

Remediation Work Plan
Edwards 33, 43-9 Production Facility
Weld County, Colorado

Prepared for:



*1775 Sherman St, Suite 3000
Denver, CO 80203*

Prepared By:



*6899 Pecos Street, Unit C
Denver, CO 80221*

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1.0 Introduction

This workplan has been developed for implementation of remediation activities at the Edwards 33, 43-9 production facility (Site). Based on evaluation of the current Site conditions and review of candidate remedial alternatives, an optimal remedial strategy has been selected for this Site. Soil mixing using hydrogen peroxide was selected as the remedial strategy based on geology, contaminate type, Site constraints, and previous successful soil mixing and treatment of impacted soil at this location.

Soil mixing is a remedial approach that couples the proven effectiveness of chemical soil oxidation with the rapid results of excavation. The mixing method employed by Tasman is focused on minimizing complex equipment and treatment footprints while maximizing the benefits of on-Site treatment and reuse of soil. Treatment is conducted ex-situ within the footprint of disturbance and eliminates the need for external staging areas, secondary containment of treatment areas, and decontamination zones. Soil mixing reuses the treated soil, so there is an up to 100% reduction in haul truck traffic to disposal facilities and borrow sites.

2.0 Project Background

On July 30, 2015, a dump line release was discovered at the Site. The spill was reported to the Colorado Oil and Gas Conservation Commission (COGCC) on July 31, 2015 in an Initial Form 19 (Doc# 400877827). Between July 31 and August 31, 2015, excavation, environmental sampling, and remediation activities were conducted on Site. A complete summary of Site activities is provided below.

2.1 Initial Excavation Activities

Excavation activities were initiated following the discovery of the release. Between July 31 and August 3, 2015, approximately 280 cubic yards (cy) of impacted material were removed and transported to the Waste Management Facility in Ault, Colorado for disposal under PDC waste manifests. The lateral and vertical extent of the excavation was guided by field screening volatile organic compound (VOC) concentrations in soil using a photoionization detector (PID). Six soil samples (SS01 – SS06) were collected from the base and sidewalls of the excavation area at approximately 20 feet and 16 feet below ground surface (bgs), respectively. Soil samples were submitted to Summit Scientific Laboratories (Summit) in Golden, Colorado for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, and total petroleum hydrocarbons (TPH) – gasoline range organics (GRO) by USEPA Method 8260, and TPH – diesel range organics (DRO) by USEPA Method 8015.

Analytical results indicated benzene, total xylenes and TPH concentrations were in exceedance of COGCC Table 910-1 standards in the soil sample (SS01) collected from the base of the excavation at 20 feet bgs. Constituent concentrations were below regulatory standards in the remaining five soil sample locations.

2.2 Chemical Remediation Activities – Phase I

Based on the soil analytical data collected during initial excavation activities, soil mixing and chemical treatment were selected as an initial measure to address petroleum hydrocarbon impacts on Site.

On August 10, 2015, approximately 300 cy of impacted material between 20 feet and 25 feet bgs were chemically treated using approximately 2,250 gallons of hydrogen peroxide. Soil was treated in the open excavation area and stockpiled for subsequent confirmation soil sampling. In addition, one soil sample

(SS07) was collected from northeast sidewall at approximately 16 feet bgs and submitted to Summit for laboratory analysis of BTEX, naphthalene, and TPH.

Analytical results indicated constituent concentrations were below COGCC Table 910-1 standards in soil sample SS07, confirming that hydrocarbon impacts above regulatory standards between surface and 16 feet bgs were successfully removed.

On August 12, 2015, additional soil sampling activities were conducted to determine the vertical extent of remaining hydrocarbon impacts. Five soil samples (SS08 – SS12) were collected from the base and sidewalls of the excavation area at approximately 26 feet and 21 feet bgs, respectively. Due to elevated PID readings observed in the soil sample (SS12) collected from the west sidewall, a test pit was advanced approximately 15 feet west of the excavation boundary and a soil sample (SS13) was collected at 21 feet bgs. All six soil samples were submitted to Summit for laboratory analysis of BTEX, naphthalene, and TPH.

Analytical results indicated TPH concentrations were in exceedance of COGCC Table 910-1 standards in the soil samples collected from the west sidewall (SS12) and base of the excavation (SS08). However, constituent concentrations were below regulatory standards in the soil samples collected from the test pit and three remaining sidewalls.

2.3 Chemical Remediation Activities – Phase II

Based on the soil analytical data collected following the first chemical treatment event, hydrocarbon impacts above regulatory standards remained at the base of the excavation at 26 feet bgs, below the extent of the soil mixing zone.

On August 19, 2015, approximately 500 cy of impacted material between 26 feet and 30 feet bgs were chemically treated using 4,500 gallons of hydrogen peroxide. Treated material was subsequently stockpiled for confirmation sampling. Following treatment activities, four soil samples (SS14 – SS17) were collected from the base and sidewalls of the excavation area at 30 feet and 21 feet bgs, respectively. Samples were submitted to Summit for laboratory analysis of BTEX, naphthalene, and TPH.

Analytical results indicated benzene concentrations were in exceedance of COGCC Table 910-1 standards in the soil samples (SS14 and SS17) collected from the base of the excavation at 30 feet bgs. However, constituent concentrations were below regulatory standards in the two soil samples (SS15 and SS16) collected from the sidewalls of the final excavation extent.

Based on soil analytical data collected between August 12 and August 19, 2015, hydrocarbon impacts above regulatory standards were successfully addressed between 16 feet and 21 feet bgs in the excavation area.

On August 21, 2015, two test pits were advanced at the base of the excavation in an attempt to delineate the extent of remaining vertical hydrocarbon impacts. Two soil samples (SS18 and SS19) were collected at approximately 32 feet bgs and submitted to Summit for laboratory analysis. Analytical results indicated benzene concentrations were in exceedance of COGCC Table 910-1 standards in both soil samples collected from the base of the excavation at 32 feet bgs.

Between August 21 and August 24, 2015, the impacted material generated during investigation activities, approximately 130 cy, was removed and transported to the Waste Management Facility for disposal under PDC waste manifests.

2.4 Treated Material Confirmation Sampling

Confirmation soil samples were collected for every 100 cy of treated material to confirm constituent concentrations decreased below COGCC Table 910-1 standards. Between August 12 and August 24, 2015, eight composite soil samples (CS01 – CS08) were collected from the treated material and submitted to Summit for laboratory analysis of BTEX, naphthalene and TPH.

Analytical results indicated TPH concentrations were in exceedance of COGCC Table 910-1 soil standards in two (CS04 and CS07) of the eight samples. Consequently, the material was given additional oxidation reaction time and remixed. On August 31, 2015, the material was resampled (CS04-R and CS07-R). Analytical results indicated constituent concentrations were below regulatory standards in both sample locations.

2.5 Additional Site Assessment Activities

Between August 31 and September 1, 2015, a Site investigation was conducted to delineate the lateral and vertical extent of remaining hydrocarbon impacts below 21 feet bgs. Five test pits (TP01 – TP05) were advanced in the cardinal directions of the excavation area to a depth of approximately 32 feet bgs. Soil encountered in the test pits was field screened for VOC concentrations using a PID. Soil samples were collected from each test pit at depths ranging between 27 feet and 32 feet bgs. Samples were submitted to Summit for laboratory analysis of BTEX, naphthalene, and TPH. Analytical results indicated constituent concentrations were below COGCC Table 910-1 soil standards in the soil samples collected from all five test pit locations.

The excavation extent and soil sample locations are illustrated on Figure 1. Soil analytical data collected from the excavation area is summarized in Table 1 and soil analytical data collected from the treated material is summarized in Table 2. The laboratory analytical reports are included as Attachment A.

Based on the analytical data collected between July 31 and August 31, 2015, the lateral extent of remaining hydrocarbon impacts above regulatory standards has been defined. Groundwater was not encountered during excavation, sampling, or investigation activities.

3.0 Remediation Plan

The Site specific remediation plan for addressing petroleum hydrocarbons in soil is outlined in the sections below.

3.1 Mobilization and Project Kickoff

Prior to mobilization of remediation equipment, PDC will remove subsurface pipelines and above ground infrastructure from the dig area (Figure 2). Once the production equipment has been removed from the battery, remediation equipment will be brought to the Site which will include the following:

- One or more excavators for soil mixing, overburden removal, stockpile management, sampling, and backfilling
- Bulldozer and/or wheel loader

- Compactor
- Bulk container for hydrogen peroxide (H₂O₂) with secondary containment
- Water tank for H₂O₂ dilution
- H₂O₂ spray manifold, air compressor, pumps, and hoses
- 500 gallon diesel tank – dual contained for equipment refueling
- Ancillary equipment and fittings

Prior to commencing excavation operations, Tasman will create a detour access road to the east of the DCP gas line riser as illustrated in Figure 2. A detour sign will be posted at the entrance to the Site to divert vehicle traffic away from the remediation work area.

Health and Safety Plan (HASP) - Due to the nature of the remediation work, various critical risks will require consideration and definition in a detailed HASP. The HASP will include a summary of principal hazards, Site-specific and activity-specific training to be provided, and methods used in the field to protect workers and equipment. The HASP will also include all requisite figures and graphics necessary to provide a proper understanding of the hazards and the methods used to protect against such hazards. Some of the principal hazards addressed as modules will include the following, among others:

- Excavation Operations;
- Chemical Hazards;
- Site Traffic, and;
- Personal Protective Equipment.

Stormwater Control – Prior to commencement of construction activities, best management practices (BMP's) will be implemented such as straw waddle and earth berms around the work area to prevent uncontrolled migration of sediment. Tasman will install and maintain sedimentation control devices as necessary to prevent the movement of sediment off the Site. Field personnel will make a visual inspection of all erosion and sedimentation control devices once every two weeks and after precipitation events. Sediment controls in need of maintenance will be cleaned or repaired promptly.

3.2 Excavation, Soil Mixing, and Confirmation Sampling

As discussed above, assessment activities indicate that impacted soils are present between 21 and 32 feet bgs. In order to access this material, clean overburden will be removed and stockpiled on-Site. The upper 3 feet of overburden on adjacent agricultural land is topsoil and will be segregated for post-remediation reclamation. Impacted soil will be excavated and mixed with H₂O₂ and allowed to react for 24- to 48-hours. Subsequent to the 24- to 48-hour oxidation reaction period, post-treatment samples will be collected and analyzed on a quick-turn basis. One composite soil sample will be collected per 100 cy of treated material to confirm hydrocarbon impacts have been reduced below COGCC standards and can be used for subsequent backfilling.

Confirmation samples will be submitted to Summit for laboratory analysis of BTEX, naphthalene, and TPH. Reductions in petroleum hydrocarbons below COGCC standards are typically experienced after one

round of treatment/mixing. Occasionally, additional treatment time or additional chemical may be needed to further reduce petroleum hydrocarbon concentrations within a 100 cy treatment cell. Treated material that exhibits elevated constituent concentrations above State standards will be further treated and subsequently re-sampled (resample designation - CSXX-R). Treatment volume and sample results will be tabulated and submitted to PDC in a daily activity summary e-mail.

3.3 Determination of Excavation Extents

Standard headspace sampling techniques using a PID will guide the horizontal and vertical progression of the excavation. At the final extent of the excavation, confirmation soil samples will be collected from the sidewalls and base. Soil samples will be submitted to Summit for laboratory analysis of BTEX, naphthalene, and TPH. Excavation and treatment of impacted soil will be considered complete once analytical results indicate constituent concentrations are below COGCC Table 910-1 soil standards. The excavation extent and soil sample locations will be illustrated on a Site figure and summarized in an analytical table. The Site figure and table will be provided to PDC in a daily activity summary e-mail.

3.4 Backfill and Reclamation

Once soil sample analytical results indicate that the extent of petroleum hydrocarbon impacts have been defined and the impacted soil treated, backfilling operations will commence. Native backfill consisting of treated material will be placed in maximum 2-foot lifts using an excavator and compactor at the base of the excavation to an approximate depth between 5-10 feet bgs. Clean fill material will be placed from the surface to between 5-10 feet bgs. In the adjacent agricultural field, topsoil will be placed from 0 to 3 feet bgs. The excavation will be completely backfilled to ground surface and re-contoured to match pre-existing surface conditions. The production facility will then be reconstructed over the former treatment area.

4.0 Excavation Plan

The project will require excavation of impacted soil to an estimated depth of 35 feet bgs. Excavation to this depth will be conducted as summarized in the following sections.

4.1 General Field Conditions

The observed soil characteristics in the proposed excavation area generally consist of the following:

- Granular Material: This material consists of sand and is encountered from the ground surface to an approximate depth of 20 ft bgs. Due to the lack of plasticity, this material is considered to be Type C in accordance with OSHA definitions as set forth in 29 CFR 1926 Subpart P Appendix A.
- Stable Rock: This material is encountered beneath the sand and extends from approximately 20 ft bgs to the total proposed excavation depth of 35 ft bgs.

These classifications have been established by a Competent Person based on field observation of the subgrade materials.

