3R – 467

2014 GWMR

04 / 16 / 2015

John F. (Rick) Greiner, CPG, P.G.
ConocoPhillips Company
Risk Management & Remediation Program
Manager/Director Corp. Waste Management Program
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Houston, TX 77079
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E-mail: Rick.Greiner@conocophillips.com

ConocoPhillips

Mr. Glenn von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis DR
Santa Fe, NM 87505

April 16, 2015

Re: API No. 30-045-10923 2014 Annual Groundwater Monitoring Report

Dear Mr. von Gonten:

Enclosed is the 2014 Annual Groundwater Monitoring Report for the Marcotte No. 1 site. This report, prepared by Conestoga-Rovers & Associates (CRA), contains the results of groundwater monitoring activities conducted during 2014.

Please let me know if you have any questions.

Sincerely,

Rick Greiner

Enc

CONESTOGA-ROVERS & ASSOCIATES

www.CRAworld.com

Final Report

2014 GROUNDWATER SAMPLING REPORT

ConocoPhillips Company Marcotte No. 1
San Juan County, New Mexico
API# 30-045-10923

Prepared for: ConocoPhillips Company

Conestoga-Rovers & Associates
6121 Indian School Road, NE Suite 200
Albuquerque, New Mexico 87110

September 2014 • 085692 • Report No. 1

Partners in Sustainability

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Section 1.0 Introduction

Conestoga-Rovers & Associates (CRA) conducted groundwater monitoring at the ConocoPhillips Company (ConocoPhillips) Marcotte No. 1 natural gas well (Site) on April 2, 2014. The Site is located within Unit Letter G, Section 8, Township 31N, Range 10W, off County Road 2391, in San Juan County, New Mexico (latitude: 36.915560° N; longitude: -107.901902° W) (**Figure 1**). This report summarizes the monitoring activities and groundwater data that were collected during this single monitoring event.

1.1 Site History

The Site is located on private land that is leased by ConocoPhillips. The natural gas well is currently operated by Burlington Resources Oil and Gas Company LP, a wholly owned subsidiary of ConocoPhillips. A Site detail map is included as **Figure 2**.

Hydrocarbon impacted soil was discovered at the Site in 2003 during excavation work to reset the production equipment. Approximately 3,000 cubic yards of impacted soil was removed from the former pit in September 2003. Soil was landfarmed on the adjacent Marcotte No. 2 site with approval from both the New Mexico Oil Conservation Division (NMOCD) and U.S. Bureau of Land Management.

Impacted soils were excavated to approximately 30 feet below ground surface (ft bgs). Groundwater was encountered at a depth of 30 ft bgs. Soil impacts were noted at the time to end in a black stained gravel layer about 6 inches above the groundwater. The horizontal extent of contamination was determined by the limits of the open excavation on the north, northeast and east and by four soil borings located northwest, west and southwest.

Observation of the water in the bottom of the open excavation showed minor free phase hydrocarbons. Water and oil was removed from the excavation using a pump truck over a period of 2 months. Prior to backfilling the excavation no free phase hydrocarbons were visible on the water surface.

Two of the original soil borings were converted into groundwater monitoring wells (MW-2 and MW-3) in 2003 and an additional monitor well, MW-1, installed through the center of the excavation, was installed in September 2004 (**Figure 2**). Monitor Wells MW-2 and MW-3 were completed with above-ground (3 ft tall) well shrouds and MW-1 was installed with an at-grade concrete monument. Monitor Wells MW-2 and MW-3 were first gauged for depth to water (**Table 1**) and sampled in October 2003. Monitor Well MW-1 was first gauged and sampled in September 2004. Samples collected from Site monitor wells were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) and for dissolved metals, anions and general chemistry parameters. Concentrations of BTEX constituents were below the NM Water Quality Control Commission (NMWQCC) standards for these compounds. Concentrations of dissolved manganese were found at a concentration above NMWQCC standards in groundwater of MW-2 and sulfates were above standards in all wells from the 2003/2004 background samples.

Monitor Wells MW-2 and MW-3 were sampled again in December 2003 and quarterly in 2004. It is uncertain why MW-1 was not sampled. It is possible that MW-1 was not able to be found due to its location in an area of brush and it's at-grade surface completion.

Site wells were not sampled again until December 9, 2010. Monitor Wells MW-2 and MW-3 were gauged and sample collected for analysis of BTEX, dissolved metals, anions and general chemistry parameters. MW-1 was noted as not located. BTEX constituents were not detected at any concentrations above laboratory detection limits. Total dissolved solids (TDS) and chlorides were detected in MW-2 and MW-3 during the December 2010 sampling event at concentrations above the NMWQCC standards.

1.2 Site Setting

The Site is located in San Juan County, New Mexico, on privately owned land. The elevation at the Site is approximately 5,850 feet above mean sea level. An ephemeral wash borders the location approximately 30 yards to the north. A seasonal irrigation ditch is located approximately 100 yards to the west. Subsurface soils at the location are mainly fine to coarse sands with trace amounts of cobbles and boulders. Groundwater flows generally parallel to the adjacent wash in a west-southwest direction towards the Animas River located ½ mile west.

Subsurface soils at the Site consist of very fine to medium grained sands with trace gravels and cobbles and with minor silty-clay lenses. Groundwater was measured at a depth of 31.85 ft-below the top of PVC casing (TOC) during the April 2014 event. The groundwater gradient is presumed essentially parallel to the adjacent wash in a westerly direction, towards the Animas River located.

Section 2.0 Groundwater Monitoring Summary

A groundwater sampling event was conducted at the Site on April 2, 2014. Monitor well MW-1 was found and sampled during this event (see **Figure 2**). Prior to sampling, depth to groundwater was measured in each well using an oil/water interface probe (**Table 1**). Monitor Well MW-2 was the only Site well with measurable groundwater. Groundwater was measured in MW-2 at a depth of 31.85 ft below TOC. The measured dry depth of MW-1 (23.20 ft below TOC), is lower than the measured total depths of MW-2 and MW-3 (37.40 and 38.45 ft below TOC, respectively). CRA believes this indicates that MW-1 has an obstruction inside the PVC casing. A groundwater potentiometric surface map for the site was not able to be generated due to the single groundwater elevation measurement

The groundwater flow at the site is presumed to be aligned with the flow of the adjacent Miller Canyon Wash, towards the Animas River, located ½ mile to the west.

2.1 Groundwater Monitoring Methodology

During monitoring events, at least three well volumes were purged from Site Monitor Well MW-2 with a hand-held disposable bailer. Field parameters of pH, temperature, conductivity, oxidation/reduction potential, and dissolved oxygen were collected during purging of groundwater prior to sampling. The field parameter readings are presented in **Table 2** . Purge water generated during purging of Site monitor wells was placed in the on-Site produced water tank. The groundwater sample was placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Pace Analytical Services, Inc. of Lenexa, KS.

The MW-2 groundwater sample was analyzed for the presence of BTEX by EPA method 8260, semi-volatile compounds by EPA method 8270, gasoline and diesel-range organics by EPA 8015, for dissolved metals by EPA method 6010, for dissolved mercury by EPA method 7470, and for general chemistry parameters by various EPA methods. A summary of analytical results is presented in **Table 3**. Groundwater laboratory analytical results are presented in **Appendix A**.

2.2 Groundwater Monitoring Analytical Results

The NMWQCC mandates that groundwater quality in New Mexico be protected, and has issued groundwater quality standards in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). Groundwater quality standards have been set for the protection of human health, domestic water supply, and irrigation use.

A groundwater inorganic concentration map is included as **Figure 3**. Groundwater analytical results are discussed below.

April 2014

- **BTEX:** BTEX constituents were not detected in concentrations above the laboratory detection limits.
- **Dissolved Manganese:** The NMWQCC domestic water supply groundwater quality standard for dissolved manganese is 0.2 mg/L. Monitoring Well MW-2 exceeded this standard with an analytical result of 0.853 mg/L.
- **Sulfate:** The NMWQCC domestic water supply groundwater quality standard for sulfate is 600 mg/L. Monitoring Well MW-2 exceeded this standard with an analytical result of 2,360mg/L.
- **TDS:** The NMWQCC domestic water supply groundwater quality standard for TDS is 1,000 mg/L. Monitoring Well MW-2 exceeded this standard with an analytical result of 3,030 mg/L.

Section 3.0 Water Well Database Search

A list of domestic water well users and well coordinates was generated from the New Mexico Office of the State Engineer Water Rights Reporting System database. The list of wells, including the owner and well coordinates, is presented in **Appendix B.** The wells have been plotted on a map and are presented as **Figure 4**.

Section 4.0 Conclusions and Recommendations

BTEX constituents in groundwater at the Site have not been detected in any concentrations above laboratory detection limits since groundwater monitoring began. Chloride was detected at concentrations above the NMWQCC standard in the past in Monitor Wells MW-2 and MW-3; however, the April 2, 2014 sampling event showed that chloride in MW-2 was present at a concentration well below the standard. Sulfate has been detected in the past at concentrations above the NMWQCC standard in Site wells and remains above the standard in Monitor Well MW-2. TDS has also been detected in MW-2 and MW-3 at concentrations above the NMWQCC standard.

