

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303) 894-2100 Fax 894-2109

#7952
FOR OGCC USE ONLY

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

RECEIVED
6/17/2013

OGCC Employee:

☒ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No: 2232473

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☒ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☐ Other (describe):

GENERAL INFORMATION

OGCC Operator Number: 69175		Contact Name and Telephone	
Name of Operator: PDC Energy, Inc.		Name: Brandon Bruns	
Address: 1775 Sherman Street, Suite 3000		No: (303) 831-3971	
City: Denver State: CO Zip: 80203		Fax: (303) 860-5838	
API/Facility No: 05-123-20024		County: Weld	
Facility Name: Jacobucci 13-32, 23-32		Facility Number:	
Well Name: Jacobucci 13-32, 23-32		Well Number: Jacobucci 13-32, 23-32	
Location (QtrQtr, Sec, Twp, Rng, Meridian): NWSW S32 T1N R67W		Latitude: 40.006534 Longitude: -104.923291	

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): <u>Condensate</u>	
Site Conditions: Is location within a sensitive area (according to Rule 901e)? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If yes, attach evaluation.	
Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): <u>Oil and Gas Production Facility/Agriculture/Livestock</u>	
Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: <u>Nunn loam, 0 to 1 percent slopes</u>	
Potential receptors (water wells within 1/4 mi, surface waters, etc.): <u>A livestock pasture is located directly east of the site. The nearest surface water is located 680' west of the tank battery, and the nearest water well is 790' to the SW. A residential building is 1,250 ft to the SW, and depth to groundwater is about 4 ft bgs.</u>	
Description of Impact (if previously provided, refer to that form or document):	
Impacted Media (check):	Extent of Impact:
<input checked="" type="checkbox"/> Soils	<u>Refer to the attached Figure 2 and Table 1</u>
<input type="checkbox"/> Vegetation	
<input checked="" type="checkbox"/> Groundwater	<u>Refer to the attached Figure 3 and Table 2</u>
<input type="checkbox"/> Surface water	
How Determined:	
<u>Excavation, hollow stem auger drilling, and soil sampling</u>	
<u>Groundwater sampling</u>	

REMEDATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):
A Form 19 was submitted on March 25, 2013 to the COGCC. COGCC subsequently assigned spill tracking number 2232473 for this location. An aerial map of the site is included on Figure 1.
Describe how source is to be removed:
The source area was previously excavated and impacted material was transported and disposed of as described in the Form 19 at a licensed disposal facility.
Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:
On March 5, 2013, after excavation work was completed, multiple remediation pipes were installed prior to backfilling the excavation, as illustrated on Figure 3. The three-inch diameter remediation pipes were set below the potentiometric surface to address residual constituent concentrations in groundwater. On April 8 through April 11, 2013, seven temporary monitoring wells (BH01 - BH07) were installed using hollow stem auger drilling, as illustrated on Figure 3. Borehole locations were determined based on the excavation area and were installed in the primary area of impact and clear of current site features. Additional wells may be installed east of the property fence pending landowner approval. PDC plans to initiate bi-weekly vacuum enhanced fluid recovery (EFR) and air sparge (AS) events to address residual petroleum hydrocarbon impacts to groundwater and soil. In conjunction with the remediation efforts, PDC will conduct quarterly groundwater monitoring at the temporary well locations until BTEX concentrations meet COGCC groundwater standards for four consecutive quarters. The first groundwater sampling event was conducted on April 15, 2013, and the analytical results are summarized in Table 2.

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Page 2

REMEDIATION WORKPLAN (CONT.)

OGCC Employee:

Tracking Number:

Name of Operator: PDC Energy, Inc.

OGCC Operator No: 69175

Received Date:

Well Name & No: Jacobucci 12-32, 23-32

Facility Name & No.: Jacobucci 12-32, 23-32

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

PDC will sample the temporary monitoring well locations on a quarterly basis to assess the dissolved phase petroleum hydrocarbon impacts in groundwater using USEPA Method 8260. Groundwater sampling will continue until four consecutive quarters of groundwater monitoring data indicate that BTEX concentrations are in compliance with the COGCC Table 910-1 groundwater standards.

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

The area where the excavation was located is used as an equipment access area to the tank battery location, and extends into the adjacent livestock field to the east. The excavation has been backfilled and compacted with clean material and the ground surface was contoured to match pre-existing conditions.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☒ N If yes, describe:

No further Site investigation is required at this time. The excavation extent and soil and groundwater sample locations are illustrated on Figure 2. Soil analytical results are summarized in Table 1 and groundwater results are summarized in Table 2. Monitoring well and remediation pipe locations are illustrated on Figure 3.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

Waste was disposed of at the Waste Management Facility in Ault, CO under PDC manifests.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began:	2/11/2013	Date Site Investigation Completed:	3/5/2013	Remediation Plan Submitted:	5/20/13
Remediation Start Date:	4/8/2013	Anticipated Completion Date:	NA	Actual Completion Date:	TBD

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: **Brandon Bruns**

Signed:

Title:

EHS Professional

Date:

5/20/13

OGCC Approved:

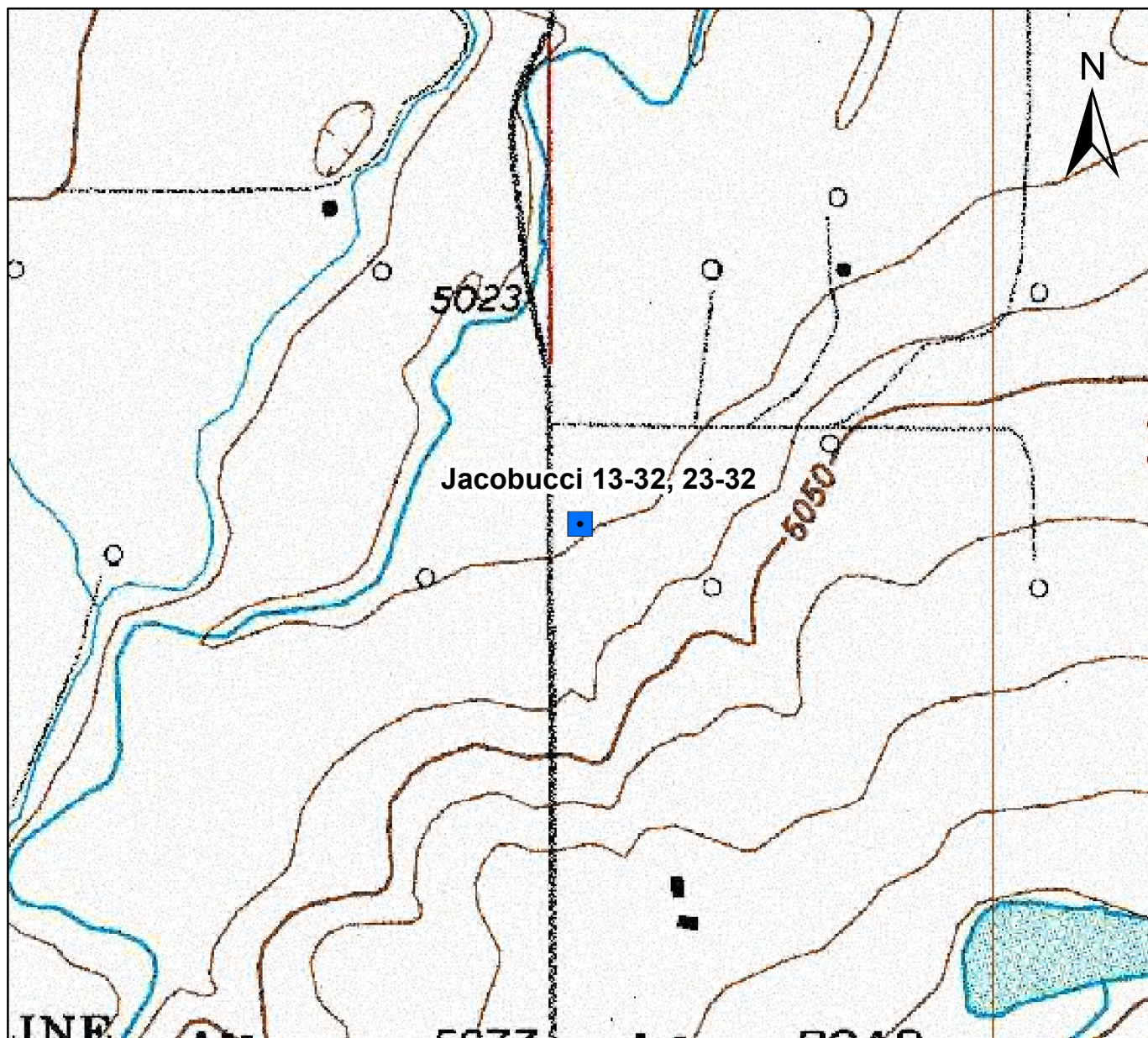
ACE for Robert Chesson

Title:

EPS

Date:

8/29/2013



0 375 750 1,500 Feet

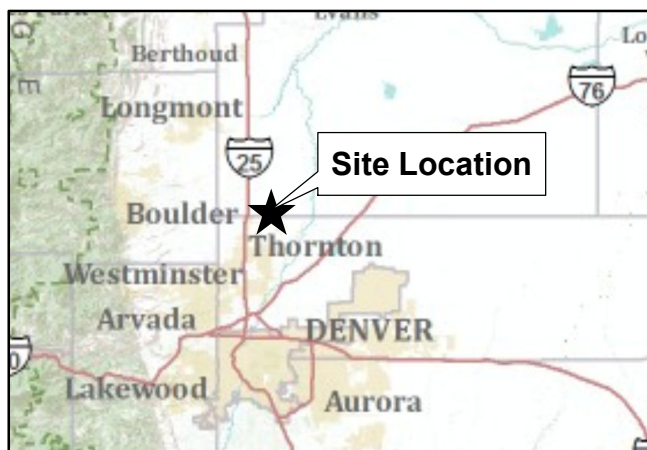


Figure 1

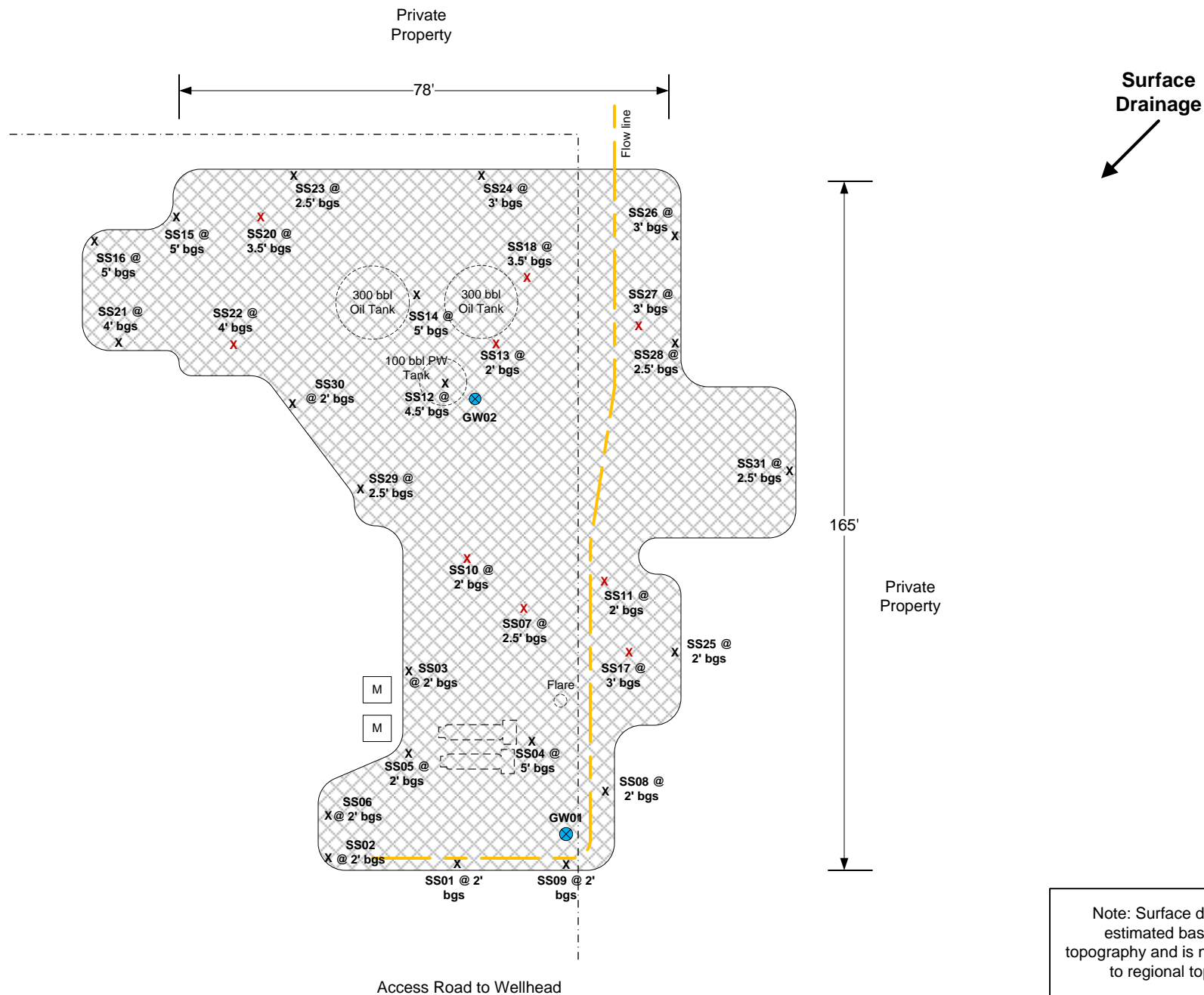
Site Location Map
Jacobucci 13-32, 23-32
NWSW S32 T1N R67W
Weld County, Colorado

Drawn By: CAW
Date: 03/05/2013



Tasman Geosciences



County Road 15



Note: Surface drainage is estimated based on site topography and is not related to regional topography.