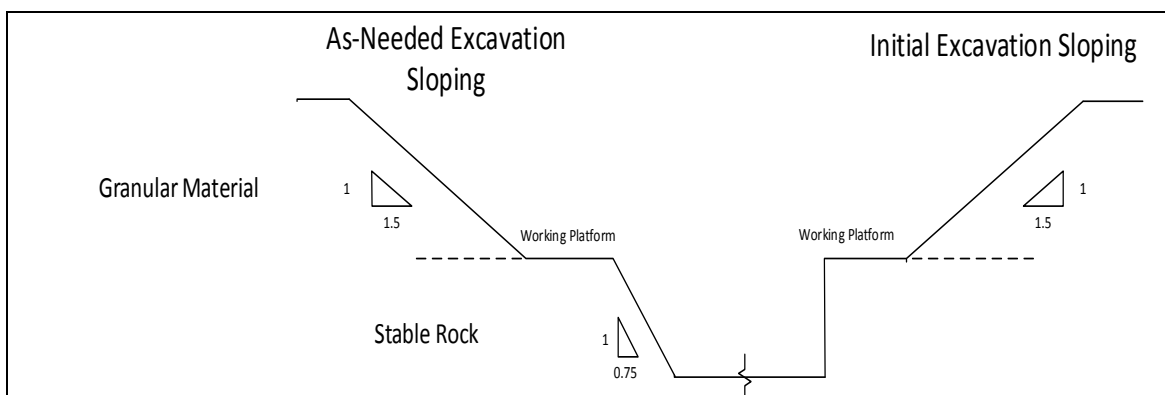
4.2 Sloping and Benching

Based on the soil types identified above, an evaluation of the maximum allowable slope has been assessed for each material. In addition, due to the required excavation depth, a sloping plan has been

established to account for equipment access and development of working platforms. The sloping plan is described below along with a generalized excavation sketch:

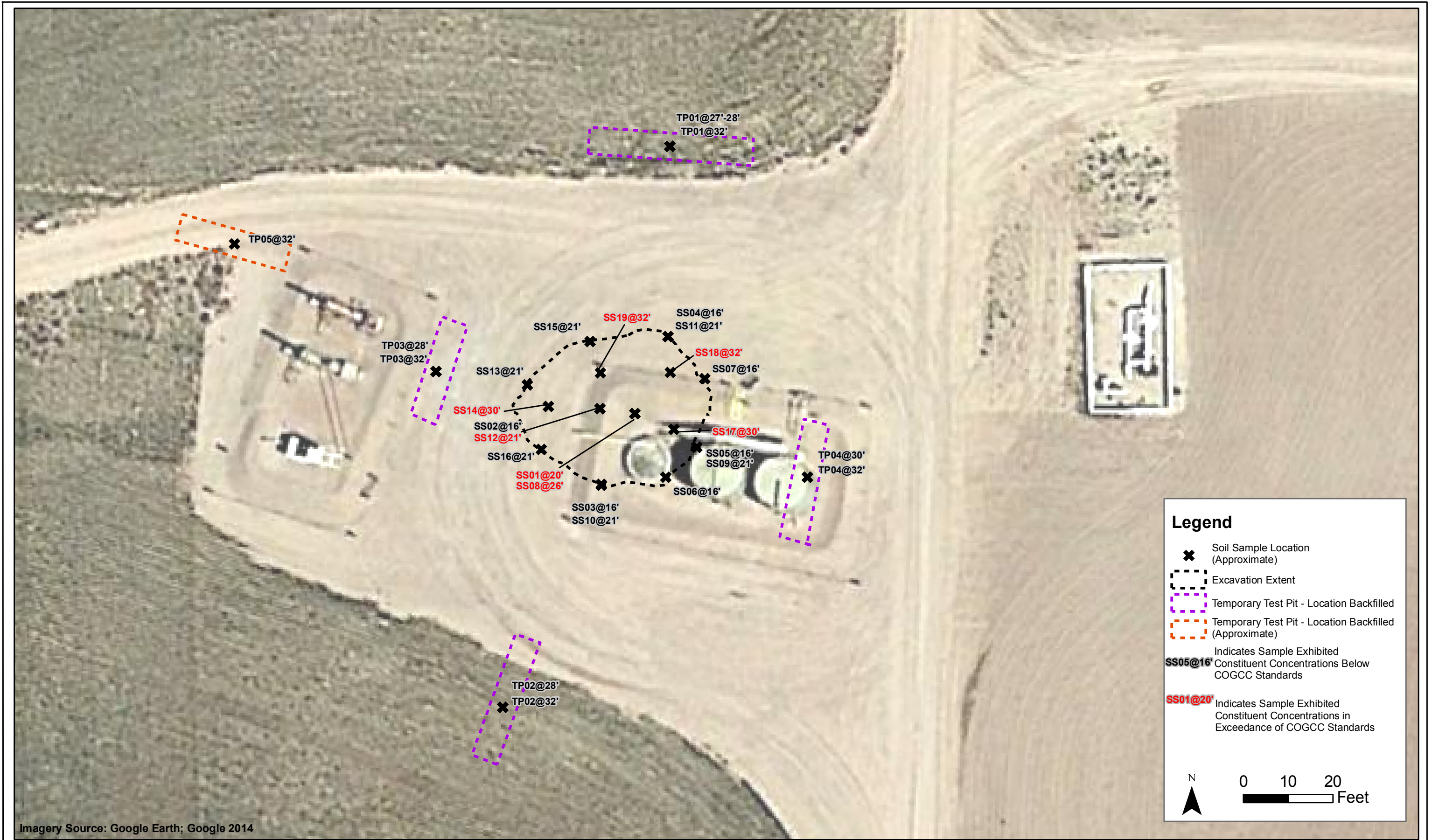
- Granular Material will be sloped at a maximum slope of 1.5H/1V. A lower slope may also be established on one or more sides of the excavation to accommodate equipment access.
- The toe of the Granular Material slope will terminate at the Stable Rock, at which a working platform will be established. The width of the working platform will be determined in the field as necessary to accommodate the width of the equipment to be utilized + a minimum 2 ft buffer.
- The Stable Rock may be excavated at a vertical slope, terminating at the base of the excavation, unless:
 - A revised Stable Rock maximum slope of 0.75H/1V will be established in the event of one of the following:
 - A reduced slope is deemed necessary by the Competent Person
 - Fissures, cracks, or separate is observed at any portion of the working platform
 - Field observations/measurements indicate the presence of material inconsistency that could affect the slope stability, (e.g., unconfined compressive strength, vertical/lateral heterogeneity, saturated soil conditions, etc.)
- In addition to the slope conditions described above, additional excavation conditions include:
 - Daily field observations of the excavation will be made and recorded by the Competent Person.
 - No personnel or equipment may enter the Stable Rock excavation below the working platform area (with exception of the excavator bucket).

Generalized Excavation Sketch



5.0 Schedule

Tasman can commence the project within 1-week of notice to proceed. The project is estimated to take 60-days to complete including final backfill and compaction to ground surface.



| | |
|--------------|-------------|
| DATE: | August 2015 |
| DESIGNED BY: | C. Wasko |
| DRAWN BY: | D. Arnold |



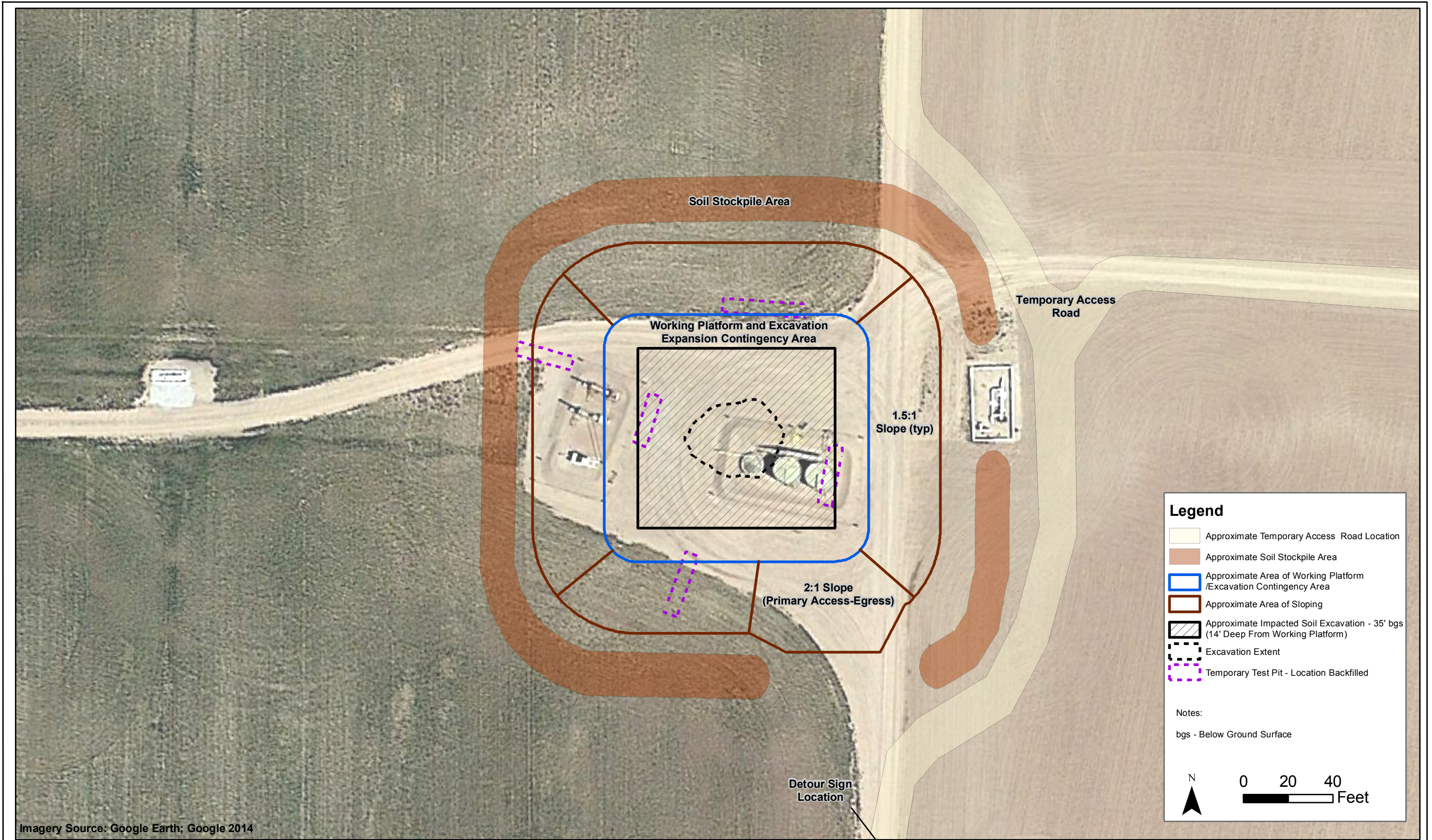
TASMAN
GEOSCIENCES

Tasman Geosciences, Inc.
6899 Pecos Street - Unit C
Denver, CO 80221

PDC Energy, Inc.
Edwards 33, 43-9
NWSE Section 9, Township 5 North, Range 67 West
Weld County, Colorado

Excavation
Site Map

Figure
1



| | |
|--------------|----------------|
| DATE: | September 2015 |
| DESIGNED BY: | C. Wasko |
| DRAWN BY: | D. Arnold |



Tasman Geosciences, Inc.
6899 Pecos Street - Unit C
Denver, CO 80221

PDC Energy, Inc.
Edwards 33, 43-9
NWSE Section 9, Township 5 North, Range 67 West
Weld County, Colorado

Excavation Detail and
Area of Disturbance
Map

Figure
2

TABLE 1
EDWARDS 33, 43-9 TANK BATTERY
SOIL SAMPLE RESULTS SUMMARY TABLE

| Sample ID | Date Sampled | Depth (feet bgs) | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | Naphthalene (mg/kg) | TPH ⁽²⁾ (mg/kg) |
|---|--------------|---------------------|--------------------|--------------------|-------------------------|-----------------------------|------------------------|-------------------------------|
| COGCC standards for soil (mg/kg) ⁽¹⁾ | | | 0.17 | 85 | 100 | 175 | 23 | 500 |
| SS01 @ 20 | 7/31/2015 | 20 | 0.82 | 64 | 15 | 230 | 2.5 | 4,300 |
| SS02 @ 16 | 7/31/2015 | 16 | 0.0033 | 0.12 | 0.022 | 0.44 | 0.020 | 4.4 |
| SS03 @ 16 | 7/31/2015 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS04 @ 16 | 7/31/2015 | 16 | <0.0020 | 0.019 | <0.0050 | 0.014 | <0.010 | <50 |
| SS05 @ 16 | 8/3/2015 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS06 @ 16 | 8/3/2015 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS07 @ 16 | 8/10/2015 | 16 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS08 @ 26 | 8/12/2015 | 26 | 0.054 | 4.0 | 0.86 | 25 | 0.36 | 800 |
| SS09 @ 21 | 8/12/2015 | 21 | <0.0020 | <0.0050 | <0.0050 | 0.017 | <0.010 | <50 |
| SS10 @ 21 | 8/12/2015 | 21 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS11 @ 21 | 8/12/2015 | 21 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS12 @ 21 | 8/12/2015 | 21 | 0.010 | 5.2 | 0.84 | 57 | 0.48 | 2,000 |
| SS13 @ 21 | 8/12/2015 | 21 | <0.0020 | <0.0050 | <0.0050 | 0.035 | <0.010 | 2.2 |
| SS14 @ 30 | 8/19/2015 | 30 | 0.37 | 0.79 | 0.044 | 0.77 | 0.033 | 24 |
| SS15 @ 21 | 8/19/2015 | 21 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| SS16 @ 21 | 8/19/2015 | 21 | 0.016 | 0.0050 | <0.0050 | 0.048 | <0.010 | <50 |
| SS17 @ 30 | 8/19/2015 | 30 | 0.45 | 1.1 | 0.065 | 1.0 | 0.030 | 13 |
| SS18 @ 32 | 8/21/2015 | 32 | 0.23 | 0.45 | 0.013 | 0.19 | <0.010 | 4.0 |
| SS19 @ 32 | 8/21/2015 | 32 | 0.27 | 0.63 | 0.02 | 0.39 | <0.010 | 3.3 |
| TP01 @ 27-28 | 8/31/2015 | 27-28 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | 0.54 |
| TP02 @ 28 | 8/31/2015 | 28 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| TP02 @ 32 | 8/31/2015 | 32 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| TP01 @ 32 | 9/1/2015 | 32 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| TP03 @ 28 | 9/1/2015 | 28 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| TP03 @ 32 | 9/1/2015 | 32 | 0.15 | 0.72 | 0.054 | 0.87 | 0.014 | 8.9 |
| TP04 @ 30 | 9/1/2015 | 30 | 0.029 | 0.020 | 0.026 | 0.14 | 0.014 | 7.8 |
| TP04 @ 32 | 9/1/2015 | 32 | 0.019 | 0.032 | <0.0050 | 0.025 | <0.010 | <50 |
| TP05 @ 32 | 9/1/2015 | 32 | <0.0020 | 0.0059 | <0.0050 | <0.010 | <0.010 | <50 |