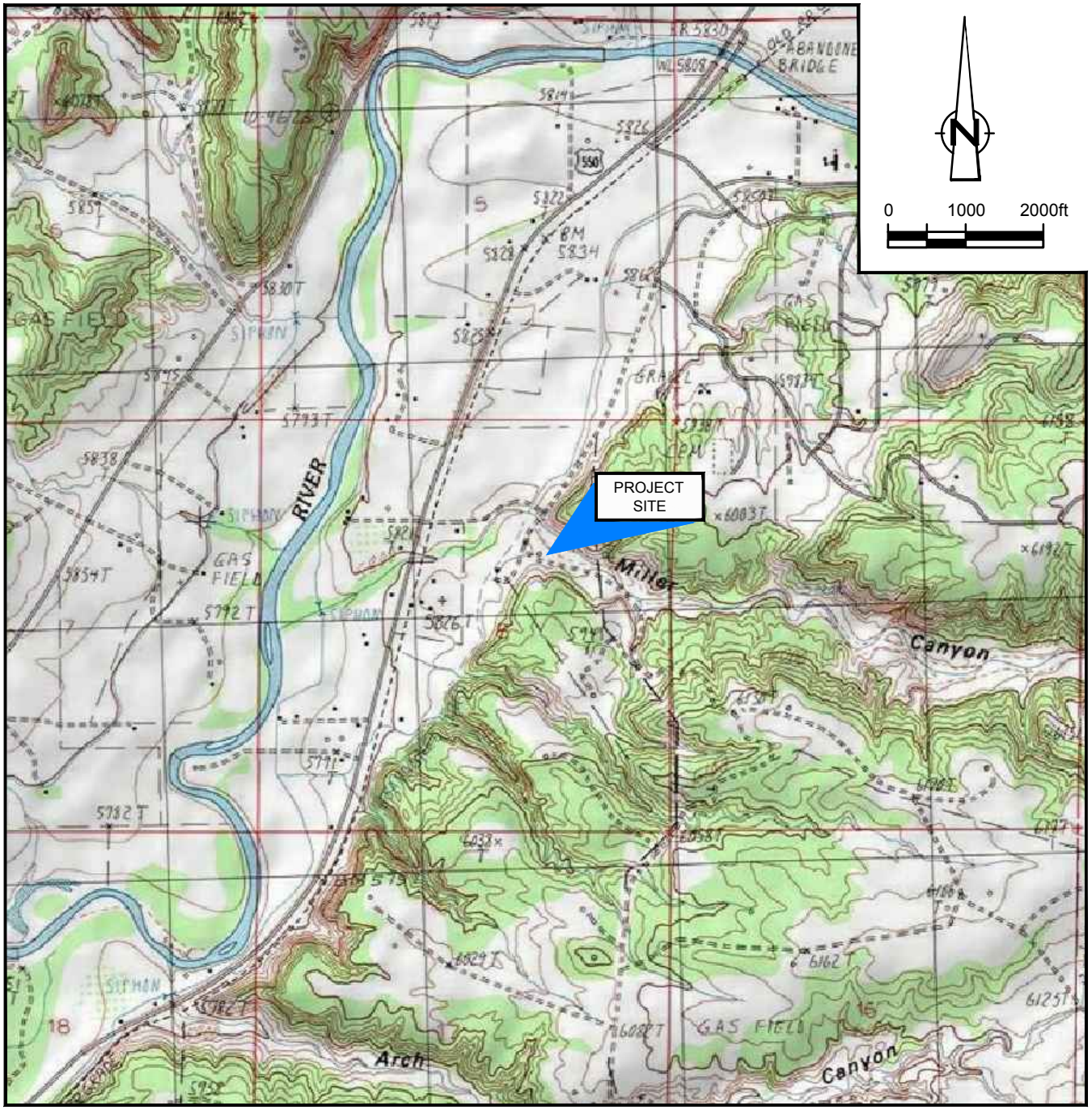
CRA recommends:

- The plugging and abandonment of Monitor Wells MW-1 and MW-3;
- Reinstalling MW-1 and MW-3 deeper to intercept the Site groundwater; and
- Install an up-gradient well to assess background concentrations.

Once these wells are reinstalled and a top of well casing survey completed, a Site-specific groundwater flow direction and gradient can be established.

Until a better understanding of Site groundwater conditions are enabled by the installation and sampling of replacement wells, CRA does not recommend further groundwater monitoring.

Figures



SOURCE: USGS 7.5 MINUTE QUAD
"CEDAR HILL, NEW MEXICO"

LAT/LONG: 36.9155° NORTH, 107.9019° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO WEST

Figure 1

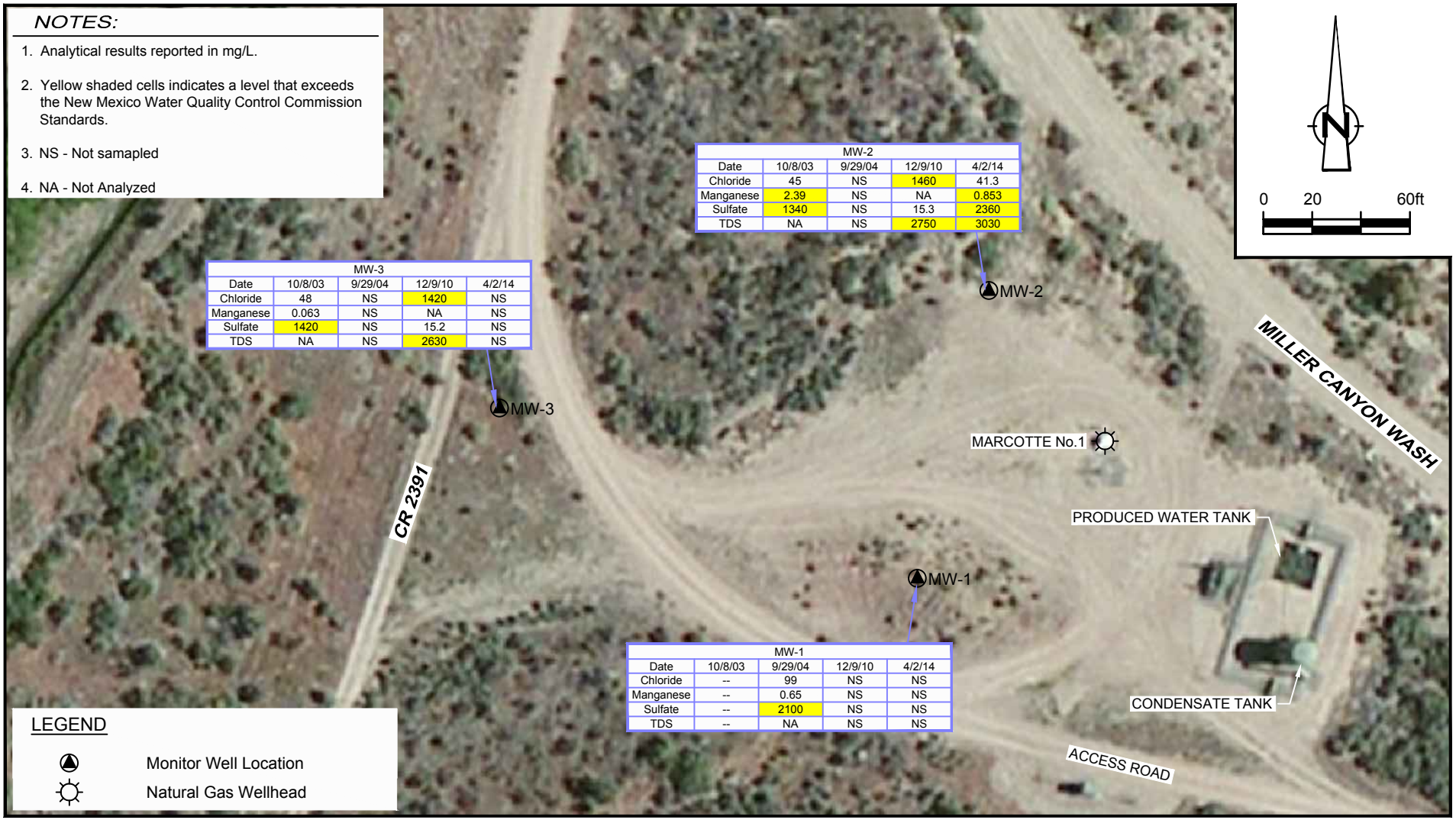
SITE VICINITY MAP
MARCOTTE No.1 NATURAL GAS WELL SITE
SECTION 8, T31N-R10W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

LAT/LONG: 36.9155° NORTH, 107.9019° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO WEST

Figure 2

SITE PLAN
MARCOTTE No.1 NATURAL GAS WELL SITE
SECTION 8, T31N-R10W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

085692-00(000)GN-DL001 JUL 16/2014



LAT/LONG: 36.9155° NORTH, 107.9019° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO WEST

Figure 3

GROUNDWATER INORGANIC ANALYTICAL RESULTS MAP
MARCOTTE No.1 NATURAL GAS WELL SITE
SECTION 8, T31N-R10W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

085692-00(000)GN-DL001 JUL 30/2014

LAT/LONG: 36.9155° NORTH, 107.9019° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO WEST

Figure 4

VICINITY WATER WELL LOCATION MAP
MARCOTTE No.1 NATURAL GAS WELL SITE
SECTION 8, T31N-R10W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

Tables

Table 1

Monitor Well Specifications and Groundwater Elevations
ConocoPhillips Company
Marcotte No. 1
San Juan County, New Mexico

Well ID	*Total Depth (ft below TOC)*	*Screen Interval (ft bgs)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*
MW-1	23.20*	Unknown	9/29/2004	23.20
			12/13/2004	23.67
			4/2/2014	DRY
MW-2	37.40	22-37 ft bgs	10/6/2003	29.71
			12/16/2003	30.09
			3/15/2004	30.62
			6/21/2004	30.05
			9/29/2004	--
			12/13/2004	29.88
			12/9/2010	29.78
			4/2/2014	31.85
MW-3	38.45	23-38 ft bgs	10/6/2003	30.74
			12/16/2003	34.14
			3/15/2004	--
			6/21/2004	36.62
			9/29/2004	28.72
			12/13/2004	32.35
			12/9/2010	35.51
			4/2/2014	DRY

Notes:
bgs = Below ground surface
ft = Feet
TOC = Top of casing
*Total depth measured 4/2/2014-may represent an obstruction; well completion data unavailable.