DRAWN BY: CAW	<p><u>Facility Diagram</u> PDC Energy – DJ Basin Jacobucci 13-32, 23-32 NWSW S32 T1N R67W Weld County, CO</p>	 <p>6899 Pecos Street Unit C Denver, CO 80221</p>	<p>LEGEND</p> <ul style="list-style-type: none">--- Former Tank Location--- Fence LineApproximate area of excavationM Meter HouseX Soil Sample LocationX Soil Sample Location Over ExcavatedGroundwater Sample Location	<p>FIGURE 2</p> <p>Not to Scale</p>
DATE: 3/5/2013				

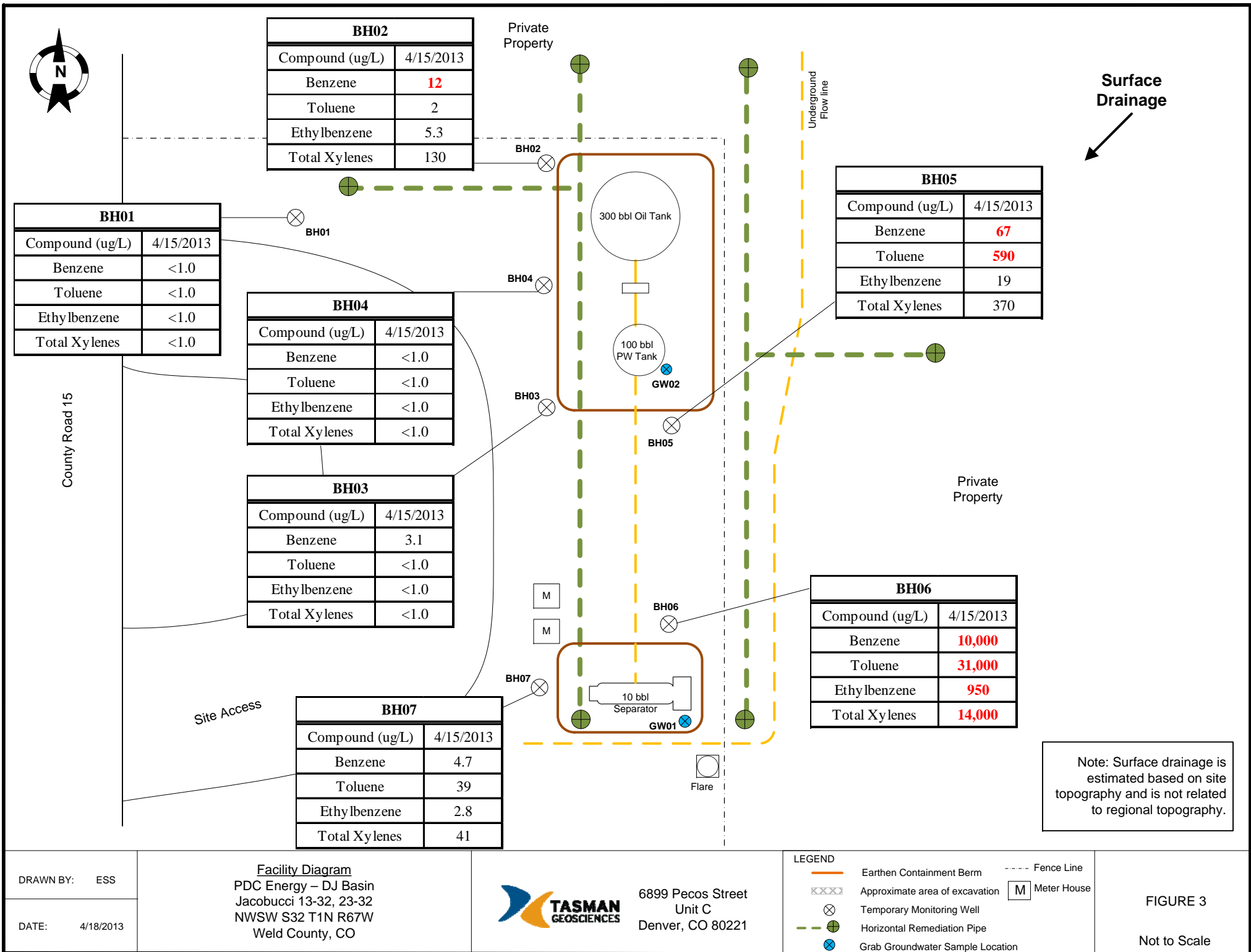


TABLE 1
JACOBUCCI 13-32, 23-32
SOIL ANALYTICAL RESULTS SUMMARY TABLE

Sample ID	Date Sampled	Depth (Feet bgs)	PID Readings (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH ⁽²⁾ (mg/kg)
SS01	2/12/2013	2	86	<0.005	<0.005	<0.005	<0.010	0.017	<50
SS02	2/12/2013	2	44	<0.005	0.034	<0.005	<0.010	<0.005	<50
SS03	2/13/2013	2	28.6	0.049	0.34	0.011	0.14	<0.005	1.1
SS04	2/13/2013	5	2,080	3.4	17	1.5	20	0.23	250
SS05	2/13/2013	2	26	<0.005	0.020	<0.005	0.063	<0.005	0.82
SS06	2/13/2013	2	0	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS07	2/13/2013	2.5	24	0.36	0.26	0.0073	0.11	<0.005	1.2
SS08	2/14/2013	2	100	0.027	0.080	<0.005	0.031	<0.005	<50
SS09	2/14/2013	2	63	0.046	0.16	0.008	0.14	<0.005	1.0
SS10	2/14/2013	2	132	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS11	2/14/2012	2	110	0.065	0.16	0.010	0.19	<0.005	1.7
SS12	2/14/2012	4.5	48	0.047	<0.005	<0.005	0.035	<0.005	<50
SS13	2/15/2013	2	40	0.36	1.4	0.033	0.79	<0.005	7.4
SS14	2/15/2013	5	7.1	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS15	2/19/2013	5	5	<0.005	<0.005	<0.005	<0.010	0.0068	<50
SS16	2/19/2013	5	0	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS17	2/20/2013	3	177	0.23	0.84	0.032	0.54	<0.005	5.0
SS18	2/20/2013	3.5	32.2	0.5	4.5	0.36	6.1	0.069	130
SS20	2/20/2013	4	634	2.1	<0.005	14	80	6.9	1,300
SS21	2/20/2013	3.5	8.1	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS22	2/20/2013	4	235	0.37	0.071	0.24	1.7	0.055	19
SS23	2/22/2013	2.5	315	<0.005	<0.005	0.0081	0.23	0.020	69.7
SS24	2/25/2013	3	0	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS25	2/26/2013	2	13	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS26	2/27/2013	2.5	1	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS27	2/27/2013	2.5	200	0.38	1.2	0.028	0.63	<0.005	6.9
SS28	3/1/2013	2.5	0	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS29	3/1/2013	2.5	10	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS30	3/1/2013	2	15	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS31	3/4/2013	2.5	36	<0.005	0.013	<0.005	<0.010	<0.005	<50
COGCC standards for Soil (mg/kg) ⁽¹⁾				0.17	85	100	175	23	500

Notes:

1). Standards for Soil are taken from 2 CCR 404-1, Table 910-1, effective April 1, 2009.

2). TPH - Total volatile and extractable petroleum hydrocarbons. Value calculated by adding GRO and DRO concentrations.

3). Soil sample SS19 was not collected during excavation activities.

GRO - Gasoline range organics.

DRO - Diesel range organics.

mg/kg= Milligrams per kilogram.

bgs - Below ground surface.

ppm - Parts per million

Bold red values indicate an exceedance of the COGCC soil standards for the Site.

TABLE 2
JACOBUCCI 13-32, 23-32
GROUNDWATER ANALYTICAL SUMMARY RESULTS

Sample ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
GW01	2/12/2013	510	3,400	190	3,000
GW02	2/19/2013	690	2,800	94	1,500
BH01	4/15/2013	<1.0	<1.0	<1.0	<1.0
BH02	4/15/2013	12	1.6	5.3	130
BH03	4/15/2013	3.1	<1.0	<1.0	<1.0
BH04	4/15/2013	<1.0	<1.0	<1.0	<1.0
BH05	4/15/2013	67	590	19	370
BH06	4/15/2013	10,000	31,000	950	14,000
BH07	4/15/2013	4.7	39	2.8	41
COGCC standards for Groundwater (ug/L) ⁽¹⁾		5	560	700	1,400

Notes:

1). The environmental cleanup standards for groundwater that are applicable to this site are the Colorado Oil and Gas Conservation Commission (COGCC) standards for contaminants in groundwater according to Table 910-1 of the COGCC 900 Series Rule for E&P Waste Management.

Bold red values indicate an exceedance of the COGCC groundwater standards for the Site.

ug/L= Micrograms per liter.

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

March 05, 2013

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Jacobucci 13-32, 23-32

Enclosed are the results of analyses for samples received by Summit Scientific on 02/12/13 15:30-03/04/13 11:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joseph J Egry IV
Laboratory Director

This report shall not be reproduced, except in its entirety, without the written approval of Summit Scientific. Test results relate only to samples analyzed.

Summit Scientific is the sole authority for authorizing edits or modifications to this document. Unauthorized modification of this report is strictly prohibited.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	R302111-01	Water	02/12/13 12:05	02/12/13 15:30
SS01 @ 2'	R302111-02	Soil	02/12/13 14:25	02/12/13 15:30
SS02 @ 2'	R302111-03	Soil	02/12/13 14:40	02/12/13 15:30
SS04@5'	R302123-01	Soil	02/13/13 08:10	02/13/13 16:45
SS05@2'	R302123-02	Soil	02/13/13 09:15	02/13/13 16:45
SS06@2'	R302123-03	Soil	02/13/13 09:20	02/13/13 16:45
SS07@2.5'	R302123-04	Soil	02/13/13 09:50	02/13/13 16:45
SS03@2'	R302123-05	Soil	02/13/13 10:40	02/13/13 16:45
SS08@2'	R302142-01	Soil	02/14/13 08:00	02/14/13 18:10
SS09@2'	R302142-02	Soil	02/14/13 09:15	02/14/13 18:10
SS10@2'	R302142-03	Soil	02/14/13 10:30	02/14/13 18:10
SS11@2'	R302142-04	Soil	02/14/13 10:35	02/14/13 18:10
SS12@4.5'	R302142-05	Soil	02/14/13 13:20	02/14/13 18:10
SS13@2'	R302149-01	Soil	02/15/13 08:15	02/15/13 15:30
SS14@5'	R302149-02	Soil	02/15/13 11:15	02/15/13 15:30
SS15@5'	R302155-01	Soil	02/19/13 09:15	02/19/13 17:18
SS16@5'	R302155-02	Soil	02/19/13 09:45	02/19/13 17:18
GW02	R302155-03	Water	02/19/13 13:10	02/19/13 17:18
SS17@3'	R302171-01	Soil	02/20/13 07:20	02/20/13 16:19
SS18@3.5'	R302171-02	Soil	02/20/13 08:10	02/20/13 16:19
SS20@4'	R302171-03	Soil	02/20/13 11:45	02/20/13 16:19
SS21@3.5'	R302171-04	Soil	02/20/13 13:00	02/20/13 16:19
SS22@4'	R302171-05	Soil	02/20/13 14:10	02/20/13 16:19
SS-23	R302181-01	Soil	02/22/13 12:41	02/22/13 14:32
SS24@3'	R302186-01	Soil	02/25/13 11:00	02/25/13 14:00
SS25@2'	R302193-01	Soil	02/26/13 08:40	02/26/13 17:14
SS26	R302202-01	Soil	02/27/13 10:35	02/27/13 16:40

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS27	R302202-02	Soil	02/27/13 11:30	02/27/13 16:40
SS28@2.5'	R303004-01	Soil	03/01/13 11:00	03/01/13 16:11
SS29@2.5'	R303004-02	Soil	03/01/13 12:50	03/01/13 16:11
SS30@2'	R303004-03	Soil	03/01/13 14:00	03/01/13 16:11
SS31@2.5'	R303010-01	Soil	03/04/13 09:40	03/04/13 11:10

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Summit Scientific R302123

S₂

741 Corporate Circle Suite 1 • Golden, Colorado 80401
303-277-9310 • 303-277-9331 Fax

Page 1 of 1

Client: PDC Energy
Address: 1775 Sherman St Suite 3000
City/State/Zip: Denver, CO 80203
Phone: (303) 860-5800
Fax:
Project Manager: Brandon Bruns
E-Mail: bbruns@pdc.com
Project Name: Jacobucci 13-32, 23-32
Project Number: C-13-32

