	6"	6"	6"	N	R					
5	8		60% recovery. Damp, brown fine-grained sand w/ little to some silt. Several small (<1") sand lenses													
8	12		80% recovery damp, brown Sand w/ little silt													
12	16		90% recovery damp brown f-m graded sand w/ little to some silt. Bottom foot, f-m sand w/ trace coarse graded sand.													
16	20		100% recovery first 2.5' mostly fine-medium graded sand, Damp, brown, w/ a few clay lenses. Bottom clay; slightly plastic w/ sand (3") @ 19'													
20	24		95% recovery. clay w/ sand lenses (f-m)													

DEPTH OF BOREHOLE CAVING _____ DEPTH OF FIRST GROUNDWATER ENCOUNTER _____ TOPSOIL THICKNESS _____
 WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____, AFTER _____ HOURS _____
 COMPLETION DETAILS: _____
 NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, SAMPLE RECOVERY LENGTH, AND SAMPLE INTERVAL.
 NOTES: _____

NOTES
AND
COMMENTS



STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME Newberry 8
PROJECT NUMBER _____
CLIENT _____
LOCATION _____

DRILLING CONTRACTOR _____
DRILLER _____
SURFACE ELEVATION _____
WEATHER (A.M.) _____
(P.M.) _____

PAGE ____ OF ____

HOLE DESIGNATION B-3

DATE/TIME STARTED _____

DATE/TIME COMPLETED _____

DRILLING METHOD _____

CRA SUPERVISOR _____

PAGE OF

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS)			SAMPLE DESCRIPTION	SAMPLE #	SAMPLING METHOD	SAMPLE DETAILS						PENETRATION RECORD	SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES)	SAMPLER	INTERVAL	FIELD	ANALYSIS	GRAIN SIZE
FROM	TO		ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) - PRIMARY COMPONENT(S), (NATURE OF DEPOSIT), SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE, COLOUR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL (INDICATE IF MOISTURE WAS ADDED OR NOT).			6"	6"	6"	6"	N	R							
20	24		(continued) 1' of f-m sand @ 28.5-29.5. precipitates noticed in all clay layers															
24	28		100% recovery, damp, brown clay. Slightly more plastic bottom 6". 3-4" of sand lenses (m-c graded) throughout.														0.4	
28	30		- full line (4') after 2' progression Damp, brown clay														0.2	
30	31		- full line (4') after 1' progression Damp moist, brown clay														0.4	
31	31.9		~ 2' interval after 29' progression Same as above															
NOTES AND COMMENTS			DEPTH OF BOREHOLE CAVING _____ DEPTH OF FIRST GROUNDWATER ENCOUNTER _____ TOPSOIL THICKNESS _____ WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____ AFTER _____ HOURS _____ COMPLETION DETAILS: _____ NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, SAMPLE RECOVERY LENGTH, AND SAMPLE INTERVAL. NOTES: _____															



APPENDIX B

LABORATORY ANALYTICAL REPORT

December 01, 2011

Christine Matthews
CRA
6121 Indian School Rd NE
Suite 200
Albuquerque, NM 87110

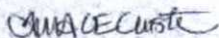
RE: Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

Dear Christine Matthews:

Enclosed are the analytical results for sample(s) received by the laboratory on November 16, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Anna Custer

anna.custer@pacelabs.com
Project Manager

Enclosures

cc: Kelly Blanchard, COP Conestoga-Rovers & Associa
Angela Bown, COP Conestoga-Rovers & Associa



REPORT OF LABORATORY ANALYSIS

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Page 1 of 17



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CERTIFICATIONS

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

REPORT OF LABORATORY ANALYSIS

Page 2 of 17

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SAMPLE SUMMARY

Project: NEWBERRY NO. 8 (074918)

Pace Project No.: 60110480

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60110480001	S-074918-111111-CM-B1(28-29)	Solid	11/11/11 11:00	11/16/11 12:30
60110480002	S-074918-111111-CM-B2(30-31)	Solid	11/11/11 13:10	11/16/11 12:30

REPORT OF LABORATORY ANALYSIS

Page 3 of 17

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SAMPLE ANALYTE COUNT

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60110480001	S-074918-111111-CM-B1(28-29)	EPA 8015B	SDR	3
		EPA 8015B	PRG	2
		EPA 5035A/8260	RAB	7
		ASTM D2974-87	DWC	1
		EPA 300.0	JML	1
60110480002	S-074918-111111-CM-B2(30-31)	EPA 8015B	SDR	3
		EPA 8015B	PRG	2
		EPA 5035A/8260	RAB	7
		ASTM D2974-87	DWC	1
		EPA 300.0	JML	1