Table 2

Field Parameters
ConocoPhillips Company
Marcotte No. 1
San Juan County, NM

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (µS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-2	4/2/2014	14.37	6.84	2.189	3367	1.36	70.4	1.5
	4/2/2014	14.32	6.90	2.183	3361	1.39	55.0	2.5
	4/2/2014	14.41	6.91	2.184	3359	1.56	49.3	2.75
	4/2/2014	14.42	6.92	2.180	3354	1.58	44.2	3.0

Table 3

Groundwater Analytical Results Summary
ConocoPhillips Company
Marcotte No. 1
San Juan County, New Mexico

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	Total Hardness, dissolved (mg/L)	Arsenic, dissolved (mg/L)	Barium, dissolved (mg/L)	Cadmium, dissolved (mg/L)	Calcium, dissolved (mg/L)	Chromium, dissolved (mg/L)	Copper, dissolved (mg/L)	Iron, dissolved (mg/L)
NMWQCC Groundwater Quality Standards				**0.01**	**0.75**	**0.75**	**0.62**	**--**	**0.1**	**1.0**	**0.01**	**--**	**0.05**	**1.0**	**1.0**
MW-1	MW-1	9/29/2004	0	<0.0003	<0.0002	0.038	0.0369	--	<0.001	0.017	0.0009	286	0.0003	0.001	0.19
	MW-1	12/13/2004	(orig)	0.0004	0.0007	0.0007	0.0202	--	--	--	--	--	--	--	--
MW-2	M P Unit 1 MW-2	10/8/2003	(orig)	<0.0003	<0.0002	<0.0002	<0.0002	--	0.0036	0.047	<0.0001	266	0.0008	0.0021	0.98
	MW-2	12/16/2003	(orig)	0.0004	<0.0002	<0.0002	<0.0002	--	--	--	--	--	--	--	--
	MW-2	3/15/2004	(orig)	0.0004	0.0003	<0.0002	0.0002	--	--	--	--	--	--	--	--
	MW-2	6/21/2004	(orig)	<0.0003	<0.0002	<0.0002	<0.0002	--	--	--	--	--	--	--	--
	MW-2	9/29/2004	(orig)	<0.0003	0.0003	0.0003	0.0007	--	--	--	--	--	--	--	--
	MW-2	12/13/2004	(orig)	0.0003	0.0013	0.0003	0.0112	--	--	--	--	--	--	--	--
	MW-2	12/9/2010	(orig)	<0.001	<0.001	<0.001	<0.001	1100	0.003	0.009	<0.001	360	<0.001	--	0.042
	GW-085692-040214-CM-MW-2	4/2/2014	(orig)	<0.001	<0.001	<0.001	<0.003	1180	0.0011	0.0128	<0.50	--	<1.0	<1.0	--
MW-3	M P Unit 1 MW-3	10/8/2003	(orig)	<0.0003	0.0002	<0.0002	<0.002	--	0.0012	0.037	<0.0001	262	0.0012	0.0017	0.47
	MW-3	12/16/2003	(orig)	0.0005	<0.0002	<0.0002	<0.0002	--	--	--	--	--	--	--	--
	MW-3	6/21/2004	(orig)	<0.0003	<0.002	<0.0002	<0.002	--	--	--	--	--	--	--	--
	MW-3	9/29/2004	(orig)	<0.0003	<0.002	<0.0002	<0.002	--	--	--	--	--	--	--	--
	MW-3	12/13/2004	(orig)	<0.0003	0.0003	<0.0002	0.0016	--	--	--	--	--	--	--	--
	MW-3	12/9/2010	(orig)	<0.001	<0.001	<0.001	<0.001	1130	0.002	0.009	<0.001	367	<0.001	--	0.009

Notes:

BDL = below detection limit (actual laboratory detection limit not available)
mg/L = milligrams per liter (parts per million)
NA = Not Analyzed
NMWQCC = New Mexico Water Quality Control Commission

Table 3

Groundwater Analytical Results Summary
ConocoPhillips Company
Marcotte No. 1
San Juan County, New Mexico

Well ID	Sample ID	Date	Sample Type	Magnesium, dissolved (mg/L)	Manganese, dissolved (mg/L)	Molybdenum, dissolved (mg/L)	Potassium, dissolved (mg/L)	Selenium (mg/L)	Silver (mg/L)	Sodium, dissolved (mg/L)	Zinc, dissolved (mg/L)	Alkalinity, total as CaCO3 (mg/L)	TDS (mg/L)	Chloride (mg/L)
NMWQCC Groundwater Quality Standards				**--**	**0.2**	**1.0**	**--**	**0.05**	**0.05**	**--**	**10**	**--**	**1000**	**250**
MW-1	MW-1	9/29/2004	0	39.9	0.65	--	2.5	--	--	727	<0.02	318	--	99
	MW-1	12/13/2004	(orig)	--	--	--	--	--	--	--	--	--	--	--
MW-2	M P Unit 1 MW-2	10/8/2003	(orig)	34.9	**2.39**	--	1.6	--	--	419	0.02	302	--	45
	MW-2	12/16/2003	(orig)	--	--	--	--	--	--	--	--	--	--	--
	MW-2	3/15/2004	(orig)	--	--	--	--	--	--	--	--	--	--	--
	MW-2	6/21/2004	(orig)	--	--	--	--	--	--	--	--	--	--	--
	MW-2	9/29/2004	(orig)	--	--	--	--	--	--	--	--	--	--	--
	MW-2	12/13/2004	(orig)	--	--	--	--	--	--	--	--	--	--	--
	MW-2	12/9/2010	(orig)	50	--	--	6.56	0.005	0.031	603	--	410	**2750**	**1460**
	GW-085692-040214-CM-MW-2	4/2/2014	(orig)	--	**0.853**	0.0039	--	--	--	--		290	**3030**	41.3
MW-3	M P Unit 1 MW-3	10/8/2003	(orig)	34.5	0.063	--	1.6			409	<0.01	291	--	48
	MW-3	12/16/2003	(orig)	--	--	--	--	--	--	--	--	--	--	--
	MW-3	6/21/2004	(orig)	--	--	--	--	--	--	--	--	--	--	--
	MW-3	9/29/2004	(orig)	--	--	--	--	--	--	--	--	--	--	--
	MW-3	12/13/2004	(orig)	--	--	--	--	--	--	--	--	--	--	--
	MW-3	12/9/2010	(orig)	50.9	--	--	4.28	0.027	0.031	550	--	370	**2630**	**1420**

Notes:

BDL = below detection limit (actual laboratory detection li
mg/L = milligrams per liter (parts per million)
NA = Not Analyzed
NMWQCC = New Mexico Water Quality Control Commis

Table 3

Groundwater Analytical Results Summary
ConocoPhillips Company
Marcotte No. 1
San Juan County, New Mexico

Well ID	Sample ID	Date	Sample Type	Fluoride (mg/L)	Sulfate (mg/L)	Nitrate, NO3 as N (mg/L)	Orthophosphate, as P (mg/L)	Cyanide (mg/L)	pH
NMWQCC Groundwater Quality Standards				**1.6**	**600**	**10**	**--**	**0.2**	**6 - 9**
MW-1	MW-1	9/29/2004	0	--	**2100**	--	--	--	7.1
	MW-1	12/13/2004	(orig)	--	--	--	--	--	--
MW-2	M P Unit 1 MW-2	10/8/2003	(orig)	--	**1340**	--	--	--	7.9
	MW-2	12/16/2003	(orig)	--	--	--	--	--	--
	MW-2	3/15/2004	(orig)	--	--	--	--	--	--
	MW-2	6/21/2004	(orig)	--	--	--	--	--	--
	MW-2	9/29/2004	(orig)	--	--	--	--	--	--
	MW-2	12/13/2004	(orig)	--	--	--	--	--	--
	MW-2	12/9/2010	(orig)	BDL	15.3	6.36	--	0.003	6.71
	GW-085692-040214-CM-MW-2	4/2/2014	(orig)	0.68	**2360**	<0.10	0.10	--	7.3
MW-3	M P Unit 1 MW-3	10/8/2003	(orig)	--	**1420**		--	--	7.9
	MW-3	12/16/2003	(orig)	--	--	--	--	--	--
	MW-3	6/21/2004	(orig)	--	--	--	--	--	--
	MW-3	9/29/2004	(orig)	--	--	--	--	--	--
	MW-3	12/13/2004	(orig)	--	--	--	--	--	--
	MW-3	12/9/2010	(orig)	1.14	15.2	<0.10	--	0.002	6.92

Notes:

BDL = below detection limit (actual laboratory detection li
mg/L = milligrams per liter (parts per million)
NA = Not Analyzed
NMWQCC = New Mexico Water Quality Control Commis

Appendix A

Groundwater Laboratory Analytical Report

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

April 18, 2014

Jeff Walker
COP Conestoga-Rovers & Associa
6121 Indian School Rd. NE
Ste 200
Albuquerque, NM 87110

RE: Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Dear Jeff Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on April 04, 2014. 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

cc: Angela Bown, COP Conestoga-Rovers & Associa
Christine Matthews, CRA

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

CERTIFICATIONS

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

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 #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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

SAMPLE SUMMARY

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60166332001	**GW-085692-040214-CM-MW-2**	Water	04/02/14 13:45	04/04/14 08:35
60166332002	**TRIP BLANK**	Water	04/02/14 13:45	04/04/14 08:35

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

SAMPLE ANALYTE COUNT

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60166332001	**GW-085692-040214-CM-MW-2**	EPA 8015B	JDE	3
		EPA 5030B/8015B	JTK	3
		EPA 6010	NDJ	1
		EPA 6020	JGP	13
		EPA 7470	TDS	1
		EPA 8270	JMT	73
		EPA 5030B/8260	PRG	69
		EPA 120.1	NDL	1
		SM 2320B	JMC1	1
		SM 2540C	RAH	1
		SM 4500-H+B	NDL	1
		EPA 300.0	OL	4
		EPA 353.2	AJM	1
		EPA 365.1	AJM	1

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

PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **EPA 8015B**
Description: 8015B Diesel Range Organics
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was 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 3510C 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, where applicable, 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: GCSV/16583

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

Additional Comments:

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

PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **EPA 5030B/8015B**
Description: Gasoline Range Organics
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for EPA 5030B/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.