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix				Analyze For:	Special Instructions
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)		
302123	3/13/13	9:00	1	X				X				CO ₂ RTX, NIP	
302123	3/13/13	9:10	1	X				X				CO ₂ RTX, NIP	
302123	3/13/13	9:15	1	X				X				CO ₂ RTX, NIP	
302123	3/13/13	9:20	1	X				X				CO ₂ RTX, NIP	
302123	3/13/13	9:25	1	X				X				CO ₂ RTX, NIP	
302123	3/13/13	9:30	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	9:35	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	9:40	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	9:45	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	9:50	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	9:55	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:00	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:05	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:10	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:15	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:20	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:25	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:30	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:35	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:40	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:45	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:50	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	10:55	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	11:00	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	11:05	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	11:10	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	11:15	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	11:20	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	11:25	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	11:30	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	11:35	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	11:40	2	X				X				CO ₂ RTX, NIP	
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302123	3/13/13	11:50	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	11:55	2	X				X				CO ₂ RTX, NIP	
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302123	3/13/13	12:10	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	12:15	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	12:20	2	X				X				CO ₂ RTX, NIP	
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302123	3/13/13	12:30	2	X				X				CO ₂ RTX, NIP	
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302123	3/13/13	1:10	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	1:15	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	1:20	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	1:25	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	1:30	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	1:35	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	1:40	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	1:45	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	1:50	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	1:55	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:00	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:05	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:10	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:15	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:20	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:25	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:30	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:35	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:40	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:45	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:50	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	2:55	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:00	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:05	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:10	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:15	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:20	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:25	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:30	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:35	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:40	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:45	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:50	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	3:55	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:00	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:05	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:10	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:15	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:20	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:25	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:30	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:35	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:40	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:45	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:50	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	4:55	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:00	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:05	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:10	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:15	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:20	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:25	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:30	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:35	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:40	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:45	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:50	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	5:55	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	6:00	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	6:05	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	6:10	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	6:15	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	6:20	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	6:25	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	6:30	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	6:35	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	6:40	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	6:45	2	X				X				CO ₂ RTX, NIP	
302123	3/13/13	6:50	2	X				X				CO ₂ RTX, NIP	
30													

PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Summit Scientific

5

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303-277-9310 ♦ 303-374-5933 Fax

Page (of

Client: DOL Energy Project Manager: Barbara Bink
Address: _____ E-Mail: _____
City/State/Zip: _____ Project Name: JACOBUS 15-23-23-32
Phone: _____ Fax: _____ Project Number: _____
Sample Name: WAS-10

[illegible]

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Carol Myers IV

PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Summit Scientific 2302193

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Page / of

Client: PDC Energy
Project Manager: Brandon Bruns
Address: 1775 Stearns St Suite 3000
E-Mail: bbruns@pdc.com
City/State/Zip: Denver, CO 80203
Fax:
Phone: (303) 860-5800
Sample Name: 1775 Stearns St Suite 3000
Project Number: 73-33-32

[illegible]

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Regel IV

PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Summit Scientific
R302202

52

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Page 1 of 1

Client: Tasman Geosciences

Address: 6899 Pecos Street

City/State/Zip: Denver, CO 80

Phone: (720) 988-2024

Sampler Name: Nate

Project Manager: Brandon Bruns

E-Mail: Brandon.bums@pplc

Project Name: Jacobucci 13-32

Project Number:

1000

[illegible]

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Legal Eagle IV

PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

R303004

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5

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Page 1 of 1

Client: Tasman Geosciences

Address: 6899 Pecos Street

City/State/Zip: Denver, CO 80221

Phone: (720) 988-2024

Sampler Name: Nite Lebb

Sampler Name: Ngiti

Project Manager: Bryan Bums

E-Mail: Brandon.burns@PNE.com

Project Name: Tacobuwi 13-52, 73-32

Project Number:

Project Number:

[illegible]

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Regel IV



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

GW01
R302111-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/12/13 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	510	100	ug/l	100	3021207	02/12/13	02/12/13	EPA 8260B	
Toluene	3400	100	"	"	"	"	"	"	
Ethylbenzene	190	100	"	"	"	"	"	"	
Xylenes (total)	3000	100	"	"	"	"	"	"	

Date Sampled: **02/12/13 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		96.0 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.6 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	45-146		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS01 @ 2'
R302111-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/12/13 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021212	02/12/13	02/12/13	8015 Full Carbon Chain	

Date Sampled: **02/12/13 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		102 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/12/13 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.017	0.0050	mg/kg	1	3021211	02/12/13	02/12/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/12/13 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		57.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		159 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS02 @ 2'
R302111-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/12/13 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021212	02/12/13	02/12/13	8015 Full Carbon Chain	

Date Sampled: **02/12/13 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/12/13 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021211	02/12/13	02/12/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	0.034	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/12/13 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %	21-167		"	"	"	"	

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS04@5'
R302123-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/13/13 08:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021308	02/13/13	02/13/13	8015 Full Carbon Chain	

Date Sampled: **02/13/13 08:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.8 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/13/13 08:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.23	0.050	mg/kg	10	3021307	02/13/13	02/13/13	EPA 8260B	
Benzene	3.4	0.050	"	"	"	"	"	"	
Toluene	17	0.050	"	"	"	"	"	"	E
Ethylbenzene	1.5	0.050	"	"	"	"	"	"	
Xylenes (total)	20	0.10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	250	5.0	"	"	"	"	"	"	

Date Sampled: **02/13/13 08:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		162 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		121 %	21-167		"	"	"	"	

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS05@2'
R302123-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/13/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021308	02/13/13	02/13/13	8015 Full Carbon Chain	

Date Sampled: **02/13/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		99.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/13/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021307	02/13/13	02/13/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	0.020	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.063	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.82	0.50	"	"	"	"	"	"	

Date Sampled: **02/13/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		91.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.5 %	21-167		"	"	"	"	

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS06@2'
R302123-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/13/13 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021308	02/13/13	02/13/13	8015 Full Carbon Chain	

Date Sampled: **02/13/13 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		97.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/13/13 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021307	02/13/13	02/13/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/13/13 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS07@2.5'
R302123-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/13/13 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021308	02/13/13	02/13/13	8015 Full Carbon Chain	

Date Sampled: **02/13/13 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/13/13 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021307	02/13/13	02/13/13	EPA 8260B	
Benzene	0.36	0.0050	"	"	"	"	"	"	
Toluene	0.26	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0073	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.11	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.2	0.50	"	"	"	"	"	"	

Date Sampled: **02/13/13 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		115 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	21-167		"	"	"	"	

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS03@2'
R302123-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/13/13 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021308	02/13/13	02/13/13	8015 Full Carbon Chain	

Date Sampled: **02/13/13 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		103 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/13/13 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021307	02/13/13	02/13/13	EPA 8260B	
Benzene	0.049	0.0050	"	"	"	"	"	"	
Toluene	0.34	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.011	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.14	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.1	0.50	"	"	"	"	"	"	

Date Sampled: **02/13/13 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		113 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		114 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS08@2'
R302142-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/14/13 08:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021417	02/14/13	02/14/13	8015 Full Carbon Chain	

Date Sampled: **02/14/13 08:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		103 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/14/13 08:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021416	02/14/13	02/14/13	EPA 8260B	
Benzene	0.027	0.0050	"	"	"	"	"	"	
Toluene	0.080	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.031	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/14/13 08:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS09@2'
R302142-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/14/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021417	02/14/13	02/14/13	8015 Full Carbon Chain	

Date Sampled: **02/14/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		103 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/14/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021416	02/14/13	02/14/13	EPA 8260B	
Benzene	0.046	0.0050	"	"	"	"	"	"	
Toluene	0.16	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0080	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.14	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.0	0.50	"	"	"	"	"	"	

Date Sampled: **02/14/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS10@2'
R302142-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/14/13 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021417	02/14/13	02/14/13	8015 Full Carbon Chain	

Date Sampled: **02/14/13 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		105 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/14/13 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021416	02/14/13	02/14/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/14/13 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		121 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS11@2'
R302142-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/14/13 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021417	02/14/13	02/14/13	8015 Full Carbon Chain	

Date Sampled: **02/14/13 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		106 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/14/13 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021416	02/14/13	02/14/13	EPA 8260B	
Benzene	0.065	0.0050	"	"	"	"	"	"	
Toluene	0.16	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.010	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.19	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.7	0.50	"	"	"	"	"	"	

Date Sampled: **02/14/13 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	21-167		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS12@4.5'
R302142-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/14/13 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021417	02/14/13	02/14/13	8015 Full Carbon Chain	

Date Sampled: **02/14/13 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		101 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/14/13 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021416	02/14/13	02/14/13	EPA 8260B	
Benzene	0.047	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.035	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/14/13 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	21-167		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS13@2'
R302149-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/15/13 08:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021510	02/15/13	02/15/13	8015 Full Carbon Chain	

Date Sampled: **02/15/13 08:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		99.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/15/13 08:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021509	02/15/13	02/15/13	EPA 8260B	
Benzene	0.36	0.0050	"	"	"	"	"	"	
Toluene	1.4	0.0050	"	"	"	"	"	"	E
Ethylbenzene	0.033	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.79	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	7.4	0.50	"	"	"	"	"	"	

Date Sampled: **02/15/13 08:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS14@5'
R302149-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/15/13 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021510	02/15/13	02/15/13	8015 Full Carbon Chain	

Date Sampled: **02/15/13 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		94.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/15/13 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021509	02/15/13	02/15/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/15/13 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		91.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS15@5'
R302155-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021906	02/19/13	02/19/13	8015 Full Carbon Chain	

Date Sampled: **02/19/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		104 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.0068	0.0050	mg/kg	1	3021905	02/19/13	02/19/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		120 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.9 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS16@5'
R302155-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/13 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3021906	02/19/13	02/19/13	8015 Full Carbon Chain	

Date Sampled: **02/19/13 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		99.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/13 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3021905	02/19/13	02/19/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/13 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		120 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.4 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

GW02
R302155-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/13 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	690	100	ug/l	100	3021904	02/19/13	02/19/13	EPA 8260B	
Toluene	2800	100	"	"	"	"	"	"	
Ethylbenzene	94	1.0	"	1	"	"	02/19/13	"	
Xylenes (total)	1500	100	"	100	"	"	02/19/13	"	

Date Sampled: **02/19/13 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>121 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>02/19/13</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>114 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>96.0 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS17@3'
R302171-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/20/13 07:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3022009	02/20/13	02/20/13	8015 Full Carbon Chain	

Date Sampled: **02/20/13 07:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		103 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/20/13 07:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3022008	02/20/13	02/20/13	EPA 8260B	
Benzene	0.23	0.0050	"	"	"	"	"	"	
Toluene	0.84	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.032	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.54	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	5.0	0.50	"	"	"	"	"	"	

Date Sampled: **02/20/13 07:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.7 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS18@3.5'
R302171-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/20/13 08:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3022009	02/20/13	02/20/13	8015 Full Carbon Chain	

Date Sampled: **02/20/13 08:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		102 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/20/13 08:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.069	0.050	mg/kg	10	3022008	02/20/13	02/20/13	EPA 8260B	
Benzene	0.50	0.050	"	"	"	"	"	"	
Toluene	4.5	0.050	"	"	"	"	"	"	
Ethylbenzene	0.36	0.050	"	"	"	"	"	"	
Xylenes (total)	6.1	0.10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	130	5.0	"	"	"	"	"	"	

Date Sampled: **02/20/13 08:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS20@4'
R302171-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/20/13 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	100	50	mg/kg	1	3022009	02/20/13	02/20/13	8015 Full Carbon Chain	

Date Sampled: **02/20/13 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		103 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/20/13 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	6.9	0.050	mg/kg	10	3022008	02/20/13	02/20/13	EPA 8260B	
Benzene	2.1	0.050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	1	"	"	"	"	
Ethylbenzene	14	0.050	"	10	"	"	"	"	
Xylenes (total)	80	0.10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1200	5.0	"	"	"	"	"	"	

Date Sampled: **02/20/13 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		183 %	20-170		"	"	"	"	S-02
Surrogate: 4-Bromofluorobenzene		192 %	21-167		"	"	"	"	S-02

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS21@3.5'
R302171-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/20/13 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3022009	02/20/13	02/20/13	8015 Full Carbon Chain	

Date Sampled: **02/20/13 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		104 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/20/13 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3022008	02/20/13	02/20/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/20/13 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS22@4'
R302171-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/20/13 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3022009	02/20/13	02/20/13	8015 Full Carbon Chain	

Date Sampled: **02/20/13 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		105 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/20/13 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.055	0.0050	mg/kg	1	3022008	02/20/13	02/20/13	EPA 8260B	
Benzene	0.37	0.0050	"	"	"	"	"	"	
Toluene	0.071	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.24	0.0050	"	"	"	"	"	"	
Xylenes (total)	1.7	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	19	0.50	"	"	"	"	"	"	

Date Sampled: **02/20/13 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS-23
R302181-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/22/13 12:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	65	50	mg/kg	1	3022204	02/22/13	02/25/13	8015 Full Carbon Chain	