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

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

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

GRO = Total volatile petroleum hydrocarbons - gasoline range organics

DRO = Total extractable petroleum hydrocarbons - diesel range organics

mg/kg = Milligrams per kilogram

bgs = Below ground surface

BOLD = Analytical result is in exceedance of COGCC soil standards.

TABLE 2
EDWARDS 33, 43-9 TANK BATTERY
CONFIRMATION SOIL SAMPLE RESULTS SUMMARY TABLE

| Sample ID | Date Sampled | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | Naphthalene (mg/kg) | TPH ⁽²⁾ (mg/kg) |
|---|--------------|--------------------|--------------------|-------------------------|-----------------------------|------------------------|-------------------------------|
| COGCC standards for soil (mg/kg) ⁽¹⁾ | | 0.17 | 85 | 100 | 175 | 23 | 500 |
| CS01 @ 20 | 8/12/2015 | 0.0037 | 0.27 | 0.073 | 1.3 | 0.041 | 13 |
| CS02 @ 22.5 | 8/12/2015 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | <50 |
| CS03 @ 25 | 8/12/2015 | 0.011 | 0.55 | 0.11 | 1.9 | 0.036 | 12 |
| CS04 | 8/24/2015 | <0.0020 | 0.058 | 0.039 | 22 | 0.21 | 1,120 |
| CS05 | 8/24/2015 | 0.0088 | 0.28 | 0.046 | 2.8 | 0.18 | 320 |
| CS06 | 8/24/2015 | 0.026 | 0.20 | <0.0050 | 2.0 | 0.075 | 76 |
| CS07 | 8/24/2015 | 0.014 | 0.28 | <0.0050 | 8.9 | 0.31 | 720 |
| CS08 | 8/24/2015 | <0.0020 | <0.0050 | <0.0050 | 0.57 | 0.016 | 29 |
| CS04-R | 8/31/2015 | <0.0020 | 0.010 | <0.0050 | 0.85 | 0.077 | 214 |
| CS07-R | 8/31/2015 | <0.0020 | <0.0050 | <0.0050 | <0.010 | <0.010 | 14 |

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

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

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

GRO = Total volatile petroleum hydrocarbons - gasoline range organics

DRO = Total extractable petroleum hydrocarbons - diesel range organics

mg/kg = Milligrams per kilogram

bgs = Below ground surface

BOLD = Analytical result is in exceedance of COGCC soil standards

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 01, 2015

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Edwards 33, 43-9

Enclosed are the results of analyses for samples received by Summit Scientific on 07/31/15 18:06. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS01@20' | 1507319-01 | Soil | 07/31/15 08:40 | 07/31/15 18:06 |
| SS02@16' | 1507319-02 | Soil | 07/31/15 10:30 | 07/31/15 18:06 |
| SS03@16' | 1507319-03 | Soil | 07/31/15 10:40 | 07/31/15 18:06 |
| SS04@16' | 1507319-04 | Soil | 07/31/15 12:55 | 07/31/15 18:06 |

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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

Summit Scientific 1507319

S₂

741 Corporate Circle, Suite J&K ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Client: PDC/Tasman Project Manager: Mark Longhurst Page 1 of 1
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Edwards 33, 43-9
Sampler Name: Eric Siegel Project Number: _____

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | Analysis Requested | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------------------|------|-----------------|-------------|------|----------------|--------------------|-------|-----------|--|----------------------|
| | | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air-Canister # | Other (Specify) | GC/MS | GC/MS DRO | | |
| 1 | SS01e20' | 7/31/15 | 8:40 | 1 | | | X | | | X | | | X | X | | |
| 2 | SS02e16' | ↓ | 10:30 | ↓ | | | | | | | | | | | | |
| 3 | SS03e16' | ↓ | 10:40 | ↓ | | | | | | | | | | | | |
| 4 | SS04e16' | ↓ | 12:55 | ↓ | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |

| | | | |
|---|--|---|--------|
| Relinquished by: <u>E. A. Siegel</u> Date/Time: <u>7/31/15</u> | Received by: <u>Mark Longhurst</u> Date/Time: <u>7-31-15 2:44</u> | Turn Around Time (Check) Same Day <u>X</u> 72 hours _____ 24 hours _____ Standard _____ 48 hours _____ | Notes: |
| Relinquished by: <u>Mark Longhurst</u> Date/Time: <u>7-31-15 6:06</u> | Received by: <u>Mark Longhurst</u> Date/Time: <u>7/31/15 18:06</u> | Sample Integrity: | |
| Relinquished by: _____ Date/Time: _____ | Received by: _____ Date/Time: _____ | Temperature Upon Receipt: <u>9.8°C</u> Intact: <u>Yes</u> No | |

www.s2scientific.com

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

SS01@20'
1507319-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/31/15 08:40

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 1200 | 50 | mg/kg | 1 | 1507337 | 07/31/15 | 07/31/15 | 8015M | |

Date Sampled: 07/31/15 08:40

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/31/15 08:40

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 2.5 | 1.0 | mg/kg | 100 | 1507338 | " | 07/31/15 | EPA 8260B | |
| Benzene | 0.82 | 0.20 | " | " | " | " | " | " | |
| Toluene | 64 | 0.50 | " | " | " | " | " | " | |
| Ethylbenzene | 15 | 0.50 | " | " | " | " | " | " | |
| Xylenes (total) | 230 | 1.0 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 3100 | 50 | " | " | " | " | " | " | |

Date Sampled: 07/31/15 08:40

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 101 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 115 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 131 % | 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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

SS02@16'
1507319-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/31/15 10:30

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1507337 | 07/31/15 | 07/31/15 | 8015M | |

Date Sampled: 07/31/15 10:30

| 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: 07/31/15 10:30

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.020 | 0.010 | mg/kg | 1 | 1507338 | " | 07/31/15 | EPA 8260B | |
| Benzene | 0.0033 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.12 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.022 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.44 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 4.4 | 0.50 | " | " | " | " | " | " | |

Date Sampled: 07/31/15 10:30

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 105 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 99.8 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 94.2 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

SS03@16'
1507319-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/31/15 10:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1507337 | 07/31/15 | 07/31/15 | 8015M | |

Date Sampled: **07/31/15 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: **07/31/15 10:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1507338 | " | 07/31/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **07/31/15 10:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 106 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 91.2 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.8 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

SS04@16'
1507319-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/31/15 12:55

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1507337 | 07/31/15 | 07/31/15 | 8015M | |

Date Sampled: 07/31/15 12:55

| 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: 07/31/15 12:55

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1507338 | " | 07/31/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.019 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.014 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: 07/31/15 12:55

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 105 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 96.6 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

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 1507337 - EPA 3550A

Blank (1507337-BLK1)

Prepared & Analyzed: 07/31/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|-----|--------|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 12.6 | | " | 12.2 | | 103 | 30-150 | | | |

LCS (1507337-BS1)

Prepared & Analyzed: 07/31/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|------|--------|--|--|--|
| C10-C28 (DRO) | 453 | 50 | mg/kg | 501 | | 90.4 | 73-134 | | | |
| Surrogate: o-Terphenyl | 12.8 | | " | 12.2 | | 105 | 30-150 | | | |

Matrix Spike (1507337-MS1)

Source: 1507317-02

Prepared & Analyzed: 07/31/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|----|------|--------|--|--|--|
| C10-C28 (DRO) | 469 | 50 | mg/kg | 475 | ND | 98.7 | 50-148 | | | |
| Surrogate: o-Terphenyl | 12.2 | | " | 11.6 | | 106 | 30-150 | | | |

Matrix Spike Dup (1507337-MSD1)

Source: 1507317-02

Prepared & Analyzed: 07/31/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|----|------|--------|------|----|--|
| C10-C28 (DRO) | 447 | 50 | mg/kg | 470 | ND | 95.1 | 50-148 | 4.89 | 13 | |
| Surrogate: o-Terphenyl | 11.6 | | " | 11.4 | | 101 | 30-150 | | | |

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

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 1507338 - EPA 5030 Soil MS

Blank (1507338-BLK1)

Prepared & Analyzed: 07/31/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| 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 | | " | 0.0396 | | 100 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0388 | | " | 0.0400 | | 97.0 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0377 | | " | 0.0400 | | 94.2 | 21-167 | | | |

LCS (1507338-BS1)

Prepared & Analyzed: 07/31/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.120 | 0.0020 | " | 0.100 | | 120 | 58-130 | | | |
| Toluene | 0.119 | 0.0050 | " | 0.100 | | 119 | 61-134 | | | |
| Ethylbenzene | 0.129 | 0.0050 | " | 0.0992 | | 130 | 74-139 | | | |
| m,p-Xylene | 0.267 | 0.010 | " | 0.200 | | 134 | 73-137 | | | |
| o-Xylene | 0.131 | 0.0050 | " | 0.0984 | | 133 | 73-141 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0390 | | " | 0.0396 | | 98.5 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0400 | | " | 0.0400 | | 100 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0373 | | " | 0.0400 | | 93.3 | 21-167 | | | |

Matrix Spike (1507338-MS1)

Source: 1507317-03

Prepared & Analyzed: 07/31/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|---------|------|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | 0.00677 | | 10-158 | | | |
| Benzene | 0.119 | 0.0020 | " | 0.0916 | 0.00617 | 123 | 30-131 | | | |
| Toluene | 0.125 | 0.0050 | " | 0.0916 | 0.0180 | 117 | 30-134 | | | |
| Ethylbenzene | 0.134 | 0.0050 | " | 0.0908 | 0.00880 | 138 | 22-153 | | | |
| m,p-Xylene | 0.300 | 0.010 | " | 0.183 | 0.0741 | 123 | 10-159 | | | |
| o-Xylene | 0.153 | 0.0050 | " | 0.0901 | 0.0447 | 121 | 31-151 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0378 | | " | 0.0363 | | 104 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0368 | | " | 0.0366 | | 100 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0349 | | " | 0.0366 | | 95.2 | 21-167 | | | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

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 1507338 - EPA 5030 Soil MS

| Matrix Spike Dup (1507338-MSD1) | | | Source: 1507317-03 | | | Prepared & Analyzed: 07/31/15 | | | | |
|----------------------------------|--------|--------|--------------------|--------|---------|-------------------------------|--------|------|----|--|
| Naphthalene | ND | 0.010 | mg/kg | | 0.00677 | | 10-158 | | 42 | |
| Benzene | 0.127 | 0.0020 | " | 0.0978 | 0.00617 | 124 | 30-131 | 6.95 | 34 | |
| Toluene | 0.137 | 0.0050 | " | 0.0978 | 0.0180 | 122 | 30-134 | 9.50 | 30 | |
| Ethylbenzene | 0.144 | 0.0050 | " | 0.0971 | 0.00880 | 139 | 22-153 | 6.81 | 24 | |
| m,p-Xylene | 0.354 | 0.010 | " | 0.195 | 0.0741 | 143 | 10-159 | 16.6 | 68 | |
| o-Xylene | 0.181 | 0.0050 | " | 0.0963 | 0.0447 | 142 | 31-151 | 16.6 | 38 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0385 | | " | 0.0387 | | 99.3 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0392 | | " | 0.0391 | | 100 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0370 | | " | 0.0391 | | 94.4 | 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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/01/15 14:01

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 be 'MSM'.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 04, 2015

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Edwards 33, 43-9

Enclosed are the results of analyses for samples received by Summit Scientific on 08/03/15 18:27. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS05@16' | 1508008-01 | Soil | 08/03/15 11:00 | 08/03/15 18:27 |
| SS06@16' | 1508008-02 | Soil | 08/03/15 11:30 | 08/03/15 18:27 |