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, where applicable, 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: GCV/4730

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

Additional Comments:

Pace Analytical Services, Inc.
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(913)599-5665

PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for EPA 6010. 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 3010 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, where applicable, 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.

Additional Comments:

Pace Analytical Services, Inc.
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(913)599-5665

PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **EPA 6020**
Description: 6020 MET ICPMS, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for EPA 6020. 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 3010 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.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, 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: MPRP/26827

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60166332001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1360510)
  - Manganese, Dissolved
  - Molybdenum, Dissolved

Additional Comments:

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PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **EPA 7470**
Description: 7470 Mercury, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for EPA 7470. 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 7470 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, where applicable, 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.

Additional Comments:

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **EPA 8270**
Description: 8270 MSSV Semivolatile Organic
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for EPA 8270. 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 3510 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, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: OEXT/43560

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
- LCS (Lab ID: 1357257)
  - Benzoic acid

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

QC Batch: MSSV/13901

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

Additional Comments:

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(913)599-5665

PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for EPA 5030B/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, where applicable, 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/60740

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

Additional Comments:

Pace Analytical Services, Inc.
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(913)599-5665

PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **EPA 120.1**
Description: 120.1 Specific Conductance
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for EPA 120.1. 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.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, 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:

Pace Analytical Services, Inc.
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(913)599-5665

PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **SM 2320B**
Description: 2320B Alkalinity
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for SM 2320B. 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.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, 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:

Pace Analytical Services, Inc.
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(913)599-5665

PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for SM 2540C. 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.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, 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:

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for SM 4500-H+B. 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.

H6: Analysis initiated outside of the 15 minute EPA recommended holding time.
- GW-085692-040214-CM-MW-2 (Lab ID: 60166332001)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, 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:

Pace Analytical Services, Inc.
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(913)599-5665

PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was 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, where applicable, 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: WETA/29042

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60166574001,60166574005

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 1361974)
  - Sulfate

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **EPA 353.2**
Description: 353.2 Nitrogen, NO2/NO3 pres.
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for EPA 353.2. 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, where applicable, 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:

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Method: **EPA 365.1**
Description: 365.1 Orthophosphate as P
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 18, 2014

General Information:
1 sample was analyzed for EPA 365.1. 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, where applicable, 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.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Sample: GW-085692-040214-CM-MW-2 **Lab ID: 60166332001** Collected: 04/02/14 13:45 Received: 04/04/14 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3510C							
TPH-DRO	ND	mg/L	0.50	1	04/04/14 00:00	04/07/14 16:29		
Surrogates								
p-Terphenyl (S)	67	%	28-127	1	04/04/14 00:00	04/07/14 16:29	92-94-4	
n-Tetracosane (S)	49	%	22-121	1	04/04/14 00:00	04/07/14 16:29	646-31-1	
Gasoline Range Organics	Analytical Method: EPA 5030B/8015B							
TPH-GRO	ND	mg/L	0.50	1		04/09/14 21:48		
Surrogates								
4-Bromofluorobenzene (S)	94	%	56-137	1		04/09/14 21:48	460-00-4	
Preservation pH	**1.0**		0.10	1		04/09/14 21:48		
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Total Hardness by 2340B, Dissolved	**1180000**	ug/L	500	1	04/15/14 10:30	04/15/14 15:22		
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Arsenic, Dissolved	**1.1**	ug/L	1.0	1	04/14/14 15:50	04/16/14 11:05	7440-38-2	
Barium, Dissolved	**12.8**	ug/L	1.0	1	04/14/14 15:50	04/16/14 11:05	7440-39-3	
Cadmium, Dissolved	ND	ug/L	0.50	1	04/14/14 15:50	04/16/14 11:05	7440-43-9	
Chromium, Dissolved	ND	ug/L	1.0	1	04/14/14 15:50	04/16/14 11:05	7440-47-3	
Cobalt, Dissolved	ND	ug/L	1.0	1	04/14/14 15:50	04/16/14 11:05	7440-48-4	
Copper, Dissolved	ND	ug/L	1.0	1	04/14/14 15:50	04/16/14 11:05	7440-50-8	
Lead, Dissolved	ND	ug/L	1.0	1	04/14/14 15:50	04/16/14 11:05	7439-92-1	
Manganese, Dissolved	**853**	ug/L	1.0	1	04/14/14 15:50	04/16/14 11:05	7439-96-5	M1
Molybdenum, Dissolved	**3.9**	ug/L	1.0	1	04/14/14 15:50	04/16/14 11:05	7439-98-7	M1
Nickel, Dissolved	ND	ug/L	1.0	1	04/14/14 15:50	04/16/14 11:05	7440-02-0	
Selenium, Dissolved	ND	ug/L	1.0	1	04/14/14 15:50	04/16/14 11:05	7782-49-2	
Silver, Dissolved	ND	ug/L	0.50	1	04/14/14 15:50	04/16/14 11:05	7440-22-4	
Zinc, Dissolved	ND	ug/L	10.0	1	04/14/14 15:50	04/16/14 11:05	7440-66-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	0.20	1	04/07/14 10:00	04/07/14 15:14	7439-97-6	
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	83-32-9	
Acenaphthylene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	208-96-8	
Anthracene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	120-12-7	
Benzo(a)anthracene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	207-08-9	
Benzoic acid	ND	ug/L	50.0	1	04/09/14 00:00	04/10/14 22:19	65-85-0	L2
Benzyl alcohol	ND	ug/L	20.0	1	04/09/14 00:00	04/10/14 22:19	100-51-6	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	85-68-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Sample: GW-085692-040214-CM-MW-2 **Lab ID: 60166332001** Collected: 04/02/14 13:45 Received: 04/04/14 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Carbazole	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	1	04/09/14 00:00	04/10/14 22:19	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1	04/09/14 00:00	04/10/14 22:19	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	39638-32-9	
2-Chloronaphthalene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	7005-72-3	
Chrysene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	132-64-9	
1,2-Dichlorobenzene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	1	04/09/14 00:00	04/10/14 22:19	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	120-83-2	
Diethylphthalate	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	50.0	1	04/09/14 00:00	04/10/14 22:19	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	1	04/09/14 00:00	04/10/14 22:19	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	117-81-7	
Fluoranthene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	206-44-0	
Fluorene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	77-47-4	
Hexachloroethane	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	193-39-5	
Isophorone	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	78-59-1	
2-Methylnaphthalene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19		
Naphthalene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1	04/09/14 00:00	04/10/14 22:19	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1	04/09/14 00:00	04/10/14 22:19	99-09-2	
4-Nitroaniline	ND	ug/L	50.0	1	04/09/14 00:00	04/10/14 22:19	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	1	04/09/14 00:00	04/10/14 22:19	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	621-64-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Sample: GW-085692-040214-CM-MW-2 **Lab ID: 60166332001** Collected: 04/02/14 13:45 Received: 04/04/14 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
N-Nitrosodiphenylamine	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	86-30-6	
Pentachlorophenol	ND	ug/L	50.0	1	04/09/14 00:00	04/10/14 22:19	87-86-5	
Phenanthrene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	85-01-8	
Phenol	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	108-95-2	
Pyrene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	129-00-0	
Pyridine	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	110-86-1	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	120-82-1	
2,4,5-Trichlorophenol	ND	ug/L	50.0	1	04/09/14 00:00	04/10/14 22:19	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	1	04/09/14 00:00	04/10/14 22:19	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	85	%	10-135	1	04/09/14 00:00	04/10/14 22:19	4165-60-0	
2-Fluorobiphenyl (S)	89	%	19-124	1	04/09/14 00:00	04/10/14 22:19	321-60-8	
Terphenyl-d14 (S)	87	%	24-131	1	04/09/14 00:00	04/10/14 22:19	1718-51-0	
Phenol-d6 (S)	26	%	10-120	1	04/09/14 00:00	04/10/14 22:19	13127-88-3	
2-Fluorophenol (S)	40	%	13-120	1	04/09/14 00:00	04/10/14 22:19	367-12-4	
2,4,6-Tribromophenol (S)	84	%	29-121	1	04/09/14 00:00	04/10/14 22:19	118-79-6	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		04/12/14 06:16	67-64-1	
Benzene	ND	ug/L	1.0	1		04/12/14 06:16	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		04/12/14 06:16	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		04/12/14 06:16	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/12/14 06:16	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/12/14 06:16	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/12/14 06:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		04/12/14 06:16	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		04/12/14 06:16	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		04/12/14 06:16	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		04/12/14 06:16	98-06-6	
Carbon disulfide	ND	ug/L	5.0	1		04/12/14 06:16	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/12/14 06:16	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/12/14 06:16	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/12/14 06:16	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/12/14 06:16	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/12/14 06:16	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		04/12/14 06:16	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		04/12/14 06:16	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.5	1		04/12/14 06:16	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/12/14 06:16	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/12/14 06:16	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/12/14 06:16	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/12/14 06:16	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		04/12/14 06:16	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/12/14 06:16	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		04/12/14 06:16	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/12/14 06:16	75-34-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Sample: GW-085692-040214-CM-MW-2 **Lab ID: 60166332001** Collected: 04/02/14 13:45 Received: 04/04/14 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
1,2-Dichloroethane	ND	ug/L	1.0	1		04/12/14 06:16	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	1.0	1		04/12/14 06:16	540-59-0	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/12/14 06:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/12/14 06:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/12/14 06:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/12/14 06:16	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		04/12/14 06:16	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		04/12/14 06:16	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		04/12/14 06:16	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/12/14 06:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/12/14 06:16	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/12/14 06:16	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		04/12/14 06:16	87-68-3	
2-Hexanone	ND	ug/L	10.0	1		04/12/14 06:16	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		04/12/14 06:16	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		04/12/14 06:16	99-87-6	
Methylene chloride	ND	ug/L	1.0	1		04/12/14 06:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		04/12/14 06:16	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/12/14 06:16	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		04/12/14 06:16	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		04/12/14 06:16	103-65-1	
Styrene	ND	ug/L	1.0	1		04/12/14 06:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/14 06:16	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/12/14 06:16	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/12/14 06:16	127-18-4	
Toluene	ND	ug/L	1.0	1		04/12/14 06:16	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		04/12/14 06:16	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		04/12/14 06:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/12/14 06:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/12/14 06:16	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/12/14 06:16	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/12/14 06:16	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		04/12/14 06:16	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		04/12/14 06:16	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		04/12/14 06:16	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		04/12/14 06:16	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		04/12/14 06:16	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		04/12/14 06:16	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		04/12/14 06:16	17060-07-0	
Toluene-d8 (S)	109	%	80-120	1		04/12/14 06:16	2037-26-5	
Preservation pH	**1.0**		0.10	1		04/12/14 06:16		
120.1 Specific Conductance	Analytical Method: EPA 120.1							
Specific Conductance	**3470**	umhos/cm	1.0	1		04/08/14 10:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Sample: GW-085692-040214-CM-MW-2 **Lab ID: 60166332001** Collected: 04/02/14 13:45 Received: 04/04/14 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**290**	mg/L	20.0	1		04/14/14 12:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**3030**	mg/L	5.0	1		04/08/14 12:34		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		04/08/14 12:15		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Bromide	ND	mg/L	1.0	1		04/17/14 20:12	24959-67-9	
Chloride	**41.3**	mg/L	5.0	5		04/17/14 20:27	16887-00-6	
Fluoride	**0.68**	mg/L	0.20	1		04/17/14 20:12	16984-48-8	
Sulfate	**2360**	mg/L	200	200		04/17/14 20:43	14808-79-8	
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		04/08/14 16:24		
365.1 Orthophosphate as P	Analytical Method: EPA 365.1							
Orthophosphate as P	**0.10**	mg/L	0.10	1		04/04/14 12:46		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: GCV/4730
QC Batch Method: EPA 5030B/8015B
Analysis Method: EPA 5030B/8015B
Analysis Description: Gasoline Range Organics
Associated Lab Samples: 60166332001