REPORT OF LABORATORY ANALYSIS

Page 4 of 17

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PROJECT NARRATIVE

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

Method: EPA 8015B
Description: 8015B Diesel Range Organics
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: December 01, 2011

General Information:

2 samples were analyzed for EPA 8015B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 5 of 17

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PROJECT NARRATIVE

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

Method: EPA 8015B
Description: Gasoline Range Organics
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: December 01, 2011

General Information:

2 samples were analyzed for EPA 8015B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035A/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 6 of 17

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PROJECT NARRATIVE

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

Method: EPA 5035A/8260
Description: 8260 MSV GRO and Oxygenates
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: December 01, 2011

General Information:

2 samples were analyzed for EPA 5035A/8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/41911

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: MSV/41911

1e: The sample was recieved in a vessel that was not preserved within 48 hours of sample collection.

- S-074918-111111-CM-B1(28-29) (Lab ID: 60110480001)
 - Toluene-d8 (S)
- S-074918-111111-CM-B2(30-31) (Lab ID: 60110480002)
 - Toluene-d8 (S)

REPORT OF LABORATORY ANALYSIS

Page 7 of 17

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PROJECT NARRATIVE

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

Method: EPA 300.0
Description: 300.0 IC Anions 28 Days
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: December 01, 2011

General Information:

2 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 8 of 17

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ANALYTICAL RESULTS

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

Sample: S-074918-111111-CM-B1(28-29) Lab ID: 60110480001 Collected: 11/11/11 11:00 Received: 11/16/11 12:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 3546								
TPH-DRO	ND	mg/kg	11.1	1	11/22/11 00:00	11/29/11 17:25		
Surrogates								
n-Tetracosane (S)	50	%	41-130	1	11/22/11 00:00	11/29/11 17:25	646-31-1	
p-Terphenyl (S)	48	%	39-130	1	11/22/11 00:00	11/29/11 17:25	92-94-4	
Gasoline Range Organics								
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
TPH-GRO	ND	mg/kg	19.3	1	11/18/11 16:29	11/22/11 02:55		
Surrogates								
4-Bromofluorobenzene (S)	102	%	68-134	1	11/18/11 16:29	11/22/11 02:55	460-00-4	
8260 MSV GRO and Oxygenates								
Analytical Method: EPA 5035A/8260								
Benzene	ND	ug/kg	6.4	1		11/20/11 06:06	71-43-2	
Ethylbenzene	6.9	ug/kg	6.4	1		11/20/11 06:06	100-41-4	
Toluene	ND	ug/kg	6.4	1		11/20/11 06:06	108-88-3	
Xylene (Total)	87.3	ug/kg	12.8	1		11/20/11 06:06	1330-20-7	
Surrogates								
Toluene-d8 (S)	105	%	81-121	1		11/20/11 06:06	2037-26-5	1e
4-Bromofluorobenzene (S)	101	%	75-131	1		11/20/11 06:06	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	77-131	1		11/20/11 06:06	17060-07-0	
Percent Moisture								
Analytical Method: ASTM D2974-87								
Percent Moisture	10.2	%	0.50	1		11/23/11 00:00		
300.0 IC Anions 28 Days								
Analytical Method: EPA 300.0								
Chloride	ND	mg/kg	111	10		11/30/11 05:37	16887-00-6	



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ANALYTICAL RESULTS

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

Sample: S-074918-111111-CM-B2(30-31) Lab ID: 60110480002 Collected: 11/11/11 13:10 Received: 11/16/11 12:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics Analytical Method: EPA 8015B Preparation Method: EPA 3546								
TPH-DRO	36.2	mg/kg	11.2	1	11/22/11 00:00	11/29/11 17:36		
Surrogates								
n-Tetracosane (S)	69	%	41-130	1	11/22/11 00:00	11/29/11 17:36	646-31-1	
p-Terphenyl (S)	54	%	39-130	1	11/22/11 00:00	11/29/11 17:36	92-94-4	
Gasoline Range Organics Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
TPH-GRO	30.1	mg/kg	13.7	1	11/18/11 16:29	11/22/11 04:04		
Surrogates								
4-Bromofluorobenzene (S)	123	%	68-134	1	11/18/11 16:29	11/22/11 04:04	460-00-4	
8260 MSV GRO and Oxygenates Analytical Method: EPA 5035A/8260								
Benzene	ND	ug/kg	6.5	1		11/20/11 06:21	71-43-2	
Ethylbenzene	18.1	ug/kg	6.5	1		11/20/11 06:21	100-41-4	
Toluene	12.9	ug/kg	6.5	1		11/20/11 06:21	108-88-3	
Xylene (Total)	236	ug/kg	13.0	1		11/20/11 06:21	1330-20-7	
Surrogates								
Toluene-d8 (S)	110	%	81-121	1		11/20/11 06:21	2037-26-5	1e
4-Bromofluorobenzene (S)	106	%	75-131	1		11/20/11 06:21	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	77-131	1		11/20/11 06:21	17060-07-0	
Percent Moisture Analytical Method: ASTM D2974-87								
Percent Moisture	11.7	%	0.50	1		11/23/11 00:00		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0								
Chloride	ND	mg/kg	113	10		11/30/11 06:27	16887-00-6	