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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

Summit Scientific 1508008

S₂

741 Corporate Circle, Suite J&K ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: PDC/Tasman Project Manager: Mark Longhurst
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____
Project Name: Edwards 33, 43-9
Sampler Name: Eric Siegel Project Number: _____

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | | Analysis Requested | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------------------|------|-----------------|-------------|------|----------------|-----------------|--------------------|-------|-------|-------|----------------------|
| | | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air-Canister # | Other (Specify) | GC/MS | GC/MS | GC/MS | GC/MS | |
| 1 | SS05e 16' | 8/3/15 | 1100 | 1 | | | X | | | X | | | | X | X | | |
| 2 | SS06e 16' | 8/3/15 | 1130 | 1 | | | X | | | X | | | | X | X | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | |
|--|--------------------------|------------------------------------|----------------------------|--|--------|
| Relinquished by: <u>E. A. Siegel</u> | Date/Time: <u>8/3/15</u> | Received by: <u>Mark Longhurst</u> | Date/Time: <u>8-3-2015</u> | Turn Around Time (Check) | Notes: |
| Relinquished by: <u>Mark Longhurst</u> | Date/Time: <u>8-3-15</u> | Received by: <u>Eric Siegel</u> | Date/Time: <u>8/3/15</u> | Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/> | |
| | | | | 24 hours <input type="checkbox"/> Standard <input type="checkbox"/> | |
| | | | | 48 hours <input type="checkbox"/> | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | Sample Integrity: | |
| | | | | Temperature Upon Receipt: <u>4.1°C</u> | |
| | | | | Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

www.s2scientific.com

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

SS05@16'
1508008-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/03/15 11:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508005 | 08/03/15 | 08/03/15 | 8015M | |

Date Sampled: **08/03/15 11:00**

| 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: **08/03/15 11:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508006 | 08/03/15 | 08/03/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/03/15 11:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 110 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.9 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.9 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

SS06@16'
1508008-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/03/15 11:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508005 | 08/03/15 | 08/03/15 | 8015M | |

Date Sampled: **08/03/15 11:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 98.9 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/03/15 11:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508006 | 08/03/15 | 08/03/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/03/15 11:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 103 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.6 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 95.5 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

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 1508005 - EPA 3550A

Blank (1508005-BLK1)

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|-----|--------|--|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 12.3 | | " | 12.2 | 101 | 30-150 | | | | |

LCS (1508005-BS1)

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|------|--------|--|--|--|--|
| C10-C28 (DRO) | 490 | 50 | mg/kg | 501 | 97.9 | 73-134 | | | | |
| Surrogate: o-Terphenyl | 12.3 | | " | 12.2 | 101 | 30-150 | | | | |

Matrix Spike (1508005-MS1)

Source: 1508003-02

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|-----|--------|--------|--|--|--|
| C10-C28 (DRO) | 512 | 50 | mg/kg | 485 | ND | 106 | 50-148 | | | |
| Surrogate: o-Terphenyl | 13.3 | | " | 11.8 | 112 | 30-150 | | | | |

Matrix Spike Dup (1508005-MSD1)

Source: 1508003-02

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|-----|--------|--------|------|----|--|
| C10-C28 (DRO) | 487 | 50 | mg/kg | 494 | ND | 98.6 | 50-148 | 4.99 | 13 | |
| Surrogate: o-Terphenyl | 12.3 | | " | 12.0 | 102 | 30-150 | | | | |

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

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 1508006 - EPA 5030 Soil MS

Blank (1508006-BLK1)

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0400</i> | | <i>"</i> | <i>0.0396</i> | | <i>101</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0397</i> | | <i>"</i> | <i>0.0400</i> | | <i>99.2</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0400</i> | | <i>"</i> | <i>0.0400</i> | | <i>100</i> | <i>21-167</i> | | | |

LCS (1508006-BS1)

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.101 | 0.0020 | " | 0.100 | | 101 | 58-130 | | | |
| Toluene | 0.101 | 0.0050 | " | 0.100 | | 101 | 61-134 | | | |
| Ethylbenzene | 0.102 | 0.0050 | " | 0.0992 | | 103 | 74-139 | | | |
| m,p-Xylene | 0.212 | 0.010 | " | 0.200 | | 106 | 73-137 | | | |
| o-Xylene | 0.105 | 0.0050 | " | 0.0984 | | 107 | 73-141 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0369</i> | | <i>"</i> | <i>0.0396</i> | | <i>93.3</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0419</i> | | <i>"</i> | <i>0.0400</i> | | <i>105</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0378</i> | | <i>"</i> | <i>0.0400</i> | | <i>94.4</i> | <i>21-167</i> | | | |

Matrix Spike (1508006-MS1)

Source: 1508003-02

Prepared & Analyzed: 08/03/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|----|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.111 | 0.0020 | " | 0.0956 | ND | 116 | 30-131 | | | |
| Toluene | 0.110 | 0.0050 | " | 0.0956 | ND | 115 | 30-134 | | | |
| Ethylbenzene | 0.117 | 0.0050 | " | 0.0948 | ND | 123 | 22-153 | | | |
| m,p-Xylene | 0.241 | 0.010 | " | 0.191 | ND | 126 | 10-159 | | | |
| o-Xylene | 0.118 | 0.0050 | " | 0.0941 | ND | 125 | 31-151 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0383</i> | | <i>"</i> | <i>0.0379</i> | | <i>101</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0399</i> | | <i>"</i> | <i>0.0382</i> | | <i>104</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0369</i> | | <i>"</i> | <i>0.0382</i> | | <i>96.6</i> | <i>21-167</i> | | | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

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 1508006 - EPA 5030 Soil MS

| Matrix Spike Dup (1508006-MSD1) | | Source: 1508003-02 | | | Prepared & Analyzed: 08/03/15 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|-------------------------------|------|--------|------|----|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.119 | 0.0020 | " | 0.0984 | ND | 121 | 30-131 | 6.65 | 34 | |
| Toluene | 0.120 | 0.0050 | " | 0.0984 | ND | 122 | 30-134 | 9.08 | 30 | |
| Ethylbenzene | 0.130 | 0.0050 | " | 0.0976 | ND | 133 | 22-153 | 10.9 | 24 | |
| m,p-Xylene | 0.266 | 0.010 | " | 0.196 | ND | 136 | 10-159 | 10.0 | 68 | |
| o-Xylene | 0.132 | 0.0050 | " | 0.0969 | ND | 136 | 31-151 | 11.3 | 38 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0405 | | " | 0.0390 | | 104 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0403 | | " | 0.0394 | | 102 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0381 | | " | 0.0394 | | 96.8 | 21-167 | | | |

Summit Scientific

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

Project: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/04/15 06:30

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

Summit Scientific

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A handwritten signature in black ink, appearing to be 'MSM'.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 11, 2015

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Edwards 33, 43-9

Enclosed are the results of analyses for samples received by Summit Scientific on 08/10/15 16:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/11/15 06:55

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS07@16' | 1508065-01 | Soil | 08/10/15 09:40 | 08/10/15 16:50 |

Summit Scientific

1508065

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: PDC Energy Project Manager: Mark Longhurst
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Edwards 33, 43-9
Sampler Name: CW12X12 Project Number: _____

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | Analysis Requested | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------|------|-----------------|-------------|------|----------------|--------------------|----------|----------|--|----------------------|
| | | | | | HCl | HNO3 | None | Other (Specify) | Groundwater | Soil | Air-Canister # | Other (Specify) | 8200 BSL | 8205 DRA | | |
| 1 | SS07@16' | 8/10/15 | 9:40 | 1 | | | X | | | X | | | X | X | | |
| 2 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |

| | | | | | |
|------------------------|------------------|--------------------|------------------|---|----------------------|
| Relinquished by: _____ | Date/Time: _____ | Received by: _____ | Date/Time: _____ | Turn Around Time (Check) | Notes: on ice |
| Relinquished by: _____ | Date/Time: _____ | Received by: _____ | Date/Time: _____ | Same Day <input checked="" type="checkbox"/> 72 hours _____ | |
| Relinquished by: _____ | Date/Time: _____ | Received by: _____ | Date/Time: _____ | 24 hours _____ Standard _____ | |
| Relinquished by: _____ | Date/Time: _____ | Received by: _____ | Date/Time: _____ | 48 hours _____ | |
| Relinquished by: _____ | Date/Time: _____ | Received by: _____ | Date/Time: _____ | Sample Integrity: _____ | |
| Relinquished by: _____ | Date/Time: _____ | Received by: _____ | Date/Time: _____ | Temperature Upon Receipt: 125' | |
| Relinquished by: _____ | Date/Time: _____ | Received by: _____ | Date/Time: _____ | Intact <input checked="" type="checkbox"/> Yes No | |

www.s2scientific.com

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/11/15 06:55

SS07@16'
1508065-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 08/10/15 09:40

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508071 | 08/10/15 | 08/10/15 | 8015M | |

Date Sampled: 08/10/15 09:40

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 96.7 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 08/10/15 09:40

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508070 | 08/10/15 | 08/10/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: 08/10/15 09:40

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 98.8 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.7 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 92.2 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/11/15 06:55

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 1508071 - EPA 3550A

Blank (1508071-BLK1)

Prepared & Analyzed: 08/10/15

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 12.2 " 12.2 99.9 30-150

LCS (1508071-BS1)

Prepared & Analyzed: 08/10/15

C10-C28 (DRO) 492 50 mg/kg 499 98.7 73-134

Surrogate: o-Terphenyl 12.3 " 12.2 101 30-150

Matrix Spike (1508071-MS1)

Source: 1508064-06

Prepared & Analyzed: 08/10/15

QM-4X

C10-C28 (DRO) 10200 50 mg/kg 499 8220 392 50-148

Surrogate: o-Terphenyl 14.7 " 12.2 120 30-150

Matrix Spike Dup (1508071-MSD1)

Source: 1508064-06

Prepared & Analyzed: 08/10/15

QM-4X

C10-C28 (DRO) 10800 50 mg/kg 499 8220 508 50-148 5.56 13

Surrogate: o-Terphenyl 12.4 " 12.2 102 30-150

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/11/15 06:55

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 1508070 - EPA 5030 Soil MS

Blank (1508070-BLK1)

Prepared & Analyzed: 08/10/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|------|--------|--|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0398 | | " | 0.0396 | 101 | 23-173 | | | | |
| Surrogate: Toluene-d8 | 0.0387 | | " | 0.0400 | 96.7 | 20-170 | | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0380 | | " | 0.0400 | 95.0 | 21-167 | | | | |

LCS (1508070-BS1)

Prepared & Analyzed: 08/10/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|------|--------|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.114 | 0.0020 | " | 0.100 | 114 | 58-130 | | | | |
| Toluene | 0.116 | 0.0050 | " | 0.100 | 116 | 61-134 | | | | |
| Ethylbenzene | 0.124 | 0.0050 | " | 0.0992 | 125 | 74-139 | | | | |
| m,p-Xylene | 0.260 | 0.010 | " | 0.200 | 130 | 73-137 | | | | |
| o-Xylene | 0.125 | 0.0050 | " | 0.0984 | 127 | 73-141 | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0381 | | " | 0.0396 | 96.2 | 23-173 | | | | |
| Surrogate: Toluene-d8 | 0.0399 | | " | 0.0400 | 99.8 | 20-170 | | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0376 | | " | 0.0400 | 94.0 | 21-167 | | | | |

Matrix Spike (1508070-MS1)

Source: 1508064-06

Prepared & Analyzed: 08/10/15

QM-4X

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|-------|--------|--------|--|--|--|
| Naphthalene | 0.260 | 0.010 | mg/kg | | 0.392 | | 10-158 | | | |
| Benzene | 0.681 | 0.0020 | " | 0.100 | 0.733 | NR | 30-131 | | | |
| Toluene | 2.14 | 0.0050 | " | 0.100 | 14.6 | NR | 30-134 | | | |
| Ethylbenzene | 0.500 | 0.0050 | " | 0.0992 | 0.677 | NR | 22-153 | | | |
| m,p-Xylene | 3.07 | 0.010 | " | 0.200 | 50.2 | NR | 10-159 | | | |
| o-Xylene | 1.25 | 0.0050 | " | 0.0984 | 17.1 | NR | 31-151 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0410 | | " | 0.0396 | 104 | 23-173 | | | | |
| Surrogate: Toluene-d8 | 0.0514 | | " | 0.0400 | 129 | 20-170 | | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0424 | | " | 0.0400 | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/11/15 06:55

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 1508070 - EPA 5030 Soil MS

| Matrix Spike Dup (1508070-MSD1) | Source: 1508064-06 | | | Prepared & Analyzed: 08/10/15 | | | | | QM-4X |
|--|---------------------------|--------|-------|--|-------|-----|--------|--------|--------------|
| Naphthalene | 0.234 | 0.010 | mg/kg | | 0.392 | | 10-158 | 10.7 | 42 |
| Benzene | 0.662 | 0.0020 | " | 0.100 | 0.733 | NR | 30-131 | 2.89 | 34 |
| Toluene | 2.09 | 0.0050 | " | 0.100 | 14.6 | NR | 30-134 | 2.34 | 30 |
| Ethylbenzene | 0.500 | 0.0050 | " | 0.0992 | 0.677 | NR | 22-153 | 0.0240 | 24 |
| m,p-Xylene | 3.03 | 0.010 | " | 0.200 | 50.2 | NR | 10-159 | 1.11 | 68 |
| o-Xylene | 1.24 | 0.0050 | " | 0.0984 | 17.1 | NR | 31-151 | 1.17 | 38 |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0413 | | " | 0.0396 | | 104 | 23-173 | | |
| Surrogate: Toluene-d8 | 0.0504 | | " | 0.0400 | | 126 | 20-170 | | |
| Surrogate: 4-Bromofluorobenzene | 0.0436 | | " | 0.0400 | | 109 | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/11/15 06:55