METHOD BLANK: 1357152
Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-GRO	mg/L	ND	0.50	04/09/14 14:51	
4-Bromofluorobenzene (S)	%	100	56-137	04/09/14 14:51	

LABORATORY CONTROL SAMPLE: 1357153

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/L	1	0.88	88	62-132	
4-Bromofluorobenzene (S)	%			99	56-137	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: MERP/8283
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury ,Dissolved
Associated Lab Samples: 60166332001

METHOD BLANK: 1356343 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	04/07/14 14:59	

LABORATORY CONTROL SAMPLE: 1356344

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.1	82	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1356345 1356346

Parameter	Units	60166332001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	4.0	3.9	78	78	75-125	0	20	

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: MPRP/26840
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60166332001

METHOD BLANK: 1360801 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Hardness by 2340B, Dissolved	ug/L	ND	500	04/15/14 15:17	

LABORATORY CONTROL SAMPLE: 1360802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Hardness by 2340B, Dissolved	ug/L		63800			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: MPRP/26827
QC Batch Method: EPA 3010
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 60166332001

METHOD BLANK: 1360508 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	1.0	04/16/14 10:57	
Barium, Dissolved	ug/L	ND	1.0	04/16/14 10:57	
Cadmium, Dissolved	ug/L	ND	0.50	04/16/14 10:57	
Chromium, Dissolved	ug/L	ND	1.0	04/16/14 10:57	
Cobalt, Dissolved	ug/L	ND	1.0	04/16/14 10:57	
Copper, Dissolved	ug/L	ND	1.0	04/16/14 10:57	
Lead, Dissolved	ug/L	ND	1.0	04/16/14 10:57	
Manganese, Dissolved	ug/L	1.2	1.0	04/16/14 10:57	
Molybdenum, Dissolved	ug/L	ND	1.0	04/16/14 10:57	
Nickel, Dissolved	ug/L	ND	1.0	04/16/14 10:57	
Selenium, Dissolved	ug/L	ND	1.0	04/16/14 10:57	
Silver, Dissolved	ug/L	ND	0.50	04/16/14 10:57	
Zinc, Dissolved	ug/L	ND	10.0	04/16/14 10:57	

LABORATORY CONTROL SAMPLE: 1360509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	40	40.0	100	80-120	
Barium, Dissolved	ug/L	40	41.9	105	80-120	
Cadmium, Dissolved	ug/L	40	40.0	100	80-120	
Chromium, Dissolved	ug/L	40	40.5	101	80-120	
Cobalt, Dissolved	ug/L	40	40.4	101	80-120	
Copper, Dissolved	ug/L	40	40.8	102	80-120	
Lead, Dissolved	ug/L	40	40.5	101	80-120	
Manganese, Dissolved	ug/L	40	40.9	102	80-120	
Molybdenum, Dissolved	ug/L	40	41.7	104	80-120	
Nickel, Dissolved	ug/L	40	40.2	100	80-120	
Selenium, Dissolved	ug/L	40	39.5	99	80-120	
Silver, Dissolved	ug/L	20	19.8	99	80-120	
Zinc, Dissolved	ug/L	100	103	103	80-120	

MATRIX SPIKE SAMPLE: 1360510

Parameter	Units	60166332001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	1.1	40	43.4	106	75-125	
Barium, Dissolved	ug/L	12.8	40	56.8	110	75-125	
Cadmium, Dissolved	ug/L	ND	40	36.2	90	75-125	
Chromium, Dissolved	ug/L	ND	40	40.1	99	75-125	
Cobalt, Dissolved	ug/L	ND	40	38.3	95	75-125	
Copper, Dissolved	ug/L	ND	40	34.6	85	75-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

MATRIX SPIKE SAMPLE: 1360510

Parameter	Units	60166332001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead, Dissolved	ug/L	ND	40	45.2	113	75-125	
Manganese, Dissolved	ug/L	853	40	951	246	75-125	M1
Molybdenum, Dissolved	ug/L	3.9	40	54.7	127	75-125	M1
Nickel, Dissolved	ug/L	ND	40	35.6	89	75-125	
Selenium, Dissolved	ug/L	ND	40	44.9	112	75-125	
Silver, Dissolved	ug/L	ND	20	17.8	89	75-125	
Zinc, Dissolved	ug/L	ND	100	83.8	82	75-125	

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: MSV/60740
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60166332001

METHOD BLANK: 1358975
Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	04/12/14 03:25	
1,1,1-Trichloroethane	ug/L	ND	1.0	04/12/14 03:25	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/12/14 03:25	
1,1,2-Trichloroethane	ug/L	ND	1.0	04/12/14 03:25	
1,1-Dichloroethane	ug/L	ND	1.0	04/12/14 03:25	
1,1-Dichloroethene	ug/L	ND	1.0	04/12/14 03:25	
1,1-Dichloropropene	ug/L	ND	1.0	04/12/14 03:25	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	04/12/14 03:25	
1,2,3-Trichloropropane	ug/L	ND	2.5	04/12/14 03:25	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	04/12/14 03:25	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	04/12/14 03:25	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.5	04/12/14 03:25	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/12/14 03:25	
1,2-Dichlorobenzene	ug/L	ND	1.0	04/12/14 03:25	
1,2-Dichloroethane	ug/L	ND	1.0	04/12/14 03:25	
1,2-Dichloroethene (Total)	ug/L	ND	1.0	04/12/14 03:25	
1,2-Dichloropropane	ug/L	ND	1.0	04/12/14 03:25	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	04/12/14 03:25	
1,3-Dichlorobenzene	ug/L	ND	1.0	04/12/14 03:25	
1,3-Dichloropropane	ug/L	ND	1.0	04/12/14 03:25	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/12/14 03:25	
2,2-Dichloropropane	ug/L	ND	1.0	04/12/14 03:25	
2-Butanone (MEK)	ug/L	ND	10.0	04/12/14 03:25	
2-Chlorotoluene	ug/L	ND	1.0	04/12/14 03:25	
2-Hexanone	ug/L	ND	10.0	04/12/14 03:25	
4-Chlorotoluene	ug/L	ND	1.0	04/12/14 03:25	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	04/12/14 03:25	
Acetone	ug/L	ND	10.0	04/12/14 03:25	
Benzene	ug/L	ND	1.0	04/12/14 03:25	
Bromobenzene	ug/L	ND	1.0	04/12/14 03:25	
Bromochloromethane	ug/L	ND	1.0	04/12/14 03:25	
Bromodichloromethane	ug/L	ND	1.0	04/12/14 03:25	
Bromoform	ug/L	ND	1.0	04/12/14 03:25	
Bromomethane	ug/L	ND	5.0	04/12/14 03:25	
Carbon disulfide	ug/L	ND	5.0	04/12/14 03:25	
Carbon tetrachloride	ug/L	ND	1.0	04/12/14 03:25	
Chlorobenzene	ug/L	ND	1.0	04/12/14 03:25	
Chloroethane	ug/L	ND	1.0	04/12/14 03:25	
Chloroform	ug/L	ND	1.0	04/12/14 03:25	
Chloromethane	ug/L	ND	1.0	04/12/14 03:25	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/12/14 03:25	
cis-1,3-Dichloropropene	ug/L	ND	1.0	04/12/14 03:25	
Dibromochloromethane	ug/L	ND	1.0	04/12/14 03:25	