QUALITY CONTROL DATA

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

QC Batch: GCV/3946 Analysis Method: EPA 8015B
QC Batch Method: EPA 5035A/5030B Analysis Description: Gasoline Range Organics
Associated Lab Samples: 60110480001, 60110480002

METHOD BLANK: 914118 Matrix: Solid

Associated Lab Samples: 60110480001, 60110480002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	11/22/11 00:37	
4-Bromofluorobenzene (S)	%	99	68-134	11/22/11 00:37	

LABORATORY CONTROL SAMPLE: 914119

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	51.5	103	77-122	
4-Bromofluorobenzene (S)	%			99	68-134	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 915940 915941

Parameter	Units	60110224014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
TPH-GRO	mg/kg	ND	62.5	62.5	57.9	59.2	93	95	51-130	2	
4-Bromofluorobenzene (S)	%						101	101	68-134	27	

QUALITY CONTROL DATA

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

QC Batch: MSV/41911 Analysis Method: EPA 5035A/8260
QC Batch Method: EPA 5035A/8260 Analysis Description: 8260 MSV GRO and Oxygenates
Associated Lab Samples: 60110480001, 60110480002

METHOD BLANK: 915136 Matrix: Solid

Associated Lab Samples: 60110480001, 60110480002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	11/20/11 03:34	
Ethylbenzene	ug/kg	ND	5.0	11/20/11 03:34	
Toluene	ug/kg	ND	5.0	11/20/11 03:34	
Xylene (Total)	ug/kg	ND	10.0	11/20/11 03:34	
1,2-Dichloroethane-d4 (S)	%	105	77-131	11/20/11 03:34	
4-Bromofluorobenzene (S)	%	99	75-131	11/20/11 03:34	
Toluene-d8 (S)	%	97	81-121	11/20/11 03:34	

LABORATORY CONTROL SAMPLE: 915137

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	100	100	84-119	
Ethylbenzene	ug/kg	100	98.4	98	80-120	
Toluene	ug/kg	100	97.4	97	83-117	
Xylene (Total)	ug/kg	300	292	97	80-120	
1,2-Dichloroethane-d4 (S)	%			100	77-131	
4-Bromofluorobenzene (S)	%			100	75-131	
Toluene-d8 (S)	%			98	81-121	

QUALITY CONTROL DATA

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

QC Batch: OEXT/31239 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B
Associated Lab Samples: 60110480001, 60110480002

METHOD BLANK: 915908 Matrix: Solid
Associated Lab Samples: 60110480001, 60110480002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO	mg/kg	ND	10	11/29/11 16:40	
n-Tetracosane (S)	%	79	41-130	11/29/11 16:40	
p-Terphenyl (S)	%	77	39-130	11/29/11 16:40	

LABORATORY CONTROL SAMPLE: 915909

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO	mg/kg	82	66.6	81	57-120	
n-Tetracosane (S)	%			80	41-130	
p-Terphenyl (S)	%			76	39-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 915910 915911

Parameter	Units	60110480002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
TPH-DRO	mg/kg	36.2	93.3	92.3	92.0	105	60	74	36-125	13	28
n-Tetracosane (S)	%						63	78	41-130		
p-Terphenyl (S)	%						54	64	39-130		



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QUALITY CONTROL DATA

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

QC Batch: PMST/6780 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60110480001, 60110480002

METHOD BLANK: 916744 Matrix: Solid

Associated Lab Samples: 60110480001, 60110480002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	11/23/11 00:00	

SAMPLE DUPLICATE: 916745

Parameter	Units	60110307001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.1	3.2	3	20	

Date: 12/01/2011 04:11 PM

REPORT OF LABORATORY ANALYSIS

Page 14 of 17

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QUALITY CONTROL DATA

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

QC Batch: WETA/18460 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60110480001, 60110480002

METHOD BLANK: 918383 Matrix: Solid

Associated Lab Samples: 60110480001, 60110480002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/kg	ND	10.0	11/30/11 05:04	

LABORATORY CONTROL SAMPLE: 918384

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	50	50.2	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 918385 918386

Parameter	Units	60110480001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/kg	ND	556	556	585	597	90	92	64-120	2	15	

MATRIX SPIKE SAMPLE: 918387

Parameter	Units	60110630001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/kg	5230	6230	11000	93	64-120	