Notes and Definitions

QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

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

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.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 13, 2015

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Edwards 33, 43-9

Enclosed are the results of analyses for samples received by Summit Scientific on 08/12/15 17:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|------------|---------------|--------|----------------|----------------|
| SS08@26' | 1508098-01 | Soil | 08/12/15 07:05 | 08/12/15 17:55 |
| SS09@21' | 1508098-02 | Soil | 08/12/15 07:10 | 08/12/15 17:55 |
| SS10@21' | 1508098-03 | Soil | 08/12/15 07:15 | 08/12/15 17:55 |
| SS11@21' | 1508098-04 | Soil | 08/12/15 07:20 | 08/12/15 17:55 |
| SS12@21' | 1508098-05 | Soil | 08/12/15 07:25 | 08/12/15 17:55 |
| CS01@20' | 1508098-06 | Soil | 08/12/15 07:30 | 08/12/15 17:55 |
| CS02@22.5' | 1508098-07 | Soil | 08/12/15 07:35 | 08/12/15 17:55 |
| CS03@25' | 1508098-08 | Soil | 08/12/15 07:40 | 08/12/15 17:55 |
| SS13@21' | 1508098-09 | Soil | 08/12/15 07:45 | 08/12/15 17:55 |

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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

Summit Scientific 1508098

S₂

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: PDC Energy Project Manager: Mark Longhurst
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Edwards 33, 43-9
Sampler Name: CWASPD Project Number: _____

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | Analysis Requested | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------------------|------|-----------------|-------------|------|----------------|--------------------|-------|-------|-------|----------------------|
| | | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air-Canister # | Other (Specify) | GC/MS | GC/MS | GC/MS | |
| 1 | S508 C 20' | 8/12/15 | 7:05 | | | | X | | | X | | | | | | |
| 2 | S519 C 21 | | 7:10 | | | | | | X | | | | | | | |
| 3 | S510 C 21 | | 7:15 | | | | | | | | | | | | | |
| 4 | S511 C 21 | | 7:20 | | | | | | | | | | | | | |
| 5 | S512 C 21 | | 7:25 | | | | | | | | | | | | | |
| 6 | S501 C 20 | | 7:30 | | | | | | | | | | | | | |
| 7 | C502 C 22.5 | | 7:35 | | | | | | | | | | | | | |
| 8 | C503 C 25 | | 7:40 | | | | | | | | | | | | | |
| 9 | S513 C 21 | | 13:45 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |

| | | | | | |
|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------------|--------|
| Relinquished by: <u>[Signature]</u> | Date/Time: <u>8/12/15 14:25</u> | Received by: <u>[Signature]</u> | Date/Time: <u>8-12-15 14:25</u> | Turn Around Time (Check) | Notes: |
| | | | | Same Day <u>X</u> | |
| | | | | 24 hours <u>—</u> | |
| | | | | 48 hours <u>—</u> | |
| Relinquished by: <u>[Signature]</u> | Date/Time: <u>8-12-15 17:55</u> | Received by: <u>[Signature]</u> | Date/Time: <u>8-12 17:55</u> | Sample Integrity: <u>8.5</u> | |
| | | | | Temperature Upon Receipt: <u>8.5</u> | |
| | | | | Intact: <u>Yes</u> No | |

www.s2scientific.com

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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

SS08@26'
1508098-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/12/15 07:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 270 | 50 | mg/kg | 1 | 1508095 | 08/12/15 | 08/12/15 | 8015M | |

Date Sampled: **08/12/15 07:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 109 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/12/15 07:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.36 | 0.010 | mg/kg | 1 | 1508094 | 08/12/15 | 08/12/15 | EPA 8260B | |
| Benzene | 0.054 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 4.0 | 0.50 | " | 100 | " | " | " | " | |
| Ethylbenzene | 0.86 | 0.0050 | " | 1 | " | " | " | " | |
| Xylenes (total) | 25 | 1.0 | " | 100 | " | " | " | " | |
| Gasoline Range Hydrocarbons | 530 | 50 | " | " | " | " | " | " | |

Date Sampled: **08/12/15 07:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 101 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 102 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.8 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

SS09@21'
1508098-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/12/15 07:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508095 | 08/12/15 | 08/12/15 | 8015M | |

Date Sampled: **08/12/15 07:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 99.2 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/12/15 07:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508094 | 08/12/15 | 08/12/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.017 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/12/15 07:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 103 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.6 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

SS10@21'
1508098-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/12/15 07:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508095 | 08/12/15 | 08/12/15 | 8015M | |

Date Sampled: **08/12/15 07:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|--------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: <i>o</i> -Terphenyl | | 97.7 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/12/15 07:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508094 | 08/12/15 | 08/12/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/12/15 07:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 106 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 88.2 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.6 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

SS11@21'
1508098-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 08/12/15 07:20

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508095 | 08/12/15 | 08/12/15 | 8015M | |

Date Sampled: 08/12/15 07:20

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 107 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 08/12/15 07:20

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508094 | 08/12/15 | 08/12/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: 08/12/15 07:20

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 105 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.6 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 96.8 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

SS12@21'
1508098-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/12/15 07:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 800 | 50 | mg/kg | 1 | 1508095 | 08/12/15 | 08/12/15 | 8015M | |

Date Sampled: **08/12/15 07:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 98.9 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/12/15 07:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.48 | 0.010 | mg/kg | 1 | 1508094 | 08/12/15 | 08/12/15 | EPA 8260B | |
| Benzene | 0.010 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 5.2 | 0.50 | " | 100 | " | " | " | " | |
| Ethylbenzene | 0.84 | 0.0050 | " | 1 | " | " | " | " | |
| Xylenes (total) | 57 | 1.0 | " | 100 | " | " | " | " | |
| Gasoline Range Hydrocarbons | 1200 | 50 | " | " | " | " | " | " | |

Date Sampled: **08/12/15 07:25**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 102 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 105 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 107 % | 21-167 | | " | " | " | " | |

Summit Scientific

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

Project: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

CS01@20'
1508098-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/12/15 07:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508095 | 08/12/15 | 08/12/15 | 8015M | |

Date Sampled: **08/12/15 07:30**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/12/15 07:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.041 | 0.010 | mg/kg | 1 | 1508094 | 08/12/15 | 08/12/15 | EPA 8260B | |
| Benzene | 0.0037 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.27 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.073 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 1.3 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 13 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/12/15 07:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 103 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 109 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 101 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

CS02@22.5'
1508098-07 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/12/15 07:35**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508095 | 08/12/15 | 08/12/15 | 8015M | |

Date Sampled: **08/12/15 07:35**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 97.8 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/12/15 07:35**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508094 | 08/12/15 | 08/12/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/12/15 07:35**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 104 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 92.5 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.0 % | 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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

CS03@25'
1508098-08 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/12/15 07:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508095 | 08/12/15 | 08/13/15 | 8015M | |

Date Sampled: **08/12/15 07:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 96.7 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/12/15 07:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.036 | 0.010 | mg/kg | 1 | 1508094 | 08/12/15 | 08/12/15 | EPA 8260B | |
| Benzene | 0.011 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.55 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.11 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 1.9 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 12 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/12/15 07:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 106 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 106 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.0 % | 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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

SS13@21'
1508098-09 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/12/15 07:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508095 | 08/12/15 | 08/13/15 | 8015M | |

Date Sampled: **08/12/15 07:45**

| 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: **08/12/15 07:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508094 | 08/12/15 | 08/12/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.035 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 2.2 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/12/15 07:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 108 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.3 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 95.6 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

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 1508095 - EPA 3550A

Blank (1508095-BLK1)

Prepared & Analyzed: 08/12/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|-----|--|--------|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 13.4 | | " | 12.2 | 110 | | 30-150 | | | |

LCS (1508095-BS1)

Prepared & Analyzed: 08/12/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|-----|--|--------|--|--|--|
| C10-C28 (DRO) | 523 | 50 | mg/kg | 499 | 105 | | 73-134 | | | |
| Surrogate: o-Terphenyl | 12.4 | | " | 12.2 | 102 | | 30-150 | | | |

Matrix Spike (1508095-MS1)

Source: 1508098-02

Prepared & Analyzed: 08/12/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|------|-----|--------|--|--|--|
| C10-C28 (DRO) | 529 | 50 | mg/kg | 480 | 18.3 | 106 | 50-148 | | | |
| Surrogate: o-Terphenyl | 12.3 | | " | 11.7 | 105 | | 30-150 | | | |

Matrix Spike Dup (1508095-MSD1)

Source: 1508098-02

Prepared & Analyzed: 08/12/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|------|-----|--------|------|----|--|
| C10-C28 (DRO) | 539 | 50 | mg/kg | 489 | 18.3 | 106 | 50-148 | 1.85 | 13 | |
| Surrogate: o-Terphenyl | 12.0 | | " | 12.0 | 100 | | 30-150 | | | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

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 1508094 - EPA 5030 Soil MS

Blank (1508094-BLK1)

Prepared & Analyzed: 08/12/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0374</i> | | <i>"</i> | <i>0.0396</i> | | <i>94.5</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0376</i> | | <i>"</i> | <i>0.0400</i> | | <i>94.1</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0384</i> | | <i>"</i> | <i>0.0400</i> | | <i>95.9</i> | <i>21-167</i> | | | |

LCS (1508094-BS1)

Prepared & Analyzed: 08/12/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.110 | 0.0020 | " | 0.100 | | 110 | 58-130 | | | |
| Toluene | 0.110 | 0.0050 | " | 0.100 | | 110 | 61-134 | | | |
| Ethylbenzene | 0.118 | 0.0050 | " | 0.0992 | | 119 | 74-139 | | | |
| m,p-Xylene | 0.235 | 0.010 | " | 0.200 | | 118 | 73-137 | | | |
| o-Xylene | 0.112 | 0.0050 | " | 0.0984 | | 114 | 73-141 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0372</i> | | <i>"</i> | <i>0.0396</i> | | <i>94.0</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0404</i> | | <i>"</i> | <i>0.0400</i> | | <i>101</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0381</i> | | <i>"</i> | <i>0.0400</i> | | <i>95.2</i> | <i>21-167</i> | | | |

Matrix Spike (1508094-MS1)

Source: 1508098-02

Prepared & Analyzed: 08/12/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|---------|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.115 | 0.0020 | " | 0.0963 | ND | 120 | 30-131 | | | |
| Toluene | 0.119 | 0.0050 | " | 0.0963 | ND | 124 | 30-134 | | | |
| Ethylbenzene | 0.127 | 0.0050 | " | 0.0956 | ND | 133 | 22-153 | | | |
| m,p-Xylene | 0.264 | 0.010 | " | 0.192 | 0.0112 | 132 | 10-159 | | | |
| o-Xylene | 0.124 | 0.0050 | " | 0.0948 | 0.00548 | 125 | 31-151 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0396</i> | | <i>"</i> | <i>0.0382</i> | | <i>104</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0388</i> | | <i>"</i> | <i>0.0385</i> | | <i>101</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0364</i> | | <i>"</i> | <i>0.0385</i> | | <i>94.4</i> | <i>21-167</i> | | | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

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 1508094 - EPA 5030 Soil MS

| Matrix Spike Dup (1508094-MSD1) | | Source: 1508098-02 | | | Prepared & Analyzed: 08/12/15 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|-------------------------------|------|--------|-------|----|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.115 | 0.0020 | " | 0.0943 | ND | 122 | 30-131 | 0.356 | 34 | |
| Toluene | 0.120 | 0.0050 | " | 0.0943 | ND | 127 | 30-134 | 0.509 | 30 | |
| Ethylbenzene | 0.128 | 0.0050 | " | 0.0936 | ND | 137 | 22-153 | 1.27 | 24 | |
| m,p-Xylene | 0.269 | 0.010 | " | 0.188 | 0.0112 | 137 | 10-159 | 1.83 | 68 | |
| o-Xylene | 0.127 | 0.0050 | " | 0.0928 | 0.00548 | 131 | 31-151 | 2.22 | 38 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0387 | | " | 0.0374 | | 103 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0368 | | " | 0.0377 | | 97.5 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0367 | | " | 0.0377 | | 97.3 | 21-167 | | | |

Summit Scientific

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

Project: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/13/15 04:32

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

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.