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

METHOD BLANK: 1358975 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/L	ND	1.0	04/12/14 03:25	
Dichlorodifluoromethane	ug/L	ND	1.0	04/12/14 03:25	
Ethylbenzene	ug/L	ND	1.0	04/12/14 03:25	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	04/12/14 03:25	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	04/12/14 03:25	
Methyl-tert-butyl ether	ug/L	ND	1.0	04/12/14 03:25	
Methylene chloride	ug/L	ND	1.0	04/12/14 03:25	
n-Butylbenzene	ug/L	ND	1.0	04/12/14 03:25	
n-Propylbenzene	ug/L	ND	1.0	04/12/14 03:25	
Naphthalene	ug/L	ND	10.0	04/12/14 03:25	
p-Isopropyltoluene	ug/L	ND	1.0	04/12/14 03:25	
sec-Butylbenzene	ug/L	ND	1.0	04/12/14 03:25	
Styrene	ug/L	ND	1.0	04/12/14 03:25	
tert-Butylbenzene	ug/L	ND	1.0	04/12/14 03:25	
Tetrachloroethene	ug/L	ND	1.0	04/12/14 03:25	
Toluene	ug/L	ND	1.0	04/12/14 03:25	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/12/14 03:25	
trans-1,3-Dichloropropene	ug/L	ND	1.0	04/12/14 03:25	
Trichloroethene	ug/L	ND	1.0	04/12/14 03:25	
Trichlorofluoromethane	ug/L	ND	1.0	04/12/14 03:25	
Vinyl chloride	ug/L	ND	1.0	04/12/14 03:25	
Xylene (Total)	ug/L	ND	3.0	04/12/14 03:25	
1,2-Dichloroethane-d4 (S)	%	106	80-120	04/12/14 03:25	
4-Bromofluorobenzene (S)	%	96	80-120	04/12/14 03:25	
Toluene-d8 (S)	%	107	80-120	04/12/14 03:25	

LABORATORY CONTROL SAMPLE: 1358976

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.5	98	80-124	
1,1,1-Trichloroethane	ug/L	20	17.3	87	80-121	
1,1,2,2-Tetrachloroethane	ug/L	20	18.9	94	73-124	
1,1,2-Trichloroethane	ug/L	20	17.9	90	80-120	
1,1-Dichloroethane	ug/L	20	16.4	82	77-120	
1,1-Dichloroethene	ug/L	20	17.6	88	78-126	
1,1-Dichloropropene	ug/L	20	17.5	87	80-120	
1,2,3-Trichlorobenzene	ug/L	20	20.1	101	75-130	
1,2,3-Trichloropropane	ug/L	20	20.8	104	76-127	
1,2,4-Trichlorobenzene	ug/L	20	20.9	105	79-124	
1,2,4-Trimethylbenzene	ug/L	20	21.8	109	80-122	
1,2-Dibromo-3-chloropropane	ug/L	20	20.4	102	68-131	
1,2-Dibromoethane (EDB)	ug/L	20	20.7	103	80-127	
1,2-Dichlorobenzene	ug/L	20	21.1	105	80-122	
1,2-Dichloroethane	ug/L	20	17.7	88	77-123	
1,2-Dichloroethene (Total)	ug/L	40	37.1	93	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

LABORATORY CONTROL SAMPLE: 1358976

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloropropane	ug/L	20	18.6	93	80-121	
1,3,5-Trimethylbenzene	ug/L	20	20.8	104	80-121	
1,3-Dichlorobenzene	ug/L	20	20.8	104	80-120	
1,3-Dichloropropane	ug/L	20	18.8	94	80-120	
1,4-Dichlorobenzene	ug/L	20	21.0	105	80-120	
2,2-Dichloropropane	ug/L	20	13.9	70	50-137	
2-Butanone (MEK)	ug/L	100	99.1	99	52-145	
2-Chlorotoluene	ug/L	20	19.9	99	80-120	
2-Hexanone	ug/L	100	104	104	57-139	
4-Chlorotoluene	ug/L	20	21.9	109	80-121	
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.2	94	71-131	
Acetone	ug/L	100	104	104	32-155	
Benzene	ug/L	20	17.1	85	80-120	
Bromobenzene	ug/L	20	21.1	106	80-120	
Bromochloromethane	ug/L	20	16.0	80	77-123	
Bromodichloromethane	ug/L	20	17.0	85	80-120	
Bromoform	ug/L	20	20.2	101	73-124	
Bromomethane	ug/L	20	13.6	68	31-144	
Carbon disulfide	ug/L	20	17.5	87	65-125	
Carbon tetrachloride	ug/L	20	17.6	88	78-128	
Chlorobenzene	ug/L	20	19.6	98	80-120	
Chloroethane	ug/L	20	18.9	94	55-137	
Chloroform	ug/L	20	17.6	88	79-120	
Chloromethane	ug/L	20	21.6	108	22-138	
cis-1,2-Dichloroethene	ug/L	20	18.4	92	80-120	
cis-1,3-Dichloropropene	ug/L	20	16.2	81	80-120	
Dibromochloromethane	ug/L	20	17.6	88	80-120	
Dibromomethane	ug/L	20	18.5	93	80-122	
Dichlorodifluoromethane	ug/L	20	15.1	75	23-120	
Ethylbenzene	ug/L	20	19.0	95	80-121	
Hexachloro-1,3-butadiene	ug/L	20	20.2	101	77-129	
Isopropylbenzene (Cumene)	ug/L	20	21.5	107	80-136	
Methyl-tert-butyl ether	ug/L	20	15.7	79	74-125	
Methylene chloride	ug/L	20	18.8	94	73-126	
n-Butylbenzene	ug/L	20	20.6	103	83-123	
n-Propylbenzene	ug/L	20	22.2	111	80-122	
Naphthalene	ug/L	20	20.2	101	73-130	
p-Isopropyltoluene	ug/L	20	22.0	110	80-124	
sec-Butylbenzene	ug/L	20	20.8	104	80-129	
Styrene	ug/L	20	20.3	101	80-120	
tert-Butylbenzene	ug/L	20	20.8	104	80-126	
Tetrachloroethene	ug/L	20	19.5	98	80-121	
Toluene	ug/L	20	19.3	96	80-122	
trans-1,2-Dichloroethene	ug/L	20	18.7	93	79-121	
trans-1,3-Dichloropropene	ug/L	20	19.2	96	80-127	
Trichloroethene	ug/L	20	18.1	90	80-120	
Trichlorofluoromethane	ug/L	20	17.7	88	67-120	
Vinyl chloride	ug/L	20	16.4	82	59-120	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

LABORATORY CONTROL SAMPLE: 1358976

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	59.9	100	80-121	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			104	80-120	

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: OEXT/43505
QC Batch Method: EPA 3510C
Analysis Method: EPA 8015B
Analysis Description: EPA 8015B
Associated Lab Samples: 60166332001

METHOD BLANK: 1356074 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO	mg/L	ND	0.50	04/07/14 15:55	
n-Tetracosane (S)	%	66	22-121	04/07/14 15:55	
p-Terphenyl (S)	%	68	28-127	04/07/14 15:55	

LABORATORY CONTROL SAMPLE: 1356075

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO	mg/L	12.5	8.1	65	39-120	
n-Tetracosane (S)	%			71	22-121	
p-Terphenyl (S)	%			73	28-127	

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: OEXT/43560
QC Batch Method: EPA 3510
Analysis Method: EPA 8270
Analysis Description: 8270 Water MSSV
Associated Lab Samples: 60166332001

METHOD BLANK: 1357256
Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	10.0	04/10/14 13:00	
1,2-Dichlorobenzene	ug/L	ND	10.0	04/10/14 13:00	
1,3-Dichlorobenzene	ug/L	ND	10.0	04/10/14 13:00	
1,4-Dichlorobenzene	ug/L	ND	10.0	04/10/14 13:00	
2,4,5-Trichlorophenol	ug/L	ND	50.0	04/10/14 13:00	
2,4,6-Trichlorophenol	ug/L	ND	10.0	04/10/14 13:00	
2,4-Dichlorophenol	ug/L	ND	10.0	04/10/14 13:00	
2,4-Dimethylphenol	ug/L	ND	10.0	04/10/14 13:00	
2,4-Dinitrophenol	ug/L	ND	50.0	04/10/14 13:00	
2,4-Dinitrotoluene	ug/L	ND	10.0	04/10/14 13:00	
2,6-Dinitrotoluene	ug/L	ND	10.0	04/10/14 13:00	
2-Chloronaphthalene	ug/L	ND	10.0	04/10/14 13:00	
2-Chlorophenol	ug/L	ND	10.0	04/10/14 13:00	
2-Methylnaphthalene	ug/L	ND	10.0	04/10/14 13:00	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	04/10/14 13:00	
2-Nitroaniline	ug/L	ND	50.0	04/10/14 13:00	
2-Nitrophenol	ug/L	ND	10.0	04/10/14 13:00	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	10.0	04/10/14 13:00	
3,3'-Dichlorobenzidine	ug/L	ND	20.0	04/10/14 13:00	
3-Nitroaniline	ug/L	ND	50.0	04/10/14 13:00	
4,6-Dinitro-2-methylphenol	ug/L	ND	50.0	04/10/14 13:00	
4-Bromophenylphenyl ether	ug/L	ND	10.0	04/10/14 13:00	
4-Chloro-3-methylphenol	ug/L	ND	20.0	04/10/14 13:00	
4-Chloroaniline	ug/L	ND	20.0	04/10/14 13:00	
4-Chlorophenylphenyl ether	ug/L	ND	10.0	04/10/14 13:00	
4-Nitroaniline	ug/L	ND	50.0	04/10/14 13:00	
4-Nitrophenol	ug/L	ND	50.0	04/10/14 13:00	
Acenaphthene	ug/L	ND	10.0	04/10/14 13:00	
Acenaphthylene	ug/L	ND	10.0	04/10/14 13:00	
Anthracene	ug/L	ND	10.0	04/10/14 13:00	
Benzo(a)anthracene	ug/L	ND	10.0	04/10/14 13:00	
Benzo(a)pyrene	ug/L	ND	10.0	04/10/14 13:00	
Benzo(b)fluoranthene	ug/L	ND	10.0	04/10/14 13:00	
Benzo(g,h,i)perylene	ug/L	ND	10.0	04/10/14 13:00	
Benzo(k)fluoranthene	ug/L	ND	10.0	04/10/14 13:00	
Benzoic acid	ug/L	ND	50.0	04/10/14 13:00	
Benzyl alcohol	ug/L	ND	20.0	04/10/14 13:00	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	04/10/14 13:00	
bis(2-Chloroethyl) ether	ug/L	ND	10.0	04/10/14 13:00	
bis(2-Chloroisopropyl) ether	ug/L	ND	10.0	04/10/14 13:00	
bis(2-Ethylhexyl)phthalate	ug/L	ND	10.0	04/10/14 13:00	
Butylbenzylphthalate	ug/L	ND	10.0	04/10/14 13:00	
Carbazole	ug/L	ND	10.0	04/10/14 13:00	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