QUALIFIERS

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/41911

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample was recieved in a vessel that was not preserved within 48 hours of sample collection.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NEWBERRY NO. 8 (074918)
Pace Project No.: 60110480

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60110480001	S-074918-111111-CM-B1(28-29)	EPA 3546	OEXT/31239	EPA 8015B	GCSV/11601
60110480002	S-074918-111111-CM-B2(30-31)	EPA 3546	OEXT/31239	EPA 8015B	GCSV/11601
60110480001	S-074918-111111-CM-B1(28-29)	EPA 5035A/5030B	GCV/3946	EPA 8015B	GCV/3947
60110480002	S-074918-111111-CM-B2(30-31)	EPA 5035A/5030B	GCV/3946	EPA 8015B	GCV/3947
60110480001	S-074918-111111-CM-B1(28-29)	EPA 5035A/8260	MSV/41911		
60110480002	S-074918-111111-CM-B2(30-31)	EPA 5035A/8260	MSV/41911		
60110480001	S-074918-111111-CM-B1(28-29)	ASTM D2974-87	PMST/6780		
60110480002	S-074918-111111-CM-B2(30-31)	ASTM D2974-87	PMST/6780		
60110480001	S-074918-111111-CM-B1(28-29)	EPA 300.0	WETA/18460		
60110480002	S-074918-111111-CM-B2(30-31)	EPA 300.0	WETA/18460		



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A

Required Client Information:

Company: CRA
Address: 6121 Indian School
#200
Email To: Kblanchard@craind.com
Phone: 505-884-0672
Requested Due Date/TAT: Standard

Section B

Required Project Information:

Report To: Kelly Blanchard
Copy To: Amanda Boun
Christine Matthews
Purchase Order No.:
Project Name: Newberry No. 8
Project Number: 0574918

Section C

Invoice Information:

Attention: ENFOS
Company Name: CoP
Address:
Pace Quote Reference:
Pace Project Manager: Anna Custer
Pace Profile #:

REGULATORY AGENCY			
<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER	
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input checked="" type="checkbox"/> OTHER NMCD	
SITE		<input type="checkbox"/> GA	<input type="checkbox"/> IL
LOCATION		<input type="checkbox"/> IN	<input type="checkbox"/> MI
		<input type="checkbox"/> NC	<input type="checkbox"/> OH
		<input type="checkbox"/> SC	<input type="checkbox"/> VA
		<input checked="" type="checkbox"/> OTHER NM	

ITEM #	Section D Required Client Information		Valid Matrix Codes MATRIX GROUND WATER WATER WASTE WATER PRECIPITATION SEDIMENT SLURRY AIR OTHER TERRACE	CODE GW WW P SL SL SL SL SL SL SL	MATRIX CODE G-GRAB C-COMP	SAMPLE TYPE G-GRAB C-COMP	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Requested Analysis:	Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.		
	SAMPLE ID						COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	H ₂ O ₂	NaOH	Na ₂ S ₂ O ₈	Methanol	Other							
	One Character per box (A-Z, 0-9 /, .)						DATE	TIME	DATE	TIME																		
	Sample IDs MUST BE UNIQUE																											
1	S-074918	11-11-11	1100	11-11-11	1310	SLG	11-11-11	1100	11-11-11	1310	7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	001
2	S-074918	11-11-11	1310	11-11-11	1310	SLG	11-11-11	1310	11-11-11	1310	8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	002
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

Additional Comments:

* If there is a way to analyze for potassium permanganate please call 505-884-0672 Before analysis. Thank you!!

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Christine Matthews	11-15-11	1900	Anna Custer	11-16-11	1230	0.3	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
SAMPLER NAME AND SIGNATURE						Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER: Christine Matthews									
SIGNATURE of SAMPLER: Christine Matthews						DATE Signed (MM/DD/YY): 11-15-11			



Sample Condition Upon Receipt – ESI Tech Specs

Client Name: COP-CBAProject #: 6011480Courier: Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐Tracking #: 87626392478 Pace Shipping Label Used? Yes ☐ No ☒

Optional

Proj Due Date: 11/30/11
Proj Name:Custody Seal on Cooler/Box Present: Yes ☐ No ☐ Seals intact: Yes ☐ No ☐Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other ☐Thermometer Used: T-191 / T-194Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)Cooler Temperature: 0.3Date and initials of person examining contents: 11-16-11

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Includes date/time/ID/analyses Matrix: <u>SL</u>		13.
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Trip Blank present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	17. List State: <u>NC</u>

Client Notification/ Resolution:

Copy COC to Client? Y ☒ N

Field Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

Start: 11:30 Start:End: 11:35 End:

Temp: _____ Temp:

Project Manager Review: APT Dr ROCDate: 11/18/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the NCDENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

F-KS-C-004-Rev.0, 02February2011