Date Sampled: **02/22/13 12:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		99.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/22/13 12:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.020	0.0050	mg/kg	1	3022203	"	02/22/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0081	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.23	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	4.7	0.50	"	"	"	"	"	"	

Date Sampled: **02/22/13 12:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS24@3'
R302186-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/25/13 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3022509	02/25/13	02/25/13	8015 Full Carbon Chain	

Date Sampled: **02/25/13 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		101 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/25/13 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3022508	02/25/13	02/25/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/25/13 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS25@2'
R302193-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/26/13 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3022610	02/26/13	02/26/13	8015 Full Carbon Chain	

Date Sampled: **02/26/13 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		94.7 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/13 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3022609	02/26/13	02/26/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/26/13 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.8 %	21-167		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS26
R302202-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/27/13 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3022708	02/27/13	02/27/13	8015 Full Carbon Chain	

Date Sampled: **02/27/13 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		106 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/27/13 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3022707	"	02/27/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/27/13 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.5 %	21-167		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS27
R302202-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/27/13 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3022708	02/27/13	02/27/13	8015 Full Carbon Chain	

Date Sampled: **02/27/13 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		108 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/27/13 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3022707	"	02/27/13	EPA 8260B	
Benzene	0.38	0.0050	"	"	"	"	"	"	
Toluene	1.2	0.0050	"	"	"	"	"	"	E
Ethylbenzene	0.028	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.63	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	6.9	0.50	"	"	"	"	"	"	

Date Sampled: **02/27/13 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.3 %	21-167		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS28@2.5'
R303004-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/01/13 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3030202	03/02/13	03/02/13	8015 Full Carbon Chain	

Date Sampled: **03/01/13 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.2 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/01/13 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3030201	03/02/13	03/02/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/01/13 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		122 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.1 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS29@2.5'
R303004-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/01/13 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3030202	03/02/13	03/02/13	8015 Full Carbon Chain	

Date Sampled: **03/01/13 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		89.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/01/13 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3030201	03/02/13	03/02/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/01/13 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.4 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS30@2'
R303004-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/01/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3030202	03/02/13	03/02/13	8015 Full Carbon Chain	

Date Sampled: **03/01/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		92.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/01/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3030201	03/02/13	03/02/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/01/13 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.2 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

SS31@2.5'
R303010-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/04/13 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3030405	03/04/13	03/04/13	8015 Full Carbon Chain	

Date Sampled: **03/04/13 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		106 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/04/13 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3030404	"	03/04/13	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	0.013	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/04/13 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.9 %	21-167		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike	Source	%REC		RPD		
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021212 - EPA 3550A

Blank (3021212-BLK1)		Prepared: 02/12/13 Analyzed: 02/13/13									
C10-C28 (DRO)	ND	50	mg/kg								
LCS (3021212-BS1)		Prepared: 02/12/13 Analyzed: 02/13/13									
C10-C28 (DRO)	528	50	mg/kg	501	105	73-134					
LCS Dup (3021212-BSD1)		Prepared: 02/12/13 Analyzed: 02/13/13									
C10-C28 (DRO)	511	50	mg/kg	501	102	73-134	3.19	11			
Matrix Spike (3021212-MS1)		Source: R302116-04		Prepared: 02/12/13 Analyzed: 02/13/13							
C10-C28 (DRO)	499	50	mg/kg	501	ND	99.5	50-148				
Matrix Spike Dup (3021212-MSD1)		Source: R302116-04		Prepared: 02/12/13 Analyzed: 02/13/13							
C10-C28 (DRO)	481	50	mg/kg	501	ND	96.0	50-148	3.60	13		

Batch 3021308 - EPA 3550A

Blank (3021308-BLK1)		Prepared: 02/13/13 Analyzed: 02/14/13									
C10-C28 (DRO)	ND	50	mg/kg								
LCS (3021308-BS1)		Prepared: 02/13/13 Analyzed: 02/14/13									
C10-C28 (DRO)	477	50	mg/kg	501	95.3	73-134					
LCS Dup (3021308-BSD1)		Prepared: 02/13/13 Analyzed: 02/14/13									
C10-C28 (DRO)	474	50	mg/kg	501	94.6	73-134	0.764	11			
Matrix Spike (3021308-MS1)		Source: R302124-01		Prepared: 02/13/13 Analyzed: 02/14/13							
C10-C28 (DRO)	465	50	mg/kg	501	ND	92.8	50-148				

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021308 - EPA 3550A

Matrix Spike Dup (3021308-MSD1)

Source: R302124-01

Prepared: 02/13/13 Analyzed: 02/14/13

C10-C28 (DRO)	461	50	mg/kg	501	ND	92.1	50-148	0.746	13
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Batch 3021417 - EPA 3550A

Blank (3021417-BLK1)

Prepared: 02/14/13 Analyzed: 02/15/13

C10-C28 (DRO)	ND	50	mg/kg
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LCS (3021417-BS1)

Prepared: 02/14/13 Analyzed: 02/15/13

C10-C28 (DRO)	527	50	mg/kg	501	105	73-134
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LCS Dup (3021417-BSD1)

Prepared: 02/14/13 Analyzed: 02/15/13

C10-C28 (DRO)	525	50	mg/kg	501	105	73-134	0.375	11
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Matrix Spike (3021417-MS1)

Source: R302140-01

Prepared: 02/14/13 Analyzed: 02/15/13

C10-C28 (DRO)	496	50	mg/kg	501	ND	99.1	50-148
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Matrix Spike Dup (3021417-MSD1)

Source: R302140-01

Prepared: 02/14/13 Analyzed: 02/15/13

C10-C28 (DRO)	517	50	mg/kg	501	ND	103	50-148	4.03	13
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Batch 3021510 - EPA 3550A

Blank (3021510-BLK1)

Prepared: 02/15/13 Analyzed: 02/16/13

C10-C28 (DRO)	ND	50	mg/kg
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Blank (3021510-BLK2)

Prepared: 02/15/13 Analyzed: 02/16/13

C10-C28 (DRO)	ND	50	mg/kg
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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021510 - EPA 3550A

LCS (3021510-BS1)				Prepared: 02/15/13 Analyzed: 02/16/13						
C10-C28 (DRO)	592	50	mg/kg	501		118	73-134			
LCS (3021510-BS2)				Prepared: 02/15/13 Analyzed: 02/16/13						
C10-C28 (DRO)	505	50	mg/kg	501		101	73-134			
LCS Dup (3021510-BSD1)				Prepared: 02/15/13 Analyzed: 02/16/13						
C10-C28 (DRO)	572	50	mg/kg	501		114	73-134	3.48	11	
LCS Dup (3021510-BSD2)				Prepared: 02/15/13 Analyzed: 02/16/13						
C10-C28 (DRO)	501	50	mg/kg	501		99.9	73-134	0.873	11	
Matrix Spike (3021510-MS1)				Source: R302150-02		Prepared: 02/15/13 Analyzed: 02/16/13				
C10-C28 (DRO)	499	50	mg/kg	501	ND	99.7	50-148			
Matrix Spike (3021510-MS2)				Source: R302150-03		Prepared: 02/15/13 Analyzed: 02/16/13				
C10-C28 (DRO)	520	50	mg/kg	501	ND	104	50-148			
Matrix Spike Dup (3021510-MSD1)				Source: R302150-02		Prepared: 02/15/13 Analyzed: 02/16/13				
C10-C28 (DRO)	532	50	mg/kg	501	ND	106	50-148	6.27	13	
Matrix Spike Dup (3021510-MSD2)				Source: R302150-03		Prepared: 02/15/13 Analyzed: 02/16/13				
C10-C28 (DRO)	535	50	mg/kg	501	ND	107	50-148	2.79	13	

Batch 3021906 - EPA 3550A

Blank (3021906-BLK1)				Prepared & Analyzed: 02/19/13						
C10-C28 (DRO)	ND	50	mg/kg							

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021906 - EPA 3550A

LCS (3021906-BS1)				Prepared & Analyzed: 02/19/13						
C10-C28 (DRO)	514	50	mg/kg	501		103	73-134			
LCS Dup (3021906-BSD1)				Prepared & Analyzed: 02/19/13						
C10-C28 (DRO)	531	50	mg/kg	501		106	73-134	3.32	11	
Matrix Spike (3021906-MS1)				Source: R302155-01		Prepared & Analyzed: 02/19/13				
C10-C28 (DRO)	566	50	mg/kg	501	47.0	104	50-148			
Matrix Spike Dup (3021906-MSD1)				Source: R302155-01		Prepared: 02/19/13		Analyzed: 02/20/13		
C10-C28 (DRO)	527	50	mg/kg	501	47.0	95.7	50-148	7.14	13	

Batch 3022009 - EPA 3550A

Blank (3022009-BLK1)				Prepared: 02/20/13 Analyzed: 02/21/13						
C10-C28 (DRO)	ND	50	mg/kg							
LCS (3022009-BS1)				Prepared: 02/20/13 Analyzed: 02/21/13						
C10-C28 (DRO)	525	50	mg/kg	501		105	73-134			
LCS Dup (3022009-BSD1)				Prepared: 02/20/13 Analyzed: 02/21/13						
C10-C28 (DRO)	536	50	mg/kg	501		107	73-134	2.11	11	
Matrix Spike (3022009-MS1)				Source: R302171-04		Prepared: 02/20/13 Analyzed: 02/21/13				
C10-C28 (DRO)	485	50	mg/kg	501	45.2	87.8	50-148			
Matrix Spike Dup (3022009-MSD1)				Source: R302171-04		Prepared: 02/20/13		Analyzed: 02/21/13		
C10-C28 (DRO)	496	50	mg/kg	501	45.2	89.9	50-148	2.10	13	

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3022204 - EPA 3550A

Blank (3022204-BLK1)				Prepared: 02/22/13 Analyzed: 02/25/13						
C10-C28 (DRO)	ND	50	mg/kg							
LCS (3022204-BS1)				Prepared: 02/22/13 Analyzed: 02/25/13						
C10-C28 (DRO)	601	50	mg/kg	501		120	73-134			
LCS Dup (3022204-BSD1)				Prepared: 02/22/13 Analyzed: 02/25/13						
C10-C28 (DRO)	610	50	mg/kg	501		122	73-134	1.51	11	
Matrix Spike (3022204-MS1)				Source: R302179-01		Prepared: 02/22/13 Analyzed: 02/25/13				
C10-C28 (DRO)	492	50	mg/kg	501	ND	98.3	50-148			
Matrix Spike Dup (3022204-MSD1)				Source: R302179-01		Prepared: 02/22/13 Analyzed: 02/25/13				
C10-C28 (DRO)	501	50	mg/kg	501	ND	100	50-148	1.79	13	

Batch 3022509 - EPA 3550A

Blank (3022509-BLK1)				Prepared & Analyzed: 02/25/13						
C10-C28 (DRO)	ND	50	mg/kg							
LCS (3022509-BS1)				Prepared & Analyzed: 02/25/13						
C10-C28 (DRO)	530	50	mg/kg	501		106	73-134			
LCS Dup (3022509-BSD1)				Prepared & Analyzed: 02/25/13						
C10-C28 (DRO)	487	50	mg/kg	501		97.2	73-134	8.49	11	
Matrix Spike (3022509-MS1)				Source: R302186-01		Prepared & Analyzed: 02/25/13				
C10-C28 (DRO)	518	50	mg/kg	501	ND	103	50-148			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 3022509 - EPA 3550A

Matrix Spike Dup (3022509-MSD1) **Source: R302186-01** Prepared & Analyzed: 02/25/13

C10-C28 (DRO)	512	50	mg/kg	501	ND	102	50-148	1.25	13
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Batch 3022610 - EPA 3550A

Blank (3022610-BLK1) Prepared: 02/26/13 Analyzed: 02/27/13

C10-C28 (DRO)	ND	50	mg/kg
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LCS (3022610-BS1) Prepared: 02/26/13 Analyzed: 02/27/13

C10-C28 (DRO)	491	50	mg/kg	501	97.9	73-134
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LCS Dup (3022610-BSD1) Prepared: 02/26/13 Analyzed: 02/27/13

C10-C28 (DRO)	443	50	mg/kg	501	88.4	73-134	10.2	11
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Matrix Spike (3022610-MS1) **Source: R302193-01** Prepared: 02/26/13 Analyzed: 02/27/13

C10-C28 (DRO)	454	50	mg/kg	501	ND	90.5	50-148
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Matrix Spike Dup (3022610-MSD1) **Source: R302193-01** Prepared: 02/26/13 Analyzed: 02/27/13

C10-C28 (DRO)	437	50	mg/kg	501	ND	87.2	50-148	3.74	13
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Batch 3022708 - EPA 3550A

Blank (3022708-BLK1) Prepared: 02/27/13 Analyzed: 02/28/13

C10-C28 (DRO)	ND	50	mg/kg
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LCS (3022708-BS1) Prepared: 02/27/13 Analyzed: 02/28/13

C10-C28 (DRO)	549	50	mg/kg	501	109	73-134
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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3022708 - EPA 3550A

LCS Dup (3022708-BSD1)

Prepared: 02/27/13 Analyzed: 02/28/13

C10-C28 (DRO)	560	50	mg/kg	501	112	73-134	2.05	11
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Matrix Spike (3022708-MS1)