METHOD BLANK: 1357256 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chrysene	ug/L	ND	10.0	04/10/14 13:00	
Di-n-butylphthalate	ug/L	ND	10.0	04/10/14 13:00	
Di-n-octylphthalate	ug/L	ND	10.0	04/10/14 13:00	
Dibenz(a,h)anthracene	ug/L	ND	10.0	04/10/14 13:00	
Dibenzofuran	ug/L	ND	10.0	04/10/14 13:00	
Diethylphthalate	ug/L	ND	10.0	04/10/14 13:00	
Dimethylphthalate	ug/L	ND	10.0	04/10/14 13:00	
Fluoranthene	ug/L	ND	10.0	04/10/14 13:00	
Fluorene	ug/L	ND	10.0	04/10/14 13:00	
Hexachloro-1,3-butadiene	ug/L	ND	10.0	04/10/14 13:00	
Hexachlorobenzene	ug/L	ND	10.0	04/10/14 13:00	
Hexachlorocyclopentadiene	ug/L	ND	10.0	04/10/14 13:00	
Hexachloroethane	ug/L	ND	10.0	04/10/14 13:00	
Indeno(1,2,3-cd)pyrene	ug/L	ND	10.0	04/10/14 13:00	
Isophorone	ug/L	ND	10.0	04/10/14 13:00	
N-Nitroso-di-n-propylamine	ug/L	ND	10.0	04/10/14 13:00	
N-Nitrosodiphenylamine	ug/L	ND	10.0	04/10/14 13:00	
Naphthalene	ug/L	ND	10.0	04/10/14 13:00	
Nitrobenzene	ug/L	ND	10.0	04/10/14 13:00	
Pentachlorophenol	ug/L	ND	50.0	04/10/14 13:00	
Phenanthrene	ug/L	ND	10.0	04/10/14 13:00	
Phenol	ug/L	ND	10.0	04/10/14 13:00	
Pyrene	ug/L	ND	10.0	04/10/14 13:00	
Pyridine	ug/L	ND	10.0	04/10/14 13:00	
2,4,6-Tribromophenol (S)	%	89	29-121	04/10/14 13:00	
2-Fluorobiphenyl (S)	%	93	19-124	04/10/14 13:00	
2-Fluorophenol (S)	%	46	13-120	04/10/14 13:00	
Nitrobenzene-d5 (S)	%	90	10-135	04/10/14 13:00	
Phenol-d6 (S)	%	29	10-120	04/10/14 13:00	
Terphenyl-d14 (S)	%	95	24-131	04/10/14 13:00	

LABORATORY CONTROL SAMPLE: 1357257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.6	85	45-120	
1,2-Dichlorobenzene	ug/L	50	42.5	85	45-120	
1,3-Dichlorobenzene	ug/L	50	40.9	82	44-120	
1,4-Dichlorobenzene	ug/L	50	41.6	83	44-120	
2,4,5-Trichlorophenol	ug/L	50	45.6J	91	50-120	
2,4,6-Trichlorophenol	ug/L	50	44.4	89	49-120	
2,4-Dichlorophenol	ug/L	50	42.2	84	48-120	
2,4-Dimethylphenol	ug/L	50	38.8	78	35-120	
2,4-Dinitrophenol	ug/L	50	31.9J	64	21-120	
2,4-Dinitrotoluene	ug/L	50	46.3	93	52-120	
2,6-Dinitrotoluene	ug/L	50	45.2	90	53-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

LABORATORY CONTROL SAMPLE: 1357257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Chloronaphthalene	ug/L	50	45.1	90	49-120	
2-Chlorophenol	ug/L	50	39.5	79	47-120	
2-Methylnaphthalene	ug/L	50	44.6	89	46-120	
2-Methylphenol(o-Cresol)	ug/L	50	36.3	73	40-120	
2-Nitroaniline	ug/L	50	46.1J	92	51-120	
2-Nitrophenol	ug/L	50	42.6	85	47-120	
3&4-Methylphenol(m&p Cresol)	ug/L	50	33.1	66	34-120	
3,3'-Dichlorobenzidine	ug/L	50	74.0	148	28-160	
3-Nitroaniline	ug/L	50	51.6	103	43-157	
4,6-Dinitro-2-methylphenol	ug/L	50	48.5J	97	42-120	
4-Bromophenylphenyl ether	ug/L	50	47.0	94	52-120	
4-Chloro-3-methylphenol	ug/L	50	41.8	84	48-120	
4-Chloroaniline	ug/L	50	57.2	114	24-160	
4-Chlorophenylphenyl ether	ug/L	50	45.4	91	53-120	
4-Nitroaniline	ug/L	50	46.7J	93	50-120	
4-Nitrophenol	ug/L	50	16.8J	34	10-120	
Acenaphthene	ug/L	50	45.3	91	50-120	
Acenaphthylene	ug/L	50	43.8	88	49-120	
Anthracene	ug/L	50	46.4	93	52-120	
Benzo(a)anthracene	ug/L	50	47.9	96	53-120	
Benzo(a)pyrene	ug/L	50	45.2	90	51-120	
Benzo(b)fluoranthene	ug/L	50	44.7	89	51-120	
Benzo(g,h,i)perylene	ug/L	50	46.7	93	52-120	
Benzo(k)fluoranthene	ug/L	50	49.1	98	51-120	
Benzoic acid	ug/L	50	ND	7	10-120	L0
Benzyl alcohol	ug/L	50	34.4	69	39-120	
bis(2-Chloroethoxy)methane	ug/L	50	44.3	89	50-120	
bis(2-Chloroethyl) ether	ug/L	50	44.6	89	48-120	
bis(2-Chloroisopropyl) ether	ug/L	50	43.3	87	49-120	
bis(2-Ethylhexyl)phthalate	ug/L	50	49.4	99	52-123	
Butylbenzylphthalate	ug/L	50	49.4	99	52-120	
Carbazole	ug/L	50	46.9	94	55-120	
Chrysene	ug/L	50	49.1	98	53-120	
Di-n-butylphthalate	ug/L	50	48.4	97	49-125	
Di-n-octylphthalate	ug/L	50	46.6	93	51-121	
Dibenz(a,h)anthracene	ug/L	50	47.0	94	51-120	
Dibenzofuran	ug/L	50	45.8	92	51-120	
Diethylphthalate	ug/L	50	46.2	92	53-120	
Dimethylphthalate	ug/L	50	46.0	92	52-120	
Fluoranthene	ug/L	50	47.7	95	53-120	
Fluorene	ug/L	50	44.9	90	52-120	
Hexachloro-1,3-butadiene	ug/L	50	40.2	80	42-120	
Hexachlorobenzene	ug/L	50	44.6	89	52-120	
Hexachlorocyclopentadiene	ug/L	100	75.4	75	26-120	
Hexachloroethane	ug/L	50	39.1	78	43-120	
Indeno(1,2,3-cd)pyrene	ug/L	50	47.3	95	51-120	
Isophorone	ug/L	50	43.4	87	50-120	
N-Nitroso-di-n-propylamine	ug/L	50	45.5	91	50-120	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

LABORATORY CONTROL SAMPLE: 1357257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
N-Nitrosodiphenylamine	ug/L	50	44.9	90	53-120	
Naphthalene	ug/L	50	43.6	87	48-120	
Nitrobenzene	ug/L	50	44.3	89	47-120	
Pentachlorophenol	ug/L	50	40.3J	81	43-120	
Phenanthrene	ug/L	50	45.1	90	53-120	
Phenol	ug/L	50	18.2	36	12-120	
Pyrene	ug/L	50	48.1	96	54-120	
Pyridine	ug/L	50	17.2	34	10-120	
2,4,6-Tribromophenol (S)	%			91	29-121	
2-Fluorobiphenyl (S)	%			90	19-124	
2-Fluorophenol (S)	%			44	13-120	
Nitrobenzene-d5 (S)	%			89	10-135	
Phenol-d6 (S)	%			30	10-120	
Terphenyl-d14 (S)	%			98	24-131	

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: WET/47146
QC Batch Method: EPA 120.1
Analysis Method: EPA 120.1
Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 60166332001

METHOD BLANK: 1356310 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	1.0	04/08/14 10:11	

SAMPLE DUPLICATE: 1356311

Parameter	Units	60166384001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	ND	ND		20	

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: WET/47254 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 60166332001

METHOD BLANK: 1358655 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	20.0	04/14/14 11:40	

LABORATORY CONTROL SAMPLE: 1358656

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	537	107	90-110	

SAMPLE DUPLICATE: 1358661

Parameter	Units	60166675005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	886	885	0	10	

SAMPLE DUPLICATE: 1358665

Parameter	Units	60166638001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	864	850	2	10	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: WET/47185 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60166332001

METHOD BLANK: 1356722 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	04/08/14 12:33	

LABORATORY CONTROL SAMPLE: 1356723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	987	99	80-120	

SAMPLE DUPLICATE: 1356724

Parameter	Units	60166097002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	389	380	2	10	

SAMPLE DUPLICATE: 1356725

Parameter	Units	60166382004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	788	791	0	10	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: WET/47180
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60166332001

SAMPLE DUPLICATE: 1356696

Parameter	Units	60166120001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	1	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: WETA/29042
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60166332001

METHOD BLANK: 1361971 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	ND	1.0	04/17/14 19:41	
Chloride	mg/L	ND	1.0	04/17/14 19:41	
Fluoride	mg/L	ND	0.20	04/17/14 19:41	
Sulfate	mg/L	ND	1.0	04/17/14 19:41	