A handwritten signature in black ink, appearing to be 'MSM'.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 20, 2015

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Edwards 33, 43-9

Enclosed are the results of analyses for samples received by Summit Scientific on 08/19/15 14:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/20/15 07:33

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS14@30 | 1508152-01 | Soil | 08/19/15 09:25 | 08/19/15 14:35 |
| SS15@21 | 1508152-02 | Soil | 08/19/15 09:40 | 08/19/15 14:35 |
| SS16@21 | 1508152-03 | Soil | 08/19/15 09:50 | 08/19/15 14:35 |
| SS17@30 | 1508152-04 | Soil | 08/19/15 10:20 | 08/19/15 14:35 |

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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/20/15 07:33

Summit Scientific

S₂

1508152

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Client: PDC Energy Project Manager: Mark Longhurst Page 1 of 1
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Edwards 33, 43-9
Sampler Name: C. Wisker Project Number: _____

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | | Analysis Requested | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------------------|------|-----------------|-------------|------|----------------|-----------------|--------------------|-----------|-----------|--|----------------------|
| | | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air-Canister # | Other (Specify) | 8260 BTEX | Geo. Para | 8045 Diox | | |
| 1 | SS170.30 | 8/19/15 | 925 | 1 | | | X | | | X | | | X | X | | | |
| 2 | SS150.21 | ↓ | 940 | ↓ | | | | | | | | | | | | | |
| 3 | SS160.21 | ↓ | 950 | ↓ | | | | | | | | | | | | | |
| 4 | SS170.30 | ↓ | 1020 | ↓ | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | |
|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|---|--------|
| Relinquished by: <u>[Signature]</u> | Date/Time: <u>8/19/15 14:55</u> | Received by: <u>[Signature]</u> | Date/Time: <u>8-19-15 14:35</u> | Turn Around Time (Check) Same Day <u>X</u> 72 hours — 24 hours — Standard — 48 hours — | Notes: |
| Relinquished by: <u>NA</u> | Date/Time: <u>8-19-15 18:00</u> | Received by: <u>[Signature]</u> | Date/Time: <u>8/19/15 18:00</u> | Sample Integrity: | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | Temperature Upon Receipt: <u>11.3°C</u> Intact: <u>Yes</u> No | |

www.s2scientific.com

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/20/15 07:33

SS14@30
1508152-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 08/19/15 09:25

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508145 | 08/19/15 | 08/20/15 | 8015M | |

Date Sampled: 08/19/15 09:25

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 08/19/15 09:25

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.033 | 0.010 | mg/kg | 1 | 1508144 | 08/19/15 | 08/20/15 | EPA 8260B | |
| Benzene | 0.37 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.79 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.044 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.77 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 24 | 0.50 | " | " | " | " | " | " | |

Date Sampled: 08/19/15 09:25

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 104 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.3 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 102 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/20/15 07:33

SS15@21
1508152-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/19/15 09:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508145 | 08/19/15 | 08/20/15 | 8015M | |

Date Sampled: **08/19/15 09:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 98.0 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/19/15 09:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508144 | 08/19/15 | 08/20/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/19/15 09:40**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 112 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 96.9 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 99.4 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/20/15 07:33

SS16@21
1508152-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/19/15 09:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508145 | 08/19/15 | 08/20/15 | 8015M | |

Date Sampled: **08/19/15 09:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 97.5 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/19/15 09:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|---------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508144 | 08/19/15 | 08/20/15 | EPA 8260B | |
| Benzene | 0.016 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.0050 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.048 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/19/15 09:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 115 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.4 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 101 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/20/15 07:33

SS17@30
1508152-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/19/15 10:20**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508145 | 08/19/15 | 08/20/15 | 8015M | |

Date Sampled: **08/19/15 10:20**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 97.3 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/19/15 10:20**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.030 | 0.010 | mg/kg | 1 | 1508144 | 08/19/15 | 08/20/15 | EPA 8260B | |
| Benzene | 0.45 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 1.1 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.065 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 1.0 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 13 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/19/15 10:20**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 106 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.4 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 104 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/20/15 07:33

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 1508145 - EPA 3550A

Blank (1508145-BLK1)

Prepared & Analyzed: 08/19/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|-----|--------|--|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 12.3 | | " | 12.2 | 101 | 30-150 | | | | |

LCS (1508145-BS1)

Prepared & Analyzed: 08/19/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|------|--------|--|--|--|--|
| C10-C28 (DRO) | 469 | 50 | mg/kg | 499 | 93.9 | 73-134 | | | | |
| Surrogate: o-Terphenyl | 12.2 | | " | 12.2 | 100 | 30-150 | | | | |

Matrix Spike (1508145-MS1)

Source: 1508150-01

Prepared & Analyzed: 08/19/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|-----|--------|--------|--|--|--|
| C10-C28 (DRO) | 492 | 50 | mg/kg | 499 | ND | 98.6 | 50-148 | | | |
| Surrogate: o-Terphenyl | 12.2 | | " | 12.2 | 100 | 30-150 | | | | |

Matrix Spike Dup (1508145-MSD1)

Source: 1508150-01

Prepared & Analyzed: 08/19/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|-----|--------|--------|------|----|--|
| C10-C28 (DRO) | 463 | 50 | mg/kg | 470 | ND | 98.5 | 50-148 | 6.13 | 13 | |
| Surrogate: o-Terphenyl | 11.7 | | " | 11.5 | 102 | 30-150 | | | | |

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/20/15 07:33

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 1508144 - EPA 5030 Soil MS

Blank (1508144-BLK1)

Prepared & Analyzed: 08/19/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0434 | | " | 0.0396 | | 110 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0396 | | " | 0.0400 | | 99.0 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0400 | | " | 0.0400 | | 100 | 21-167 | | | |

LCS (1508144-BS1)

Prepared & Analyzed: 08/19/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.104 | 0.0020 | " | 0.100 | | 104 | 58-130 | | | |
| Toluene | 0.0997 | 0.0050 | " | 0.100 | | 99.7 | 61-134 | | | |
| Ethylbenzene | 0.108 | 0.0050 | " | 0.0992 | | 108 | 74-139 | | | |
| m,p-Xylene | 0.214 | 0.010 | " | 0.200 | | 107 | 73-137 | | | |
| o-Xylene | 0.111 | 0.0050 | " | 0.0984 | | 112 | 73-141 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0422 | | " | 0.0396 | | 107 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0406 | | " | 0.0400 | | 101 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0400 | | " | 0.0400 | | 100 | 21-167 | | | |

Matrix Spike (1508144-MS1)

Source: 1508150-01

Prepared: 08/19/15 Analyzed: 08/20/15

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|----|------|--------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.104 | 0.0020 | " | 0.0990 | ND | 105 | 30-131 | | | |
| Toluene | 0.101 | 0.0050 | " | 0.0990 | ND | 102 | 30-134 | | | |
| Ethylbenzene | 0.108 | 0.0050 | " | 0.0982 | ND | 110 | 22-153 | | | |
| m,p-Xylene | 0.218 | 0.010 | " | 0.198 | ND | 110 | 10-159 | | | |
| o-Xylene | 0.113 | 0.0050 | " | 0.0974 | ND | 116 | 31-151 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0431 | | " | 0.0392 | | 110 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0394 | | " | 0.0396 | | 99.5 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0405 | | " | 0.0396 | | 102 | 21-167 | | | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/20/15 07:33

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 1508144 - EPA 5030 Soil MS

| Matrix Spike Dup (1508144-MSD1) | | Source: 1508150-01 | | | Prepared: 08/19/15 | | Analyzed: 08/20/15 | | | |
|----------------------------------|--------|--------------------|-------|--------|--------------------|------|--------------------|-------|--|----|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | 42 |
| Benzene | 0.100 | 0.0020 | " | 0.0958 | ND | 105 | 30-131 | 3.94 | | 34 |
| Toluene | 0.0975 | 0.0050 | " | 0.0958 | ND | 102 | 30-134 | 3.58 | | 30 |
| Ethylbenzene | 0.109 | 0.0050 | " | 0.0950 | ND | 115 | 22-153 | 1.67 | | 24 |
| m,p-Xylene | 0.220 | 0.010 | " | 0.191 | ND | 115 | 10-159 | 0.954 | | 68 |
| o-Xylene | 0.114 | 0.0050 | " | 0.0943 | ND | 121 | 31-151 | 1.21 | | 38 |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0426 | | " | 0.0379 | | 112 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0375 | | " | 0.0383 | | 97.8 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0393 | | " | 0.0383 | | 103 | 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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/20/15 07:33

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

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.

A handwritten signature in black ink, appearing to be 'MSM'.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 24, 2015

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Edwards 33, 43-9

Enclosed are the results of analyses for samples received by Summit Scientific on 08/21/15 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, flowing script.

Paul Shrewsbury
President



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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/15 07:05

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| SS18@32' | 1508168-01 | Soil | 08/21/15 11:00 | 08/21/15 18:00 |
| SS19@32' | 1508168-02 | Soil | 08/21/15 11:10 | 08/21/15 18:00 |

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/15 07:05

Summit Scientific

1507108

S₂

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: PDC Energy Project Manager: Mark Longhurst
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Edwards 3343-9
Sampler Name: LANGSTON Project Number: _____

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | | Analysis Requested | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------------------|------|-----------------|-------------|------|----------------|-----------------|--------------------|----------|----------|--|----------------------|
| | | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air-Canister # | Other (Specify) | 8160 BTEX GEN | 8161 DDD | 8162 DDD | | |
| 1 | SS18 @ 32' | 8/21/15 | 1100 | 1 | | | X | | X | | | X | X | | | | |
| 2 | SS19 @ 32' | | 1140 | 1 | | | | | | | | | | | | | |
| 3 | SS20 @ 28' | | 1405 | 1 | | | | | | | | | | | | | |
| 4 | SS21 @ 28' | | 1410 | 1 | | | | | | | | | | | HOLD | | |
| 5 | SS22 @ 28' | | 1420 | 1 | | | | | | | | | | | | | |
| 6 | SS23 @ 28' | | 1425 | 1 | | | | | | | | | | | | | |
| 7 | SS24 @ 28' | | 1445 | 1 | | | | | | | | | | | | | |
| 8 | SS25 @ 28' | | 1450 | 1 | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | |
|-------------------------------------|---------------------------------|--------------------------------------|---------------------------------|---|---|
| Relinquished by: <u>[Signature]</u> | Date/Time: <u>8/21/15 15:52</u> | Received by: <u>[Signature]</u> | Date/Time: <u>8-21-15 15:52</u> | Turn Around Time (Check) Same Day <u>X</u> 72 hours — 24 hours — Standard — 48 hours — | Notes: <u>Monday!</u> <u>Pretest!</u> |
| Relinquished by: <u>[Signature]</u> | Date/Time: <u>8-21-15 18:00</u> | Received by: <u>Rebecca Ferguson</u> | Date/Time: <u>8/21/15 18:00</u> | Sample Integrity: | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | Temperature Upon Receipt: <u>0.1°C</u> Intact: <u>Yes</u> No | |

www.s2scientific.com

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/15 07:05

SS18@32'
1508168-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/21/15 11:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508168 | 08/21/15 | 08/22/15 | 8015M | |

Date Sampled: **08/21/15 11:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 96.2 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/21/15 11:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508171 | " | 08/22/15 | EPA 8260B | |
| Benzene | 0.23 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.45 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.013 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.19 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 4.0 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/21/15 11:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 102 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 94.1 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 79.2 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/15 07:05

SS19@32'
1508168-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/21/15 11:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508168 | 08/21/15 | 08/22/15 | 8015M | |

Date Sampled: **08/21/15 11:10**

| 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: **08/21/15 11:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|--------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508171 | " | 08/22/15 | EPA 8260B | |
| Benzene | 0.27 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.63 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.021 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.39 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 3.3 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/21/15 11:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 98.0 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.8 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/15 07:05

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 1508168 - EPA 3550A

Blank (1508168-BLK1)

Prepared & Analyzed: 08/21/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|------|--------|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 12.0 | | " | 12.2 | | 98.7 | 30-150 | | | |

LCS (1508168-BS1)

Prepared & Analyzed: 08/21/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|------|--------|--|--|--|
| C10-C28 (DRO) | 426 | 50 | mg/kg | 499 | | 85.5 | 73-134 | | | |
| Surrogate: o-Terphenyl | 12.0 | | " | 12.2 | | 98.2 | 30-150 | | | |

Matrix Spike (1508168-MS1)

Source: 1508159-01

Prepared & Analyzed: 08/21/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|----|------|--------|--|--|--|
| C10-C28 (DRO) | 453 | 50 | mg/kg | 481 | ND | 94.3 | 50-148 | | | |
| Surrogate: o-Terphenyl | 11.8 | | " | 11.8 | | 101 | 30-150 | | | |

Matrix Spike Dup (1508168-MSD1)

Source: 1508159-01

Prepared & Analyzed: 08/21/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|----|------|--------|------|----|--|
| C10-C28 (DRO) | 399 | 50 | mg/kg | 484 | ND | 82.5 | 50-148 | 12.8 | 13 | |
| Surrogate: o-Terphenyl | 10.4 | | " | 11.8 | | 87.7 | 30-150 | | | |

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/15 07:05

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 1508171 - EPA 5030 Soil MS

Blank (1508171-BLK1)