Source: R302201-01

Prepared: 02/27/13 Analyzed: 02/28/13

C10-C28 (DRO)	545	50	mg/kg	501	25.7	104	50-148
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Matrix Spike Dup (3022708-MSD1)

Source: R302201-01

Prepared: 02/27/13 Analyzed: 02/28/13

C10-C28 (DRO)	547	50	mg/kg	501	25.7	104	50-148	0.329	13
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Batch 3030202 - EPA 3550A

Blank (3030202-BLK1)

Prepared & Analyzed: 03/02/13

C10-C28 (DRO)	ND	50	mg/kg
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LCS (3030202-BS1)

Prepared & Analyzed: 03/02/13

C10-C28 (DRO)	432	50	mg/kg	501	86.3	73-134
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LCS Dup (3030202-BSD1)

Prepared & Analyzed: 03/02/13

C10-C28 (DRO)	414	50	mg/kg	501	82.6	73-134	4.43	11
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Matrix Spike (3030202-MS1)

Source: R303004-01

Prepared & Analyzed: 03/02/13

C10-C28 (DRO)	413	50	mg/kg	501	ND	82.4	50-148
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Matrix Spike Dup (3030202-MSD1)

Source: R303004-01

Prepared & Analyzed: 03/02/13

C10-C28 (DRO)	410	50	mg/kg	501	ND	81.9	50-148	0.619	13
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Batch 3030405 - EPA 3550A

Blank (3030405-BLK1)

Prepared & Analyzed: 03/04/13

C10-C28 (DRO)	ND	50	mg/kg
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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3030405 - EPA 3550A

LCS (3030405-BS1)

Prepared & Analyzed: 03/04/13

C10-C28 (DRO)	564	50	mg/kg	501	112	73-134
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LCS Dup (3030405-BSD1)

Prepared & Analyzed: 03/04/13

C10-C28 (DRO)	570	50	mg/kg	501	114	73-134	1.06	11
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Matrix Spike (3030405-MS1)

Source: R303014-01

Prepared & Analyzed: 03/04/13

C10-C28 (DRO)	482	50	mg/kg	501	31.0	90.0	50-148
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Matrix Spike Dup (3030405-MSD1)

Source: R303014-01

Prepared & Analyzed: 03/04/13

C10-C28 (DRO)	518	50	mg/kg	501	31.0	97.1	50-148	7.12	13
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Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021207 - EPA 5030 Water MS

Blank (3021207-BLK1)

Prepared & Analyzed: 02/12/13

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.7		"	13.2		96.0	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		96.9	45-149			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	45-146			

LCS (3021207-BS1)

Prepared & Analyzed: 02/12/13

Benzene	25.8	1.0	ug/l	33.3		77.6	51-132			
Toluene	27.0	1.0	"	33.3		80.9	51-138			
Ethylbenzene	29.4	1.0	"	33.3		88.4	58-146			
m,p-Xylene	61.9	2.0	"	66.7		92.8	57-144			
o-Xylene	30.3	1.0	"	33.3		91.0	53-146			
Surrogate: 1,2-Dichloroethane-d4	12.4		"	13.2		93.9	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.3	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	45-146			

LCS Dup (3021207-BSD1)

Prepared & Analyzed: 02/12/13

Benzene	26.5	1.0	ug/l	33.3		79.6	51-132	2.56	17	
Toluene	27.8	1.0	"	33.3		83.4	51-138	3.11	17	
Ethylbenzene	30.2	1.0	"	33.3		90.6	58-146	2.51	16	
m,p-Xylene	63.0	2.0	"	66.7		94.5	57-144	1.84	16	
o-Xylene	30.9	1.0	"	33.3		92.7	53-146	1.80	15	
Surrogate: 1,2-Dichloroethane-d4	11.7		"	13.2		88.3	37-154			
Surrogate: Toluene-d8	12.5		"	13.3		93.8	45-149			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.6	45-146			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021207 - EPA 5030 Water MS

Matrix Spike (3021207-MS1)		Source: R302101-04			Prepared & Analyzed: 02/12/13					
Benzene	26.6	1.0	ug/l	33.3	ND	79.9	34-141			
Toluene	28.2	1.0	"	33.3	ND	84.6	27-151			
Ethylbenzene	30.2	1.0	"	33.3	ND	90.7	29-160			
m,p-Xylene	62.6	2.0	"	66.7	ND	93.8	20-166			
o-Xylene	30.5	1.0	"	33.3	ND	91.4	33-159			
Surrogate: 1,2-Dichloroethane-d4	12.5		"	13.2		94.4	37-154			
Surrogate: Toluene-d8	12.8		"	13.3		95.7	45-149			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.3	45-146			

Matrix Spike Dup (3021207-MSD1)		Source: R302101-04			Prepared & Analyzed: 02/12/13					
Benzene	27.4	1.0	ug/l	33.3	ND	82.2	34-141	2.78	32	
Toluene	28.5	1.0	"	33.3	ND	85.4	27-151	0.918	25	
Ethylbenzene	30.8	1.0	"	33.3	ND	92.5	29-160	2.03	50	
m,p-Xylene	63.6	2.0	"	66.7	ND	95.4	20-166	1.60	36	
o-Xylene	31.3	1.0	"	33.3	ND	93.8	33-159	2.66	26	
Surrogate: 1,2-Dichloroethane-d4	11.9		"	13.2		89.7	37-154			
Surrogate: Toluene-d8	12.7		"	13.3		95.1	45-149			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.8	45-146			

Batch 3021211 - EPA 5030 Soil MS

Blank (3021211-BLK1)		Prepared: 02/12/13 Analyzed: 02/13/13								
Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0382		"	0.0397		96.3	23-173			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0376		"	0.0400		94.0	21-167			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021211 - EPA 5030 Soil MS

LCS (3021211-BS1)

Prepared: 02/12/13 Analyzed: 02/13/13

Naphthalene	ND	0.0050	mg/kg				66-138			
Benzene	0.103	0.0050	"	0.100		103	58-130			
Toluene	0.113	0.0050	"	0.100		113	61-134			
Ethylbenzene	0.119	0.0050	"	0.100		119	74-139			
m,p-Xylene	0.241	0.010	"	0.200		121	73-137			
o-Xylene	0.114	0.0050	"	0.100		114	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0411		"	0.0397		104	23-173			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.6	21-167			

LCS Dup (3021211-BS1)

Prepared: 02/12/13 Analyzed: 02/13/13

Naphthalene	ND	0.0050	mg/kg				66-138		12	
Benzene	0.104	0.0050	"	0.100		104	58-130	0.756	13	
Toluene	0.115	0.0050	"	0.100		115	61-134	1.18	16	
Ethylbenzene	0.121	0.0050	"	0.100		121	74-139	1.90	12	
m,p-Xylene	0.245	0.010	"	0.200		122	73-137	1.47	14	
o-Xylene	0.115	0.0050	"	0.100		115	73-141	0.946	12	
Surrogate: 1,2-Dichloroethane-d4	0.0392		"	0.0397		98.8	23-173			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0378		"	0.0400		94.6	21-167			

Matrix Spike (3021211-MS1)

Source: R302116-04

Prepared: 02/12/13 Analyzed: 02/13/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0971	0.0050	"	0.100	0.00	97.1	30-131			
Toluene	0.107	0.0050	"	0.100	0.00	107	30-134			
Ethylbenzene	0.114	0.0050	"	0.100	0.00	114	22-153			
m,p-Xylene	0.232	0.010	"	0.200	0.00	116	10-159			
o-Xylene	0.110	0.0050	"	0.100	0.00	110	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0361		"	0.0397		91.0	23-173			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.2	21-167			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021211 - EPA 5030 Soil MS

Matrix Spike Dup (3021211-MSD1)				Source: R302116-04		Prepared: 02/12/13		Analyzed: 02/13/13	
Naphthalene	ND	0.0050	mg/kg		ND		10-158		42
Benzene	0.0993	0.0050	"	0.100	0.00	99.3	30-131	2.23	34
Toluene	0.108	0.0050	"	0.100	0.00	108	30-134	1.68	30
Ethylbenzene	0.115	0.0050	"	0.100	0.00	115	22-153	0.575	24
m,p-Xylene	0.235	0.010	"	0.200	0.00	117	10-159	1.34	68
o-Xylene	0.110	0.0050	"	0.100	0.00	110	31-151	0.300	38
Surrogate: 1,2-Dichloroethane-d4	0.0363		"	0.0397		91.5	23-173		
Surrogate: Toluene-d8	0.0386		"	0.0400		96.6	20-170		
Surrogate: 4-Bromofluorobenzene	0.0381		"	0.0400		95.3	21-167		

Batch 3021307 - EPA 5030 Soil MS

Blank (3021307-BLK1)				Prepared: 02/13/13		Analyzed: 02/14/13	
Naphthalene	ND	0.0050	mg/kg				
Benzene	ND	0.0050	"				
Toluene	ND	0.0050	"				
Ethylbenzene	ND	0.0050	"				
Xylenes (total)	ND	0.010	"				
Gasoline Range Hydrocarbons	ND	0.50	"				
Surrogate: 1,2-Dichloroethane-d4	0.0400		"	0.0397		101	23-173
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	20-170
Surrogate: 4-Bromofluorobenzene	0.0410		"	0.0400		102	21-167

LCS (3021307-BS1)				Prepared: 02/13/13		Analyzed: 02/14/13	
Naphthalene	ND	0.0050	mg/kg			66-138	
Benzene	0.0948	0.0050	"	0.100	94.8	58-130	
Toluene	0.103	0.0050	"	0.100	103	61-134	
Ethylbenzene	0.104	0.0050	"	0.100	104	74-139	
m,p-Xylene	0.213	0.010	"	0.200	106	73-137	
o-Xylene	0.106	0.0050	"	0.100	106	73-141	
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0397	100	23-173	
Surrogate: Toluene-d8	0.0397		"	0.0400	99.3	20-170	
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400	99.0	21-167	

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021307 - EPA 5030 Soil MS

LCS Dup (3021307-BSD1)

Prepared: 02/13/13 Analyzed: 02/14/13

Naphthalene	ND	0.0050	mg/kg				66-138		12	
Benzene	0.102	0.0050	"	0.100		102	58-130	7.64	13	
Toluene	0.111	0.0050	"	0.100		111	61-134	8.07	16	
Ethylbenzene	0.114	0.0050	"	0.100		114	74-139	9.15	12	
m,p-Xylene	0.231	0.010	"	0.200		116	73-137	8.37	14	
o-Xylene	0.111	0.0050	"	0.100		111	73-141	4.82	12	
Surrogate: 1,2-Dichloroethane-d4	0.0328		"	0.0397		82.7	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0357		"	0.0400		89.3	21-167			

Matrix Spike (3021307-MS1)

Source: R302124-01

Prepared: 02/13/13 Analyzed: 02/14/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0827	0.0050	"	0.100	0.00	82.7	30-131			
Toluene	0.0887	0.0050	"	0.100	0.00	88.7	30-134			
Ethylbenzene	0.0893	0.0050	"	0.100	0.00	89.3	22-153			
m,p-Xylene	0.179	0.010	"	0.200	0.00	89.4	10-159			
o-Xylene	0.0936	0.0050	"	0.100	0.00	93.6	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0403		"	0.0397		102	23-173			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400		96.7	21-167			

Matrix Spike Dup (3021307-MSD1)

Source: R302124-01

Prepared: 02/13/13 Analyzed: 02/14/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158		42	
Benzene	0.0617	0.0050	"	0.100	0.00	61.7	30-131	29.0	34	
Toluene	0.0667	0.0050	"	0.100	0.00	66.7	30-134	28.4	30	
Ethylbenzene	0.0770	0.0050	"	0.100	0.00	77.0	22-153	14.8	24	
m,p-Xylene	0.169	0.010	"	0.200	0.00	84.3	10-159	5.98	68	
o-Xylene	0.0826	0.0050	"	0.100	0.00	82.6	31-151	12.5	38	
Surrogate: 1,2-Dichloroethane-d4	0.0415		"	0.0397		104	23-173			
Surrogate: Toluene-d8	0.0385		"	0.0400		96.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0400		94.6	21-167			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 3021416 - EPA 5030 Soil MS

Blank (3021416-BLK1)

Prepared & Analyzed: 02/14/13

Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0442		"	0.0397		111	23-173			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	21-167			

LCS (3021416-BS1)

Prepared & Analyzed: 02/14/13

Naphthalene	ND	0.0050	mg/kg				66-138			
Benzene	0.0686	0.0050	"	0.100		68.6	58-130			
Toluene	0.0693	0.0050	"	0.100		69.3	61-134			
Ethylbenzene	0.0773	0.0050	"	0.100		77.3	74-139			
m,p-Xylene	0.155	0.010	"	0.200		77.5	73-137			
o-Xylene	0.0768	0.0050	"	0.100		76.8	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0397		106	23-173			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0414		"	0.0400		104	21-167			

LCS Dup (3021416-BSD1)