LABORATORY CONTROL SAMPLE: 1361972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	5	4.7	94	90-110	
Chloride	mg/L	5	4.7	93	90-110	
Fluoride	mg/L	2.5	2.3	92	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1361973 1361974

Parameter	Units	60166574001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	ND	2500	2500	2490	2560	99	102	80-120	3	15	
Chloride	mg/L	2340	2500	2500	4660	4720	93	95	80-120	1	15	
Fluoride	mg/L	255	1250	1250	1450	1450	96	96	80-120	0	15	
Sulfate	mg/L	830	2500	2500	2820	2710	80	75	80-120	4	15	M1

MATRIX SPIKE SAMPLE: 1361975

Parameter	Units	60166574005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	ND	2500	2500	100	80-120	
Chloride	mg/L	5330	2500	8020	107	80-120	
Fluoride	mg/L	ND	1250	1210	97	80-120	
Sulfate	mg/L	ND	2500	2570	88	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: WETA/28919
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 60166332001

METHOD BLANK: 1356711 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	04/08/14 15:56	

LABORATORY CONTROL SAMPLE: 1356712

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2	2.1	104	90-110	

MATRIX SPIKE SAMPLE: 1356713

Parameter	Units	60166229001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	1.7	2	3.6	92	90-110	

SAMPLE DUPLICATE: 1356714

Parameter	Units	60166293003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.13		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

QC Batch: WETA/28883 Analysis Method: EPA 365.1
QC Batch Method: EPA 365.1 Analysis Description: 365.1 Orthophosphate as P
Associated Lab Samples: 60166332001

METHOD BLANK: 1355256 Matrix: Water
Associated Lab Samples: 60166332001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.10	04/04/14 12:49	

LABORATORY CONTROL SAMPLE: 1355257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	2	1.9	94	90-110	

MATRIX SPIKE SAMPLE: 1355311

Parameter	Units	60166332001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.10	2	1.9	90	90-110	

SAMPLE DUPLICATE: 1355258

Parameter	Units	60166320001 Result	Dup Result	RPD	Max RPD	Qualifiers
Orthophosphate as P	mg/L	2.2	2.3	1	30	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

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.

PRL - Pace Reporting Limit.

RL - Reporting 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.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: OEXT/43505

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

Batch: GCV/4730

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

Batch: OEXT/43560

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

Batch: MSV/60740

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

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 085692 MARCOTTE NO 1
Pace Project No.: 60166332

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60166332001	**GW-085692-040214-CM-MW-2**	EPA 3510C	OEXT/43505	EPA 8015B	GCSV/16583
60166332001	**GW-085692-040214-CM-MW-2**	EPA 5030B/8015B	GCV/4730		
60166332001	**GW-085692-040214-CM-MW-2**	EPA 3010	MPRP/26840	EPA 6010	ICP/20385
60166332001	**GW-085692-040214-CM-MW-2**	EPA 3010	MPRP/26827	EPA 6020	ICPM/2896
60166332001	**GW-085692-040214-CM-MW-2**	EPA 7470	MERP/8283	EPA 7470	MERC/8235
60166332001	**GW-085692-040214-CM-MW-2**	EPA 3510	OEXT/43560	EPA 8270	MSSV/13901
60166332001	**GW-085692-040214-CM-MW-2**	EPA 5030B/8260	MSV/60740		
60166332001	**GW-085692-040214-CM-MW-2**	EPA 120.1	WET/47146		
60166332001	**GW-085692-040214-CM-MW-2**	SM 2320B	WET/47254		
60166332001	**GW-085692-040214-CM-MW-2**	SM 2540C	WET/47185		
60166332001	**GW-085692-040214-CM-MW-2**	SM 4500-H+B	WET/47180		
60166332001	**GW-085692-040214-CM-MW-2**	EPA 300.0	WETA/29042		
60166332001	**GW-085692-040214-CM-MW-2**	EPA 353.2	WETA/28919		
60166332001	**GW-085692-040214-CM-MW-2**	EPA 365.1	WETA/28883		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60166332

60166332

Client Name: COP CRA NM

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 5689 1282 1903 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 ☑ZPLC

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 4.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 4/4/14 BF

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. NO2 NO3, Ortho-P
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☑Yes ☐No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: (VOA) coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 031714-38PD		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: APF Date: 4/4/14

Temp Log: Record start and finish times when unpacking cooler. if >20 min, recheck sample temps.	
Start: 0900	Start:
End: 0905	End:
Temp:	Temp:

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

Section A Required Client Information:

Company:	COP CRA NM
Address:	6121 Indian School Rd NE, Ste 200
	Albequerque, NM 87110
Email To:	cmathews@craworld.com
Phone: (505)884-0672	Fax: (505)884-4932
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Christine Mathews
Copy To:	Jeff Walker, Angela Bown
Purchase Order No.:	
Project Name:	Marcotte No 1
Project Number:	*085692

Section C Invoice Information:

Attention:	ePayables
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Alice Flanagan
Pace Profile #:	5514, 28

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NM

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 VOCs	8270 SVOCs	8015B TPH GRO	8015B TPH DRO	6020A Diss. Metals**	7470 Mercury	353.2 Nitrate/Nitrite	300.0 Anions	365.1 Ortho, P	310.1 Alkalinity, pH	120.1 Specific Conductan	2540C TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-085692-040214-CM-MW-2	WT	G			4.2.14	1345		15	3	1	1	6		6 HCl pH			X	X	X	X	X	X	X	X	X	X		60166332
2																														38P34 2AG4U 1BP3S[L] 1BP3F[L] 2AG4U
3																														3DG9H(FB)
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS

**6020 Dissolved metals: As, Ba, Cd, Cr, Co, Cu, Pb, Mn, Mo, Ni, Se, Ag, Zn, HARDNESS

metals sample was field filtered

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Christine Mathews/CRA	4.3.14	1230	Brent Ake / PASI KS	4/4/14	0835	4.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Christine Mathews				
SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YY): 4/3/14				

"Important Note" By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Appendix B

NMOSE Domestic Water Well List

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(acre ft per annum)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q q q 6416 4	Sec	Tws	Rng	X	Y
SJ 00585		DOM	3	HAROLD AND VEVERALY PEPIN	SJ	SJ 00585			Shallow		08	31N	10W	241111	4089191*
SJ 01078		DOM	3	ROSS C. SILVA	SJ	SJ 01078				3	08	31N	10W	240709	4088789*
SJ 01081		DOM	3	HANK STIEHL	SJ	SJ 01081				3 3	08	31N	10W	240508	4088588*
SJ 01085		DOM	3	DALE BOYD	SJ	SJ 01085				4 1	08	31N	10W	240946	4089384*
SJ 01091		DOM	3	JOHN CHRISTENSEN	SJ	SJ 01091				3	08	31N	10W	240709	4088789*
SJ 01288		DOM	3	WILLIAM B. HUDSON	SJ	SJ 01288				1 1	08	31N	10W	240551	4089802*
SJ 01584		DOM	0	F. R. DICKENS	SJ	SJ 01584				3 1	08	31N	10W	240537	4089397*
SJ 01940		DOM	3	HAROLD B. JARRED	SJ	SJ 01940				2 1	08	31N	10W	240959	4089789*
SJ 02153		DOM	3	CHARLES GAINES	SJ	SJ 02153				2 1	08	31N	10W	240959	4089789*
SJ 02304		DOM	3	EDWARD K. ZINK	SJ	SJ 02304			Shallow	2 1	08	31N	10W	240959	4089789*
SJ 02432		DOM	3	BERT HARRIS	SJ	SJ 02432				4 1	08	31N	10W	240946	4089384*
SJ 02566		DOM	3	CLARENCE D. KEENOM	SJ	SJ 02566				1 2 3	08	31N	10W	240832	4089079*
SJ 03057		DOM	3	ROD KESSELHUTH	SJ	SJ 03057			Shallow	4 3 1	08	31N	10W	240636	4089296*
SJ 03714		DOM	3	J.A. WILSON	SJ	SJ 03714 POD1			Shallow	1 1 3	08	31N	10W	240421	4089091*
SJ 03923		DOM	1	KAREN BRASFIELD	SJ	SJ 03923 POD1			Shallow	4 1 2	08	31N	10W	241455	4089675
SJ 03930		DOM	1	VIRGINIA A. LENBERG	SJ	SJ 03930 POD1			Shallow	3 1 3	08	31N	10W	240624	4088974
SJ 03988		DOM	1	JOSEPH WILSON	SJ	SJ 03988 POD1				2 1 3	08	31N	10W	240561	4089123
SJ 03989		DOM	1	JOSEPH WILSON	SJ	SJ 03989 POD1				2 1 3	08	31N	10W	240554	4089078

***UTM location was derived from PLSS - see Help**

(R=POD has been replaced and no longer serves this file, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(acre ft per annum)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q q q 6416 4	Sec	Twn	Rng	X	Y
SJ 03990		DOM	1	JOSEPH WILSON	SJ	SJ 03990 POD1				2 1 3	08	31N	10W	240556	4089022
SJ 03991		DOM	1	JOE WILSON	SJ	SJ 03991 POD1				3 1 3	08	31N	10W	240525	4088961
SJ 03992		DOM	1	J A WILSON	SJ	SJ 03992 POD1				3 1 3	08	31N	10W	240485	4088974
SJ 03993		DOM	1	J A WILSON	SJ	SJ 03993 POD1				1 1 3	08	31N	10W	240484	4089021
SJ 04005		DOL	3	CLARENCE D. KEENOM	SJ	SJ 04005 POD1				1 2 3	08	31N	10W	240879	4089011
SJ 04044		DOL	3	ADRIAN GRIEGO	SJ	SJ 04044 POD1				4 2 1	08	31N	10W	241163	4089709

Record Count: 24

PLSS Search:

Section(s): 8 Township: 31N Range: 10W

Sorted by: File Number