Prepared: 08/21/15 Analyzed: 08/22/15

| | | | |
|-----------------------------|----|--------|-------|
| Naphthalene | ND | 0.010 | mg/kg |
| Benzene | ND | 0.0020 | " |
| Toluene | ND | 0.0050 | " |
| Ethylbenzene | ND | 0.0050 | " |
| Xylenes (total) | ND | 0.010 | " |
| Gasoline Range Hydrocarbons | ND | 0.50 | " |

| | | | | | |
|----------------------------------|--------|---|--------|------|--------|
| Surrogate: 1,2-Dichloroethane-d4 | 0.0402 | " | 0.0396 | 101 | 23-173 |
| Surrogate: Toluene-d8 | 0.0379 | " | 0.0400 | 94.8 | 20-170 |
| Surrogate: 4-Bromofluorobenzene | 0.0370 | " | 0.0400 | 92.5 | 21-167 |

LCS (1508171-BS1)

Prepared: 08/21/15 Analyzed: 08/22/15

| | | | | | |
|--------------|--------|--------|-------|--------|-------------|
| Naphthalene | ND | 0.010 | mg/kg | | 66-138 |
| Benzene | 0.0959 | 0.0020 | " | 0.100 | 95.9 58-130 |
| Toluene | 0.100 | 0.0050 | " | 0.100 | 100 61-134 |
| Ethylbenzene | 0.104 | 0.0050 | " | 0.0992 | 105 74-139 |
| m,p-Xylene | 0.213 | 0.010 | " | 0.200 | 107 73-137 |
| o-Xylene | 0.114 | 0.0050 | " | 0.0984 | 116 73-141 |

| | | | | | |
|----------------------------------|--------|---|--------|------|--------|
| Surrogate: 1,2-Dichloroethane-d4 | 0.0383 | " | 0.0396 | 96.8 | 23-173 |
| Surrogate: Toluene-d8 | 0.0381 | " | 0.0400 | 95.2 | 20-170 |
| Surrogate: 4-Bromofluorobenzene | 0.0376 | " | 0.0400 | 94.0 | 21-167 |

Matrix Spike (1508171-MS1)

Source: 1508167-01

Prepared: 08/21/15 Analyzed: 08/22/15

| | | | | | |
|--------------|--------|--------|-------|--------|----------------|
| Naphthalene | ND | 0.010 | mg/kg | ND | 10-158 |
| Benzene | 0.0846 | 0.0020 | " | 0.0956 | ND 88.5 30-131 |
| Toluene | 0.0888 | 0.0050 | " | 0.0956 | ND 92.9 30-134 |
| Ethylbenzene | 0.0904 | 0.0050 | " | 0.0948 | ND 95.4 22-153 |
| m,p-Xylene | 0.183 | 0.010 | " | 0.191 | ND 95.7 10-159 |
| o-Xylene | 0.0964 | 0.0050 | " | 0.0941 | ND 102 31-151 |

| | | | | | |
|----------------------------------|--------|---|--------|------|--------|
| Surrogate: 1,2-Dichloroethane-d4 | 0.0380 | " | 0.0379 | 100 | 23-173 |
| Surrogate: Toluene-d8 | 0.0356 | " | 0.0382 | 93.2 | 20-170 |
| Surrogate: 4-Bromofluorobenzene | 0.0359 | " | 0.0382 | 93.8 | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/15 07:05

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 1508171 - EPA 5030 Soil MS

| Matrix Spike Dup (1508171-MSD1) | | | Source: 1508167-01 | | Prepared: 08/21/15 | | Analyzed: 08/22/15 | | | |
|----------------------------------|--------|--------|--------------------|--------|--------------------|------|--------------------|-------|--|----|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | 42 |
| Benzene | 0.0854 | 0.0020 | " | 0.0921 | ND | 92.7 | 30-131 | 0.918 | | 34 |
| Toluene | 0.0685 | 0.0050 | " | 0.0921 | ND | 74.3 | 30-134 | 25.9 | | 30 |
| Ethylbenzene | 0.0823 | 0.0050 | " | 0.0913 | ND | 90.2 | 22-153 | 9.36 | | 24 |
| m,p-Xylene | 0.169 | 0.010 | " | 0.184 | ND | 91.7 | 10-159 | 7.98 | | 68 |
| o-Xylene | 0.0872 | 0.0050 | " | 0.0906 | ND | 96.2 | 31-151 | 10.0 | | 38 |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0420 | | " | 0.0365 | | 115 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0285 | | " | 0.0368 | | 77.4 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0319 | | " | 0.0368 | | 86.6 | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/24/15 07:05

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

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.

A handwritten signature in black ink, appearing to be 'MSM'.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 25, 2015

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Edwards 33, 43-9

Enclosed are the results of analyses for samples received by Summit Scientific on 08/24/15 18:04. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/15 06:54

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| CS04 | 1508172-01 | Soil | 08/24/15 07:45 | 08/24/15 18:04 |
| CS05 | 1508172-02 | Soil | 08/24/15 07:50 | 08/24/15 18:04 |
| CS06 | 1508172-03 | Soil | 08/24/15 07:55 | 08/24/15 18:04 |
| CS07 | 1508172-04 | Soil | 08/24/15 08:00 | 08/24/15 18:04 |
| CS08 | 1508172-05 | Soil | 08/24/15 08:05 | 08/24/15 18:04 |

Summit Scientific

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

Project: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/15 06:54

Summit Scientific 1508172

S₂

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Page (of)

Client: PDC Energy Project Manager: Mark Longhurst
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Edwards 33, 43-9
Sampler Name: C. W. ASKO Project Number: _____

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | | Analysis Requested | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------------------|------|-----------------|-------------|------|----------------|-----------------|--------------------|------|------|------|----------------------|
| | | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air-Canister # | Other (Specify) | 8290 | 8291 | 8292 | 8293 | |
| 1 | CS04 | 8/24/15 | 7:45 | 1 | | | X | | | X | | | | | | | |
| 2 | CS05 | | 7:50 | 1 | | | | | | | | | | | | | |
| 3 | CS06 | | 7:55 | 1 | | | | | | | | | | | | | |
| 4 | CS07 | | 8:00 | 1 | | | | | | | | | | | | | |
| 5 | CS08 | | 8:05 | 1 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | |
|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|--|-------------------------|
| Relinquished by: <u>[Signature]</u> | Date/Time: <u>8/24/15 11:30</u> | Received by: <u>[Signature]</u> | Date/Time: <u>8/24/15 11:30</u> | Turn Around Time (Check) | Notes: <u>on ice</u> |
| | | | | Same Day <u>X</u> | |
| | | | | 24 hours <u>—</u> | |
| | | | | 48 hours <u>—</u> | |
| Relinquished by: <u>[Signature]</u> | Date/Time: <u>8/24/15 5:16</u> | Received by: <u>[Signature]</u> | Date/Time: <u>8/24/15 17:16</u> | Sample Integrity: | |
| | | | | Temperature Upon Receipt: <u>0.0°C</u> | |
| Relinquished by: <u>[Signature]</u> | Date/Time: <u>8/24/15 17:50</u> | Received by: <u>[Signature]</u> | Date/Time: <u>8/24 17:50</u> | Intact: <u>Yes</u> No | |

www.s2scientific.com

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/15 06:54

CS04
1508172-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 08/24/15 07:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 120 | 50 | mg/kg | 1 | 1508182 | 08/24/15 | 08/24/15 | 8015M | |

Date Sampled: 08/24/15 07:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 97.4 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 08/24/15 07:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.21 | 0.010 | mg/kg | 1 | 1508181 | 08/24/15 | 08/25/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.058 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.039 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 22 | 0.10 | " | 10 | " | " | " | " | |
| Gasoline Range Hydrocarbons | 1000 | 5.0 | " | " | " | " | " | " | E |

Date Sampled: 08/24/15 07:45

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 106 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 138 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 170 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/15 06:54

CS05
1508172-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/24/15 07:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 90 | 50 | mg/kg | 1 | 1508182 | 08/24/15 | 08/24/15 | 8015M | |

Date Sampled: **08/24/15 07:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 97.5 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/24/15 07:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.18 | 0.010 | mg/kg | 1 | 1508181 | 08/24/15 | 08/25/15 | EPA 8260B | |
| Benzene | 0.0088 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.28 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.046 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 2.8 | 0.10 | " | 10 | " | " | " | " | |
| Gasoline Range Hydrocarbons | 230 | 5.0 | " | " | " | " | " | " | |

Date Sampled: **08/24/15 07:50**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 109 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 116 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 111 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/15 06:54

CS06
1508172-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/24/15 07:55**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508182 | 08/24/15 | 08/24/15 | 8015M | |

Date Sampled: **08/24/15 07:55**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/24/15 07:55**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|--------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.075 | 0.010 | mg/kg | 1 | 1508181 | 08/24/15 | 08/25/15 | EPA 8260B | |
| Benzene | 0.026 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.20 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 2.0 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 76 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/24/15 07:55**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 101 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 141 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 156 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/15 06:54

CS07
1508172-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/24/15 08:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508182 | 08/24/15 | 08/24/15 | 8015M | |

Date Sampled: **08/24/15 08:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 107 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/24/15 08:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.31 | 0.010 | mg/kg | 1 | 1508181 | 08/24/15 | 08/25/15 | EPA 8260B | |
| Benzene | 0.014 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.28 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 8.9 | 0.10 | " | 10 | " | " | " | " | |
| Gasoline Range Hydrocarbons | 720 | 5.0 | " | " | " | " | " | " | |

Date Sampled: **08/24/15 08:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 102 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 124 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 157 % | 21-167 | | " | " | " | " | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/15 06:54

CS08
1508172-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/24/15 08:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508182 | 08/24/15 | 08/24/15 | 8015M | |

Date Sampled: **08/24/15 08:05**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/24/15 08:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.016 | 0.010 | mg/kg | 1 | 1508181 | 08/24/15 | 08/24/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.57 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 29 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/24/15 08:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 117 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 122 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 130 % | 21-167 | | " | " | " | " | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/15 06:54

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 1508182 - EPA 3550A

Blank (1508182-BLK1)

Prepared & Analyzed: 08/24/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|-----|--------|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 13.1 | | " | 12.2 | | 107 | 30-150 | | | |

LCS (1508182-BS1)

Prepared & Analyzed: 08/24/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|------|--------|--|--|--|
| C10-C28 (DRO) | 476 | 50 | mg/kg | 499 | | 95.4 | 73-134 | | | |
| Surrogate: o-Terphenyl | 12.3 | | " | 12.2 | | 100 | 30-150 | | | |

Matrix Spike (1508182-MS1)

Source: 1508171-01

Prepared & Analyzed: 08/24/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|----|------|--------|--|--|--|
| C10-C28 (DRO) | 469 | 50 | mg/kg | 480 | ND | 97.7 | 50-148 | | | |
| Surrogate: o-Terphenyl | 11.9 | | " | 11.7 | | 101 | 30-150 | | | |

Matrix Spike Dup (1508182-MSD1)

Source: 1508171-01

Prepared & Analyzed: 08/24/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|----|------|--------|------|----|--|
| C10-C28 (DRO) | 459 | 50 | mg/kg | 480 | ND | 95.7 | 50-148 | 2.08 | 13 | |
| Surrogate: o-Terphenyl | 11.8 | | " | 11.7 | | 100 | 30-150 | | | |

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/15 06:54

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 1508181 - EPA 5030 Soil MS

Blank (1508181-BLK1)

Prepared & Analyzed: 08/24/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0415</i> | | <i>"</i> | <i>0.0396</i> | | <i>105</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0394</i> | | <i>"</i> | <i>0.0400</i> | | <i>98.6</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0411</i> | | <i>"</i> | <i>0.0400</i> | | <i>103</i> | <i>21-167</i> | | | |

LCS (1508181-BS1)

Prepared & Analyzed: 08/24/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.0963 | 0.0020 | " | 0.100 | | 96.3 | 58-130 | | | |
| Toluene | 0.0954 | 0.0050 | " | 0.100 | | 95.4 | 61-134 | | | |
| Ethylbenzene | 0.104 | 0.0050 | " | 0.0992 | | 105 | 74-139 | | | |
| m,p-Xylene | 0.207 | 0.010 | " | 0.200 | | 104 | 73-137 | | | |
| o-Xylene | 0.105 | 0.0050 | " | 0.0984 | | 107 | 73-141 | | | |
| Xylenes (total) | 0.313 | 0.010 | " | | | | 0-200 | | | |
| Gasoline Range Hydrocarbons | 2.02 | 0.50 | " | | | | 30-150 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0424</i> | | <i>"</i> | <i>0.0396</i> | | <i>107</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0399</i> | | <i>"</i> | <i>0.0400</i> | | <i>99.7</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0410</i> | | <i>"</i> | <i>0.0400</i> | | <i>102</i> | <i>21-167</i> | | | |

Matrix Spike (1508181-MS1)

Source: 1508171-01

Prepared & Analyzed: 08/24/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|------|------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.0955 | 0.0020 | " | 0.0973 | ND | 98.1 | 30-131 | | | |
| Toluene | 0.0950 | 0.0050 | " | 0.0973 | ND | 97.6 | 30-134 | | | |
| Ethylbenzene | 0.106 | 0.0050 | " | 0.0965 | ND | 110 | 22-153 | | | |
| m,p-Xylene | 0.215 | 0.010 | " | 0.194 | ND | 111 | 10-159 | | | |
| o-Xylene | 0.112 | 0.0050 | " | 0.0957 | ND | 117 | 31-151 | | | |
| Xylenes (total) | 0.326 | 0.010 | " | | 0.00 | | 0-200 | | | |
| Gasoline Range Hydrocarbons | 2.00 | 0.50 | " | | ND | | 0-0 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0425</i> | | <i>"</i> | <i>0.0385</i> | | <i>110</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0389</i> | | <i>"</i> | <i>0.0389</i> | | <i>100</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0408</i> | | <i>"</i> | <i>0.0389</i> | | <i>105</i> | <i>21-167</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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/15 06:54