Prepared & Analyzed: 02/14/13

Naphthalene	ND	0.0050	mg/kg				66-138		12	
Benzene	0.0721	0.0050	"	0.100		72.1	58-130	4.95	13	
Toluene	0.0737	0.0050	"	0.100		73.7	61-134	6.21	16	
Ethylbenzene	0.0773	0.0050	"	0.100		77.3	74-139	0.00	12	
m,p-Xylene	0.157	0.010	"	0.200		78.4	73-137	1.19	14	
o-Xylene	0.0783	0.0050	"	0.100		78.3	73-141	1.93	12	
Surrogate: 1,2-Dichloroethane-d4	0.0432		"	0.0397		109	23-173			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	21-167			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021416 - EPA 5030 Soil MS

Matrix Spike (3021416-MS1)				Source: R302140-01		Prepared & Analyzed: 02/14/13				
Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0703	0.0050	"	0.100	0.00	70.3	30-131			
Toluene	0.0724	0.0050	"	0.100	0.00	72.4	30-134			
Ethylbenzene	0.0749	0.0050	"	0.100	0.00	74.9	22-153			
m,p-Xylene	0.152	0.010	"	0.200	0.00	76.0	10-159			
o-Xylene	0.0765	0.0050	"	0.100	0.00	76.5	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0442		"	0.0397		111	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	21-167			

Matrix Spike Dup (3021416-MSD1)				Source: R302140-01		Prepared & Analyzed: 02/14/13				
Naphthalene	ND	0.0050	mg/kg		ND		10-158		42	
Benzene	0.0720	0.0050	"	0.100	0.00	72.0	30-131	2.40	34	
Toluene	0.0743	0.0050	"	0.100	0.00	74.3	30-134	2.54	30	
Ethylbenzene	0.0755	0.0050	"	0.100	0.00	75.5	22-153	0.797	24	
m,p-Xylene	0.153	0.010	"	0.200	0.00	76.7	10-159	0.825	68	
o-Xylene	0.0770	0.0050	"	0.100	0.00	77.0	31-151	0.625	38	
Surrogate: 1,2-Dichloroethane-d4	0.0454		"	0.0397		114	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	21-167			

Batch 3021509 - EPA 5030 Soil MS

Blank (3021509-BLK1)				Prepared: 02/15/13 Analyzed: 02/16/13						
Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0464		"	0.0397		117	23-173			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0362		"	0.0400		90.4	21-167			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021509 - EPA 5030 Soil MS

LCS (3021509-BS1)

Prepared: 02/15/13 Analyzed: 02/16/13

Naphthalene	ND	0.0050	mg/kg				66-138			
Benzene	0.0940	0.0050	"	0.100		94.0	58-130			
Toluene	0.0988	0.0050	"	0.100		98.8	61-134			
Ethylbenzene	0.0970	0.0050	"	0.100		97.0	74-139			
m,p-Xylene	0.196	0.010	"	0.200		98.1	73-137			
o-Xylene	0.101	0.0050	"	0.100		101	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0448		"	0.0397		113	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.1	21-167			

LCS Dup (3021509-BSD1)

Prepared: 02/15/13 Analyzed: 02/16/13

Naphthalene	ND	0.0050	mg/kg				66-138		12	
Benzene	0.0981	0.0050	"	0.100		98.1	58-130	4.28	13	
Toluene	0.102	0.0050	"	0.100		102	61-134	3.20	16	
Ethylbenzene	0.101	0.0050	"	0.100		101	74-139	3.85	12	
m,p-Xylene	0.205	0.010	"	0.200		103	73-137	4.41	14	
o-Xylene	0.104	0.0050	"	0.100		104	73-141	2.37	12	
Surrogate: 1,2-Dichloroethane-d4	0.0451		"	0.0397		114	23-173			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.5	21-167			

Matrix Spike (3021509-MS1)

Source: R302150-02

Prepared: 02/15/13 Analyzed: 02/16/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0903	0.0050	"	0.100	0.00	90.3	30-131			
Toluene	0.0942	0.0050	"	0.100	0.00	94.2	30-134			
Ethylbenzene	0.0930	0.0050	"	0.100	0.00	93.0	22-153			
m,p-Xylene	0.188	0.010	"	0.200	0.00	94.1	10-159			
o-Xylene	0.0967	0.0050	"	0.100	0.00	96.7	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0455		"	0.0397		115	23-173			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.4	21-167			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021509 - EPA 5030 Soil MS

Matrix Spike Dup (3021509-MSD1)				Source: R302150-02		Prepared: 02/15/13		Analyzed: 02/16/13	
Naphthalene	ND	0.0050	mg/kg		ND		10-158		42
Benzene	0.0873	0.0050	"	0.100	0.00	87.3	30-131	3.34	34
Toluene	0.0932	0.0050	"	0.100	0.00	93.2	30-134	1.09	30
Ethylbenzene	0.0916	0.0050	"	0.100	0.00	91.6	22-153	1.43	24
m,p-Xylene	0.185	0.010	"	0.200	0.00	92.6	10-159	1.62	68
o-Xylene	0.0932	0.0050	"	0.100	0.00	93.2	31-151	3.70	38
Surrogate: 1,2-Dichloroethane-d4	0.0479		"	0.0397		121	23-173		
Surrogate: Toluene-d8	0.0404		"	0.0400		101	20-170		
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0400		94.7	21-167		

Batch 3021904 - EPA 5030 Water MS

Blank (3021904-BLK1)				Prepared: 02/19/13		Analyzed: 02/20/13	
Benzene	ND	1.0	ug/l				
Toluene	ND	1.0	"				
Ethylbenzene	ND	1.0	"				
Xylenes (total)	ND	1.0	"				
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.2		106	37-154
Surrogate: Toluene-d8	13.2		"	13.3		98.9	45-149
Surrogate: 4-Bromofluorobenzene	14.4		"	13.3		108	45-146
LCS (3021904-BS1)				Prepared: 02/19/13		Analyzed: 02/20/13	
Benzene	25.2	1.0	ug/l	33.3		75.5	51-132
Toluene	25.1	1.0	"	33.3		75.4	51-138
Ethylbenzene	25.4	1.0	"	33.3		76.2	58-146
m,p-Xylene	51.1	2.0	"	66.7		76.6	57-144
o-Xylene	25.8	1.0	"	33.3		77.5	53-146
Surrogate: 1,2-Dichloroethane-d4	13.9		"	13.2		105	37-154
Surrogate: Toluene-d8	13.5		"	13.3		101	45-149
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103	45-146

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021904 - EPA 5030 Water MS

LCS Dup (3021904-BSD1)

Prepared: 02/19/13 Analyzed: 02/20/13

Benzene	24.1	1.0	ug/l	33.3		72.4	51-132	4.22	17	
Toluene	24.1	1.0	"	33.3		72.4	51-138	4.02	17	
Ethylbenzene	24.7	1.0	"	33.3		74.2	58-146	2.71	16	
m,p-Xylene	49.8	2.0	"	66.7		74.7	57-144	2.52	16	
o-Xylene	25.3	1.0	"	33.3		75.8	53-146	2.23	15	
Surrogate: 1,2-Dichloroethane-d4	13.9		"	13.2		105	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.7	45-149			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		103	45-146			

Matrix Spike (3021904-MS1)

Source: R302152-01

Prepared: 02/19/13 Analyzed: 02/20/13

Benzene	25.0	1.0	ug/l	33.3	ND	75.1	34-141			
Toluene	25.8	1.0	"	33.3	ND	77.3	27-151			
Ethylbenzene	25.4	1.0	"	33.3	ND	76.1	29-160			
m,p-Xylene	51.9	2.0	"	66.7	ND	77.9	20-166			
o-Xylene	25.8	1.0	"	33.3	ND	77.4	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.2		110	37-154			
Surrogate: Toluene-d8	13.3		"	13.3		100	45-149			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101	45-146			

Matrix Spike Dup (3021904-MSD1)

Source: R302152-01

Prepared: 02/19/13 Analyzed: 02/20/13

Benzene	26.7	1.0	ug/l	33.3	ND	80.2	34-141	6.53	32	
Toluene	27.6	1.0	"	33.3	ND	82.8	27-151	6.86	25	
Ethylbenzene	27.6	1.0	"	33.3	ND	82.7	29-160	8.39	50	
m,p-Xylene	56.3	2.0	"	66.7	ND	84.5	20-166	8.11	36	
o-Xylene	27.8	1.0	"	33.3	ND	83.5	33-159	7.61	26	
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.2		105	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.1	45-149			
Surrogate: 4-Bromofluorobenzene	14.1		"	13.3		105	45-146			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 3021905 - EPA 5030 Soil MS

Blank (3021905-BLK1)

Prepared & Analyzed: 02/19/13

Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0457		"	0.0397		115	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0367		"	0.0400		91.8	21-167			

LCS (3021905-BS1)

Prepared & Analyzed: 02/19/13

Naphthalene	0.163	0.0050	mg/kg	0.150		108	66-138			
Benzene	0.157	0.0050	"	0.150		105	58-130			
Toluene	0.156	0.0050	"	0.150		104	61-134			
Ethylbenzene	0.156	0.0050	"	0.150		104	74-139			
m,p-Xylene	0.309	0.010	"	0.300		103	73-137			
o-Xylene	0.154	0.0050	"	0.150		103	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0444		"	0.0397		112	23-173			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.5	21-167			

LCS Dup (3021905-BSD1)

Prepared & Analyzed: 02/19/13

Naphthalene	0.167	0.0050	mg/kg	0.150		111	66-138	2.84	12	
Benzene	0.160	0.0050	"	0.150		107	58-130	2.02	13	
Toluene	0.158	0.0050	"	0.150		105	61-134	1.42	16	
Ethylbenzene	0.155	0.0050	"	0.150		103	74-139	1.12	12	
m,p-Xylene	0.305	0.010	"	0.300		102	73-137	1.41	14	
o-Xylene	0.151	0.0050	"	0.150		101	73-141	2.06	12	
Surrogate: 1,2-Dichloroethane-d4	0.0448		"	0.0397		113	23-173			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.2	21-167			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3021905 - EPA 5030 Soil MS

Matrix Spike (3021905-MS1)		Source: R302155-01			Prepared & Analyzed: 02/19/13					
Naphthalene	0.158	0.0050	mg/kg	0.150	0.00681	101	10-158			
Benzene	0.147	0.0050	"	0.150	0.00	97.7	30-131			
Toluene	0.147	0.0050	"	0.150	0.00	98.3	30-134			
Ethylbenzene	0.142	0.0050	"	0.150	0.00	94.8	22-153			
m,p-Xylene	0.283	0.010	"	0.300	0.00558	92.6	10-159			
o-Xylene	0.141	0.0050	"	0.150	0.00	93.8	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0460		"	0.0397		116	23-173			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0419		"	0.0400		105	21-167			

Matrix Spike Dup (3021905-MSD1)		Source: R302155-01			Prepared & Analyzed: 02/19/13					
Naphthalene	0.160	0.0050	mg/kg	0.150	0.00681	102	10-158	1.30	42	
Benzene	0.144	0.0050	"	0.150	0.00	95.7	30-131	2.11	34	
Toluene	0.146	0.0050	"	0.150	0.00	97.6	30-134	0.715	30	
Ethylbenzene	0.136	0.0050	"	0.150	0.00	90.9	22-153	4.18	24	
m,p-Xylene	0.275	0.010	"	0.300	0.00558	89.8	10-159	3.02	68	
o-Xylene	0.137	0.0050	"	0.150	0.00	91.2	31-151	2.79	38	
Surrogate: 1,2-Dichloroethane-d4	0.0484		"	0.0397		122	23-173			
Surrogate: Toluene-d8	0.0417		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0421		"	0.0400		105	21-167			

Batch 3022008 - EPA 5030 Soil MS

Blank (3022008-BLK1)		Prepared: 02/20/13 Analyzed: 02/21/13								
Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0425		"	0.0397		107	23-173			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.3	21-167			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3022008 - EPA 5030 Soil MS

LCS (3022008-BS1)

Prepared: 02/20/13 Analyzed: 02/21/13

Naphthalene	ND	0.0050	mg/kg				66-138			
Benzene	0.110	0.0050	"	0.100		110	58-130			
Toluene	0.117	0.0050	"	0.100		117	61-134			
Ethylbenzene	0.118	0.0050	"	0.100		118	74-139			
m,p-Xylene	0.236	0.010	"	0.200		118	73-137			
o-Xylene	0.122	0.0050	"	0.100		122	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0445		"	0.0397		112	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0400		92.0	21-167			

LCS Dup (3022008-BSD1)

Prepared: 02/20/13 Analyzed: 02/21/13

Naphthalene	ND	0.0050	mg/kg				66-138		12	
Benzene	0.108	0.0050	"	0.100		108	58-130	2.02	13	
Toluene	0.112	0.0050	"	0.100		112	61-134	3.94	16	
Ethylbenzene	0.116	0.0050	"	0.100		116	74-139	1.05	12	
m,p-Xylene	0.233	0.010	"	0.200		116	73-137	1.52	14	
o-Xylene	0.120	0.0050	"	0.100		120	73-141	1.11	12	
Surrogate: 1,2-Dichloroethane-d4	0.0455		"	0.0397		115	23-173			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.4	21-167			

Matrix Spike (3022008-MS1)

Source: R302171-04

Prepared: 02/20/13 Analyzed: 02/21/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0814	0.0050	"	0.100	0.00	81.4	30-131			
Toluene	0.0847	0.0050	"	0.100	0.00	84.7	30-134			
Ethylbenzene	0.0832	0.0050	"	0.100	0.00	83.2	22-153			
m,p-Xylene	0.165	0.010	"	0.200	0.00	82.7	10-159			
o-Xylene	0.0832	0.0050	"	0.100	0.00	83.2	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0469		"	0.0397		118	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	21-167			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3022008 - EPA 5030 Soil MS

Matrix Spike Dup (3022008-MSD1)				Source: R302171-04		Prepared: 02/20/13		Analyzed: 02/21/13	
Naphthalene	ND	0.0050	mg/kg		ND		10-158		42
Benzene	0.0734	0.0050	"	0.100	0.00	73.4	30-131	10.3	34
Toluene	0.0781	0.0050	"	0.100	0.00	78.1	30-134	8.04	30
Ethylbenzene	0.0756	0.0050	"	0.100	0.00	75.6	22-153	9.67	24
m,p-Xylene	0.149	0.010	"	0.200	0.00	74.7	10-159	10.2	68
o-Xylene	0.0761	0.0050	"	0.100	0.00	76.1	31-151	8.89	38
Surrogate: 1,2-Dichloroethane-d4	0.0482		"	0.0397		121	23-173		
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170		
Surrogate: 4-Bromofluorobenzene	0.0378		"	0.0400		94.4	21-167		

Batch 3022203 - EPA 5030 Soil MS

Blank (3022203-BLK1)				Prepared & Analyzed: 02/22/13					
Naphthalene	ND	0.0050	mg/kg						
Benzene	ND	0.0050	"						
Toluene	ND	0.0050	"						
Ethylbenzene	ND	0.0050	"						
Xylenes (total)	ND	0.010	"						
Gasoline Range Hydrocarbons	ND	0.50	"						
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0397		99.8	23-173		
Surrogate: Toluene-d8	0.0393		"	0.0400		98.3	20-170		
Surrogate: 4-Bromofluorobenzene	0.0432		"	0.0400		108	21-167		

LCS (3022203-BS1)				Prepared & Analyzed: 02/22/13					
Naphthalene	ND	0.0050	mg/kg				66-138		
Benzene	0.0974	0.0050	"	0.100		97.4	58-130		
Toluene	0.102	0.0050	"	0.100		102	61-134		
Ethylbenzene	0.113	0.0050	"	0.100		113	74-139		
m,p-Xylene	0.206	0.010	"	0.200		103	73-137		
o-Xylene	0.113	0.0050	"	0.100		113	73-141		
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0397		94.5	23-173		
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170		
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400		103	21-167		

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3022203 - EPA 5030 Soil MS

LCS Dup (3022203-BSD1)

Prepared & Analyzed: 02/22/13

Naphthalene	ND	0.0050	mg/kg				66-138		12	
Benzene	0.0971	0.0050	"	0.100		97.1	58-130	0.247	13	
Toluene	0.104	0.0050	"	0.100		104	61-134	2.02	16	
Ethylbenzene	0.116	0.0050	"	0.100		116	74-139	2.51	12	
m,p-Xylene	0.212	0.010	"	0.200		106	73-137	3.10	14	
o-Xylene	0.115	0.0050	"	0.100		115	73-141	2.00	12	
Surrogate: 1,2-Dichloroethane-d4	0.0394		"	0.0397		99.1	23-173			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0417		"	0.0400		104	21-167			

Matrix Spike (3022203-MS1)

Source: R302179-01

Prepared & Analyzed: 02/22/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0950	0.0050	"	0.100	0.00	95.0	30-131			
Toluene	0.101	0.0050	"	0.100	0.00	101	30-134			
Ethylbenzene	0.113	0.0050	"	0.100	0.00	113	22-153			
m,p-Xylene	0.205	0.010	"	0.200	0.00	103	10-159			
o-Xylene	0.114	0.0050	"	0.100	0.00	114	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0397		98.2	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	21-167			

Matrix Spike Dup (3022203-MSD1)

Source: R302179-01

Prepared & Analyzed: 02/22/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158		42	
Benzene	0.104	0.0050	"	0.100	0.00	104	30-131	9.36	34	
Toluene	0.107	0.0050	"	0.100	0.00	107	30-134	5.89	30	
Ethylbenzene	0.119	0.0050	"	0.100	0.00	119	22-153	5.66	24	
m,p-Xylene	0.217	0.010	"	0.200	0.00	108	10-159	5.48	68	
o-Xylene	0.118	0.0050	"	0.100	0.00	118	31-151	3.13	38	
Surrogate: 1,2-Dichloroethane-d4	0.0394		"	0.0397		99.3	23-173			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0413		"	0.0400		103	21-167			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 3022508 - EPA 5030 Soil MS

Blank (3022508-BLK1)

Prepared & Analyzed: 02/25/13

Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0462		"	0.0397		116	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0347		"	0.0400		86.7	21-167			

LCS (3022508-BS1)

Prepared & Analyzed: 02/25/13

Naphthalene	ND	0.0050	mg/kg				66-138			
Benzene	0.0960	0.0050	"	0.100		96.0	58-130			
Toluene	0.101	0.0050	"	0.100		101	61-134			
Ethylbenzene	0.0994	0.0050	"	0.100		99.4	74-139			
m,p-Xylene	0.200	0.010	"	0.200		99.8	73-137			
o-Xylene	0.0999	0.0050	"	0.100		99.9	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0462		"	0.0397		116	23-173			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0376		"	0.0400		94.1	21-167			

LCS Dup (3022508-BSD1)

Prepared & Analyzed: 02/25/13

Naphthalene	ND	0.0050	mg/kg				66-138		12	
Benzene	0.0986	0.0050	"	0.100		98.6	58-130	2.68	13	
Toluene	0.104	0.0050	"	0.100		104	61-134	2.77	16	
Ethylbenzene	0.102	0.0050	"	0.100		102	74-139	2.91	12	
m,p-Xylene	0.204	0.010	"	0.200		102	73-137	2.02	14	
o-Xylene	0.103	0.0050	"	0.100		103	73-141	2.99	12	
Surrogate: 1,2-Dichloroethane-d4	0.0454		"	0.0397		114	23-173			
Surrogate: Toluene-d8	0.0389		"	0.0400		97.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400		96.8	21-167			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3022508 - EPA 5030 Soil MS

Matrix Spike (3022508-MS1)

Source: R302186-01

Prepared & Analyzed: 02/25/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0692	0.0050	"	0.100	0.00	69.2	30-131			
Toluene	0.0710	0.0050	"	0.100	0.00	71.0	30-134			
Ethylbenzene	0.0694	0.0050	"	0.100	0.00	69.4	22-153			
m,p-Xylene	0.140	0.010	"	0.200	0.00	70.2	10-159			
o-Xylene	0.0712	0.0050	"	0.100	0.00	71.2	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0490		"	0.0397		124	23-173			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.3	21-167			

Matrix Spike Dup (3022508-MSD1)

Source: R302186-01

Prepared & Analyzed: 02/25/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158		42	
Benzene	0.0782	0.0050	"	0.100	0.00	78.2	30-131	12.1	34	
Toluene	0.0818	0.0050	"	0.100	0.00	81.8	30-134	14.1	30	
Ethylbenzene	0.0774	0.0050	"	0.100	0.00	77.4	22-153	10.9	24	
m,p-Xylene	0.154	0.010	"	0.200	0.00	77.2	10-159	9.49	68	
o-Xylene	0.0767	0.0050	"	0.100	0.00	76.7	31-151	7.43	38	
Surrogate: 1,2-Dichloroethane-d4	0.0476		"	0.0397		120	23-173			
Surrogate: Toluene-d8	0.0402		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0373		"	0.0400		93.2	21-167			

Batch 3022609 - EPA 5030 Soil MS

Blank (3022609-BLK1)

Prepared & Analyzed: 02/26/13

Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0450		"	0.0397		113	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0372		"	0.0400		93.1	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3022609 - EPA 5030 Soil MS

LCS (3022609-BS1)

Prepared & Analyzed: 02/26/13

Naphthalene	ND	0.0050	mg/kg				66-138			
Benzene	0.0949	0.0050	"	0.100		94.9	58-130			
Toluene	0.101	0.0050	"	0.100		101	61-134			
Ethylbenzene	0.103	0.0050	"	0.100		103	74-139			
m,p-Xylene	0.204	0.010	"	0.200		102	73-137			
o-Xylene	0.103	0.0050	"	0.100		103	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0453		"	0.0397		114	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.4	21-167			

LCS Dup (3022609-BSD1)

Prepared & Analyzed: 02/26/13

Naphthalene	ND	0.0050	mg/kg				66-138		12	
Benzene	0.102	0.0050	"	0.100		102	58-130	7.28	13	
Toluene	0.118	0.0050	"	0.100		118	61-134	15.7	16	
Ethylbenzene	0.110	0.0050	"	0.100		110	74-139	6.57	12	
m,p-Xylene	0.206	0.010	"	0.200		103	73-137	1.20	14	
o-Xylene	0.108	0.0050	"	0.100		108	73-141	4.64	12	
Surrogate: 1,2-Dichloroethane-d4	0.0453		"	0.0397		114	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		99.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.6	21-167			

Matrix Spike (3022609-MS1)

Source: R302193-01

Prepared & Analyzed: 02/26/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0828	0.0050	"	0.100	0.00	82.8	30-131			
Toluene	0.0880	0.0050	"	0.100	0.00	88.0	30-134			
Ethylbenzene	0.0835	0.0050	"	0.100	0.00	83.5	22-153			
m,p-Xylene	0.167	0.010	"	0.200	0.00	83.4	10-159			
o-Xylene	0.0833	0.0050	"	0.100	0.00	83.3	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0460		"	0.0397		116	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.0	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3022609 - EPA 5030 Soil MS

Matrix Spike Dup (3022609-MSD1)				Source: R302193-01		Prepared & Analyzed: 02/26/13				
Naphthalene	ND	0.0050	mg/kg		ND		10-158		42	
Benzene	0.0795	0.0050	"	0.100	0.00	79.5	30-131	4.14	34	
Toluene	0.0853	0.0050	"	0.100	0.00	85.3	30-134	3.12	30	
Ethylbenzene	0.0801	0.0050	"	0.100	0.00	80.1	22-153	4.18	24	
m,p-Xylene	0.160	0.010	"	0.200	0.00	80.1	10-159	3.96	68	
o-Xylene	0.0786	0.0050	"	0.100	0.00	78.6	31-151	5.78	38	
Surrogate: 1,2-Dichloroethane-d4	0.0463		"	0.0397		117	23-173			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.4	21-167			

Batch 3022707 - EPA 5030 Soil MS

Blank (3022707-BLK1)				Prepared: 02/27/13 Analyzed: 02/28/13						
Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0454		"	0.0397		114	23-173			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.5	21-167			

LCS (3022707-BS1)				Prepared: 02/27/13 Analyzed: 02/28/13						
Naphthalene	ND	0.0050	mg/kg				66-138			
Benzene	0.0984	0.0050	"	0.100		98.4	58-130			
Toluene	0.104	0.0050	"	0.100		104	61-134			
Ethylbenzene	0.108	0.0050	"	0.100		108	74-139			
m,p-Xylene	0.215	0.010	"	0.200		107	73-137			
o-Xylene	0.108	0.0050	"	0.100		108	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0463		"	0.0397		117	23-173			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0359		"	0.0400		89.7	21-167			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3022707 - EPA 5030 Soil MS

LCS Dup (3022707-BSD1)

Prepared: 02/27/13 Analyzed: 02/28/13

Naphthalene	ND	0.0050	mg/kg				66-138		12	
Benzene	0.100	0.0050	"	0.100		100	58-130	1.93	13	
Toluene	0.105	0.0050	"	0.100		105	61-134	0.459	16	
Ethylbenzene	0.106	0.0050	"	0.100		106	74-139	1.57	12	
m,p-Xylene	0.211	0.010	"	0.200		105	73-137	1.92	14	
o-Xylene	0.109	0.0050	"	0.100		109	73-141	0.938	12	
Surrogate: 1,2-Dichloroethane-d4	0.0449		"	0.0397		113	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.6	21-167			

Matrix Spike (3022707-MS1)

Source: R302201-01

Prepared: 02/27/13 Analyzed: 02/28/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0585	0.0050	"	0.100	0.00	58.5	30-131			
Toluene	0.0604	0.0050	"	0.100	0.00	60.4	30-134			
Ethylbenzene	0.0467	0.0050	"	0.100	0.00	46.7	22-153			
m,p-Xylene	0.137	0.010	"	0.200	0.00	68.5	10-159			
o-Xylene	0.0788	0.0050	"	0.100	0.00	78.8	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0455		"	0.0397		115	23-173			
Surrogate: Toluene-d8	0.0402		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0381		"	0.0400		95.3	21-167			

Batch 3030201 - EPA 5030 Soil MS

Blank (3030201-BLK1)

Prepared & Analyzed: 03/02/13

Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0460		"	0.0397		116	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0378		"	0.0400		94.5	21-167			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3030201 - EPA 5030 Soil MS

LCS (3030201-BS1)

Prepared & Analyzed: 03/02/13

Naphthalene	ND	0.0050	mg/kg				66-138			
Benzene	0.101	0.0050	"	0.100		101	58-130			
Toluene	0.104	0.0050	"	0.100		104	61-134			
Ethylbenzene	0.102	0.0050	"	0.100		102	74-139			
m,p-Xylene	0.201	0.010	"	0.200		101	73-137			
o-Xylene	0.103	0.0050	"	0.100		103	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0455		"	0.0397		115	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0400		94.4	21-167			

LCS Dup (3030201-BS1)

Prepared & Analyzed: 03/02/13

Naphthalene	ND	0.0050	mg/kg				66-138		12	
Benzene	0.106	0.0050	"	0.100		106	58-130	4.43	13	
Toluene	0.111	0.0050	"	0.100		111	61-134	6.39	16	
Ethylbenzene	0.112	0.0050	"	0.100		112	74-139	8.91	12	
m,p-Xylene	0.220	0.010	"	0.200		110	73-137	8.74	14	
o-Xylene	0.112	0.0050	"	0.100		112	73-141	8.36	12	
Surrogate: 1,2-Dichloroethane-d4	0.0460		"	0.0397		116	23-173			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.2	21-167			

Matrix Spike (3030201-MS1)

Source: R303004-01

Prepared & Analyzed: 03/02/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0786	0.0050	"	0.100	0.00	78.6	30-131			
Toluene	0.0808	0.0050	"	0.100	0.00	80.8	30-134			
Ethylbenzene	0.0785	0.0050	"	0.100	0.00	78.5	22-153			
m,p-Xylene	0.156	0.010	"	0.200	0.00	77.8	10-159			
o-Xylene	0.0798	0.0050	"	0.100	0.00	79.8	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0479		"	0.0397		121	23-173			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0400		95.8	21-167			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3030201 - EPA 5030 Soil MS

Matrix Spike Dup (3030201-MSD1)				Source: R303004-01		Prepared & Analyzed: 03/02/13				
Naphthalene	ND	0.0050	mg/kg		ND		10-158		42	
Benzene	0.0758	0.0050	"	0.100	0.00	75.8	30-131	3.57	34	
Toluene	0.0788	0.0050	"	0.100	0.00	78.8	30-134	2.56	30	
Ethylbenzene	0.0761	0.0050	"	0.100	0.00	76.1	22-153	3.10	24	
m,p-Xylene	0.148	0.010	"	0.200	0.00	74.2	10-159	4.84	68	
o-Xylene	0.0770	0.0050	"	0.100	0.00	77.0	31-151	3.52	38	
Surrogate: 1,2-Dichloroethane-d4	0.0497		"	0.0397		125	23-173			
Surrogate: Toluene-d8	0.0402		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0372		"	0.0400		92.9	21-167			

Batch 3030404 - EPA 5030 Soil MS

Blank (3030404-BLK1)				Prepared & Analyzed: 03/04/13						
Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0442		"	0.0397		111	23-173			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0400		94.2	21-167			

LCS (3030404-BS1)				Prepared & Analyzed: 03/04/13						
Naphthalene	ND	0.0050	mg/kg				66-138			
Benzene	0.107	0.0050	"	0.100		107	58-130			
Toluene	0.110	0.0050	"	0.100		110	61-134			
Ethylbenzene	0.112	0.0050	"	0.100		112	74-139			
m,p-Xylene	0.219	0.010	"	0.200		109	73-137			
o-Xylene	0.111	0.0050	"	0.100		111	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0448		"	0.0397		113	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.3	21-167			

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3030404 - EPA 5030 Soil MS

LCS Dup (3030404-BSD1)

Prepared & Analyzed: 03/04/13

Naphthalene	ND	0.0050	mg/kg				66-138		12	
Benzene	0.110	0.0050	"	0.100		110	58-130	3.51	13	
Toluene	0.116	0.0050	"	0.100		116	61-134	4.80	16	
Ethylbenzene	0.117	0.0050	"	0.100		117	74-139	4.64	12	
m,p-Xylene	0.229	0.010	"	0.200		115	73-137	4.64	14	
o-Xylene	0.115	0.0050	"	0.100		115	73-141	3.18	12	
Surrogate: 1,2-Dichloroethane-d4	0.0441		"	0.0397		111	23-173			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		94.9	21-167			

Matrix Spike (3030404-MS1)

Source: R303014-01

Prepared & Analyzed: 03/04/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0885	0.0050	"	0.100	0.00	88.5	30-131			
Toluene	0.0875	0.0050	"	0.100	0.00	87.5	30-134			
Ethylbenzene	0.0877	0.0050	"	0.100	0.00	87.7	22-153			
m,p-Xylene	0.177	0.010	"	0.200	0.00	88.6	10-159			
o-Xylene	0.0916	0.0050	"	0.100	0.00	91.6	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0487		"	0.0397		123	23-173			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		95.9	21-167			

Matrix Spike Dup (3030404-MSD1)

Source: R303014-01

Prepared & Analyzed: 03/04/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158		42	
Benzene	0.0897	0.0050	"	0.100	0.00	89.7	30-131	1.28	34	
Toluene	0.0915	0.0050	"	0.100	0.00	91.5	30-134	4.49	30	
Ethylbenzene	0.0867	0.0050	"	0.100	0.00	86.7	22-153	1.13	24	
m,p-Xylene	0.176	0.010	"	0.200	0.00	88.2	10-159	0.458	68	
o-Xylene	0.0902	0.0050	"	0.100	0.00	90.2	31-151	1.49	38	
Surrogate: 1,2-Dichloroethane-d4	0.0474		"	0.0397		119	23-173			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0367		"	0.0400		91.8	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
03/05/13 14:24

Notes and Definitions

S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 18, 2013

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Jacobucci 13-32, 23-32

Enclosed are the results of analyses for samples received by Summit Scientific on 04/15/13 17:06. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joseph J Egry IV
Laboratory Director

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/18/13 10:23

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-01	R304119-01	Water	04/15/13 10:00	04/15/13 17:06
BH-02	R304119-02	Water	04/15/13 11:00	04/15/13 17:06
BH-03	R304119-03	Water	04/15/13 11:35	04/15/13 17:06
BH-04	R304119-04	Water	04/15/13 11:10	04/15/13 17:06
BH-05	R304119-05	Water	04/15/13 11:50	04/15/13 17:06
BH-06	R304119-06	Water	04/15/13 12:10	04/15/13 17:06
BH-07	R304119-07	Water	04/15/13 12:30	04/15/13 17:06

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/18/13 10:23

BH-01
R304119-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/13 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Naphthalene	ND	1.0	ug/l	1	3041613	04/16/13	04/17/13	EPA 8260B	
Benzene	ND	1.0	"	"	"	"	"	"	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	500	"	"	"	"	"	"	

Date Sampled: **04/15/13 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		97.0 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.4 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	45-146		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
04/18/13 10:23

BH-02
R304119-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/13 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	1.0	ug/l	1	3041613	04/16/13	04/17/13	EPA 8260B	
Benzene	12	1.0	"	"	"	"	"	"	
Toluene	1.6	1.0	"	"	"	"	"	"	
Ethylbenzene	5.3	1.0	"	"	"	"	"	"	
Xylenes (total)	130	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	500	"	"	"	"	"	"	

Date Sampled: **04/15/13 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		104 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
04/18/13 10:23

BH-03
R304119-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/13 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	1.0	ug/l	1	3041613	04/16/13	04/17/13	EPA 8260B	
Benzene	3.1	1.0	"	"	"	"	"	"	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	500	"	"	"	"	"	"	

Date Sampled: **04/15/13 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		100 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	45-146		"	"	"	"	

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
04/18/13 10:23

BH-04
R304119-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	1.0	ug/l	1	3041613	04/16/13	04/17/13	EPA 8260B	
Benzene	ND	1.0	"	"	"	"	"	"	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	500	"	"	"	"	"	"	

Date Sampled: **04/15/13 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		101 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	45-146		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
04/18/13 10:23

BH-05
R304119-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	1.0	ug/l	1	3041613	04/16/13	04/17/13	EPA 8260B	
Benzene	67	1.0	"	"	"	"	"	"	
Toluene	590	100	"	100	"	"	"	"	
Ethylbenzene	19	1.0	"	1	"	"	"	"	
Xylenes (total)	370	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2100	500	"	"	"	"	"	"	

Date Sampled: **04/15/13 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		102 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	45-146		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
04/18/13 10:23

BH-06
R304119-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/13 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	85	1.0	ug/l	1	3041613	04/16/13	04/17/13	EPA 8260B	
Benzene	10000	100	"	100	"	"	"	"	
Toluene	31000	100	"	"	"	"	"	"	
Ethylbenzene	950	100	"	"	"	"	"	"	
Xylenes (total)	14000	100	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	120000	50000	"	"	"	"	"	"	

Date Sampled: **04/15/13 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		101 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	45-146		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
04/18/13 10:23

BH-07
R304119-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/13 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	1.0	ug/l	1	3041613	04/16/13	04/17/13	EPA 8260B	
Benzene	4.7	1.0	"	"	"	"	"	"	
Toluene	39	1.0	"	"	"	"	"	"	
Ethylbenzene	2.8	1.0	"	"	"	"	"	"	
Xylenes (total)	41	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	500	"	"	"	"	"	"	

Date Sampled: **04/15/13 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		100 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	45-146		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
04/18/13 10:23

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3041613 - EPA 5030 Water MS

Blank (3041613-BLK1)

Prepared & Analyzed: 04/17/13

Naphthalene	ND	1.0	ug/l							
Benzene	ND	1.0	"							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Gasoline Range Hydrocarbons	ND	500	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.5</i>		<i>"</i>	<i>13.2</i>		<i>110</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>14.0</i>		<i>"</i>	<i>13.3</i>		<i>105</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>15.1</i>		<i>"</i>	<i>13.3</i>		<i>114</i>	<i>45-146</i>			

LCS (3041613-BS1)

Prepared & Analyzed: 04/17/13

Naphthalene	ND	1.0	ug/l				76-128			
Benzene	37.2	1.0	"	33.3		112	51-132			
Toluene	43.8	1.0	"	33.3		131	51-138			
Ethylbenzene	39.4	1.0	"	33.3		118	58-146			
m,p-Xylene	74.0	2.0	"	66.7		111	57-144			
o-Xylene	38.3	1.0	"	33.3		115	53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.6</i>		<i>"</i>	<i>13.2</i>		<i>111</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>14.3</i>		<i>"</i>	<i>13.3</i>		<i>108</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>14.8</i>		<i>"</i>	<i>13.3</i>		<i>111</i>	<i>45-146</i>			

LCS Dup (3041613-BSD1)

Prepared & Analyzed: 04/17/13

Naphthalene	ND	1.0	ug/l				76-128		10	
Benzene	35.9	1.0	"	33.3		108	51-132	3.69	17	
Toluene	43.2	1.0	"	33.3		130	51-138	1.24	17	
Ethylbenzene	38.8	1.0	"	33.3		116	58-146	1.51	16	
m,p-Xylene	73.4	2.0	"	66.7		110	57-144	0.854	16	
o-Xylene	38.7	1.0	"	33.3		116	53-146	0.909	15	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.7</i>		<i>"</i>	<i>13.2</i>		<i>104</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>14.1</i>		<i>"</i>	<i>13.3</i>		<i>106</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>14.4</i>		<i>"</i>	<i>13.3</i>		<i>108</i>	<i>45-146</i>			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/18/13 10:23

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 3041613 - EPA 5030 Water MS

Matrix Spike (3041613-MS1)		Source: R304119-01			Prepared & Analyzed: 04/17/13					
Naphthalene	ND	1.0	ug/l		ND		73-132			
Benzene	37.1	1.0	"	33.3	ND	111	34-141			
Toluene	44.4	1.0	"	33.3	ND	133	27-151			
Ethylbenzene	39.6	1.0	"	33.3	ND	119	29-160			
m,p-Xylene	74.6	2.0	"	66.7	ND	112	20-166			
o-Xylene	37.7	1.0	"	33.3	ND	113	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.4		"	13.2		101	37-154			
Surrogate: Toluene-d8	14.1		"	13.3		106	45-149			
Surrogate: 4-Bromofluorobenzene	14.3		"	13.3		107	45-146			

Matrix Spike Dup (3041613-MSD1)		Source: R304119-01			Prepared & Analyzed: 04/17/13					
Naphthalene	ND	1.0	ug/l		ND		73-132		23	
Benzene	37.4	1.0	"	33.3	ND	112	34-141	0.885	32	
Toluene	43.9	1.0	"	33.3	ND	132	27-151	1.18	25	
Ethylbenzene	39.4	1.0	"	33.3	ND	118	29-160	0.355	50	
m,p-Xylene	74.0	2.0	"	66.7	ND	111	20-166	0.821	36	
o-Xylene	39.0	1.0	"	33.3	ND	117	33-159	3.60	26	
Surrogate: 1,2-Dichloroethane-d4	14.0		"	13.2		106	37-154			
Surrogate: Toluene-d8	14.3		"	13.3		107	45-149			
Surrogate: 4-Bromofluorobenzene	14.7		"	13.3		110	45-146			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Jacobucci 13-32, 23-32

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
04/18/13 10:23

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

A handwritten signature in black ink, appearing to read 'Daniel A. Bruns IV'.