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 1508181 - EPA 5030 Soil MS

| Matrix Spike Dup (1508181-MSD1) | | Source: 1508171-01 | | | Prepared & Analyzed: 08/24/15 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|-------------------------------|------|--------|------|-----|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.0994 | 0.0020 | " | 0.0977 | ND | 102 | 30-131 | 4.02 | 34 | |
| Toluene | 0.0996 | 0.0050 | " | 0.0977 | ND | 102 | 30-134 | 4.72 | 30 | |
| Ethylbenzene | 0.109 | 0.0050 | " | 0.0969 | ND | 113 | 22-153 | 2.75 | 24 | |
| m,p-Xylene | 0.220 | 0.010 | " | 0.195 | ND | 113 | 10-159 | 2.42 | 68 | |
| o-Xylene | 0.113 | 0.0050 | " | 0.0961 | ND | 118 | 31-151 | 1.46 | 38 | |
| Xylenes (total) | 0.333 | 0.010 | " | | 0.00 | | 0-200 | 2.09 | 200 | |
| Gasoline Range Hydrocarbons | 2.14 | 0.50 | " | | ND | | 0-0 | 6.93 | 0 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0431 | | " | 0.0387 | | 112 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0389 | | " | 0.0391 | | 99.6 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0401 | | " | 0.0391 | | 103 | 21-167 | | | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/25/15 06:54

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

September 01, 2015

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Edwards 33, 43-9

Enclosed are the results of analyses for samples received by Summit Scientific on 08/31/15 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/01/15 07:08

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-------------|---------------|--------|----------------|----------------|
| TP01@27-28' | 1508237-01 | Soil | 08/31/15 12:15 | 08/31/15 18:00 |
| CS04-R | 1508237-02 | Soil | 08/31/15 13:00 | 08/31/15 18:00 |
| CS05-R | 1508237-03 | Soil | 08/31/15 13:05 | 08/31/15 18:00 |
| TP02@28' | 1508237-04 | Soil | 08/31/15 14:30 | 08/31/15 18:00 |
| TP02@32' | 1508237-05 | Soil | 08/31/15 15:45 | 08/31/15 18:00 |

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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/01/15 07:08

Summit Scientific 1508237

S₂

741 Corporate Circle, Suite J&K ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Client: PDC / Tasman Project Manager: Mark Longhurst Page 1 of 1
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Edwards 33, 43-9
Sampler Name: Eric Siegel Project Number: _____

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | Analysis Requested | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------------------|------|-----------------|-------------|------|----------------|--------------------|-------|-------|-------|----------------------|
| | | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air-Canister # | Other (Specify) | GC/MS | GC/MS | GC/MS | |
| 1 | TP01e27-28' | 8/31/15 | 1215 | 1 | | | X | | | X | | | X | X | | |
| 2 | CS04-R | | 1300 | 1 | | | X | | | X | | | X | X | | |
| 3 | CS05-R | | 1305 | 1 | | | X | | | X | | | X | X | | |
| 4 | TP02e 28' | | 1330 | 1 | | | X | | | X | | | X | X | | |
| 5 | TP02e 32' | | 1545 | 1 | | | X | | | X | | | X | X | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |

| | | | | | |
|--|---------------------------------|---------------------------------|---------------------------------|---|--------|
| Relinquished by: <u>Eric A. Siegel</u> | Date/Time: <u>8/31/15</u> | Received by: <u>[Signature]</u> | Date/Time: <u>8-31-15 15:50</u> | Turn Around Time (Check) Same Day <u>X</u> 72 hours _____ 24 hours _____ Standard _____ 48 hours _____ | Notes: |
| Relinquished by: <u>[Signature]</u> | Date/Time: <u>8-31-15 18:00</u> | Received by: <u>[Signature]</u> | Date/Time: <u>8-31 18:00</u> | Sample Integrity: Temperature Upon Receipt: <u>-3.3°</u> Intact: Yes No | |
| Relinquished by: _____ | Date/Time: _____ | Received by: _____ | Date/Time: _____ | | |

www.s2scientific.com

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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/01/15 07:08

TP01@27-28'
1508237-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/31/15 12:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508254 | 08/31/15 | 08/31/15 | 8015M | |

Date Sampled: **08/31/15 12:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 109 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/31/15 12:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508253 | " | 08/31/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 0.54 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/31/15 12:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 106 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 97.9 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.2 % | 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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/01/15 07:08

CS04-R
1508237-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/31/15 13:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------|------------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 160 | 50 | mg/kg | 1 | 1508254 | 08/31/15 | 08/31/15 | 8015M | |

Date Sampled: **08/31/15 13:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: o-Terphenyl</i> | | 112 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/31/15 13:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|--------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.077 | 0.010 | mg/kg | 1 | 1508253 | " | 08/31/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.010 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.85 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 54 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/31/15 13:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 114 % | 23-173 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 124 % | 20-170 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 162 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/01/15 07:08

CS05-R
1508237-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/31/15 13:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508254 | 08/31/15 | 08/31/15 | 8015M | |

Date Sampled: **08/31/15 13:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 113 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/31/15 13:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|-----------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508253 | " | 08/31/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 14 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/31/15 13:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 119 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 110 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 119 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/01/15 07:08

TP02@28'
1508237-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/31/15 14:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508254 | 08/31/15 | 08/31/15 | 8015M | |

Date Sampled: **08/31/15 14:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 112 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/31/15 14:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508253 | " | 08/31/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/31/15 14:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 107 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 100 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.3 % | 21-167 | | " | " | " | " | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/01/15 07:08

TP02@32'
1508237-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/31/15 15:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1508254 | 08/31/15 | 08/31/15 | 8015M | |

Date Sampled: **08/31/15 15:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 110 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/31/15 15:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1508253 | " | 08/31/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **08/31/15 15:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 122 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 99.4 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 101 % | 21-167 | | " | " | " | " | |

Summit Scientific

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/01/15 07:08

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 1508254 - EPA 3550A

Blank (1508254-BLK1)

Prepared & Analyzed: 08/31/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|-----|--------|--|--|--|
| C10-C28 (DRO) | ND | 50 | mg/kg | | | | | | | |
| Surrogate: o-Terphenyl | 12.5 | | " | 12.2 | | 102 | 30-150 | | | |

LCS (1508254-BS1)

Prepared & Analyzed: 08/31/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|--|------|--------|--|--|--|
| C10-C28 (DRO) | 499 | 50 | mg/kg | 499 | | 99.9 | 73-134 | | | |
| Surrogate: o-Terphenyl | 13.9 | | " | 12.2 | | 114 | 30-150 | | | |

Matrix Spike (1508254-MS1)

Source: 1508236-01

Prepared & Analyzed: 08/31/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|----|------|--------|--|--|--|
| C10-C28 (DRO) | 468 | 50 | mg/kg | 489 | ND | 95.7 | 50-148 | | | |
| Surrogate: o-Terphenyl | 12.3 | | " | 12.0 | | 102 | 30-150 | | | |

Matrix Spike Dup (1508254-MSD1)

Source: 1508236-01

Prepared & Analyzed: 08/31/15

| | | | | | | | | | | |
|------------------------|------|----|-------|------|----|------|--------|-------|----|--|
| C10-C28 (DRO) | 471 | 50 | mg/kg | 489 | ND | 96.2 | 50-148 | 0.516 | 13 | |
| Surrogate: o-Terphenyl | 11.8 | | " | 12.0 | | 98.8 | 30-150 | | | |

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/01/15 07:08

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 1508253 - EPA 5030 Soil MS

Blank (1508253-BLK1)

Prepared & Analyzed: 08/31/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0432</i> | | <i>"</i> | <i>0.0396</i> | | <i>109</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0385</i> | | <i>"</i> | <i>0.0400</i> | | <i>96.2</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0401</i> | | <i>"</i> | <i>0.0400</i> | | <i>100</i> | <i>21-167</i> | | | |

LCS (1508253-BS1)

Prepared & Analyzed: 08/31/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.103 | 0.0020 | " | 0.100 | | 103 | 58-130 | | | |
| Toluene | 0.0981 | 0.0050 | " | 0.100 | | 98.1 | 61-134 | | | |
| Ethylbenzene | 0.101 | 0.0050 | " | 0.0992 | | 102 | 74-139 | | | |
| m,p-Xylene | 0.203 | 0.010 | " | 0.200 | | 102 | 73-137 | | | |
| o-Xylene | 0.106 | 0.0050 | " | 0.0984 | | 108 | 73-141 | | | |
| Xylenes (total) | 0.310 | 0.010 | " | | | | 0-200 | | | |
| Gasoline Range Hydrocarbons | 1.96 | 0.50 | " | | | | 30-150 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0409</i> | | <i>"</i> | <i>0.0396</i> | | <i>103</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0416</i> | | <i>"</i> | <i>0.0400</i> | | <i>104</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0408</i> | | <i>"</i> | <i>0.0400</i> | | <i>102</i> | <i>21-167</i> | | | |

Matrix Spike (1508253-MS1)

Source: 1508236-01

Prepared & Analyzed: 08/31/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|------|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.103 | 0.0020 | " | 0.0969 | ND | 106 | 30-131 | | | |
| Toluene | 0.0982 | 0.0050 | " | 0.0969 | ND | 101 | 30-134 | | | |
| Ethylbenzene | 0.106 | 0.0050 | " | 0.0961 | ND | 110 | 22-153 | | | |
| m,p-Xylene | 0.213 | 0.010 | " | 0.193 | ND | 110 | 10-159 | | | |
| o-Xylene | 0.108 | 0.0050 | " | 0.0953 | ND | 113 | 31-151 | | | |
| Xylenes (total) | 0.321 | 0.010 | " | | 0.00 | | 0-200 | | | |
| Gasoline Range Hydrocarbons | 2.12 | 0.50 | " | | ND | | 0-0 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0418</i> | | <i>"</i> | <i>0.0384</i> | | <i>109</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0385</i> | | <i>"</i> | <i>0.0388</i> | | <i>99.3</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0390</i> | | <i>"</i> | <i>0.0388</i> | | <i>101</i> | <i>21-167</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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/01/15 07:08

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 1508253 - EPA 5030 Soil MS

| Matrix Spike Dup (1508253-MSD1) | | Source: 1508236-01 | | | Prepared & Analyzed: 08/31/15 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|-------------------------------|------|--------|------|-----|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.109 | 0.0020 | " | 0.0998 | ND | 109 | 30-131 | 5.49 | 34 | |
| Toluene | 0.105 | 0.0050 | " | 0.0998 | ND | 105 | 30-134 | 6.58 | 30 | |
| Ethylbenzene | 0.110 | 0.0050 | " | 0.0990 | ND | 111 | 22-153 | 4.02 | 24 | |
| m,p-Xylene | 0.221 | 0.010 | " | 0.199 | ND | 111 | 10-159 | 3.79 | 68 | |
| o-Xylene | 0.115 | 0.0050 | " | 0.0982 | ND | 117 | 31-151 | 6.26 | 38 | |
| Xylenes (total) | 0.336 | 0.010 | " | | 0.00 | | 0-200 | 4.63 | 200 | |
| Gasoline Range Hydrocarbons | 2.21 | 0.50 | " | | ND | | 0-0 | 4.01 | 0 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0447 | | " | 0.0395 | | 113 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0396 | | " | 0.0399 | | 99.2 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0404 | | " | 0.0399 | | 101 | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/01/15 07:08

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 be 'MSM'.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

September 02, 2015

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Edwards 33, 43-9

Enclosed are the results of analyses for samples received by Summit Scientific on 09/01/15 19:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| TP01@32' | 1509024-01 | Soil | 09/01/15 11:35 | 09/01/15 19:20 |
| TP03@28' | 1509024-02 | Soil | 09/01/15 14:20 | 09/01/15 19:20 |
| TP03@32' | 1509024-03 | Soil | 09/01/15 15:05 | 09/01/15 19:20 |
| TP04@30' | 1509024-04 | Soil | 09/01/15 16:35 | 09/01/15 19:20 |
| TP04@32' | 1509024-05 | Soil | 09/01/15 16:55 | 09/01/15 19:20 |
| TP05@32' | 1509024-06 | Soil | 09/01/15 19:10 | 09/01/15 19:20 |

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

Summit Scientific

1509024

S₂

741 Corporate Circle, Suite J&K ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: PDC/Tasman

Project Manager: Mark Longhurst

Address:

E-Mail:

City/State/Zip:

Phone:

Fax:

Project Name: Edwards 33.43-9

Sampler Name: Eric Siegel

Project Number:

| ID | Sample Description | Date Sampled | Time Sampled | # of containers | Preservative | | | | Matrix | | | | Analysis Requested | | | | Special Instructions |
|----|--------------------|--------------|--------------|-----------------|--------------|------------------|------|-----------------|-------------|------|----------------|-----------------|--------------------|--------|----------|--|----------------------|
| | | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air-Canister # | Other (Specify) | 8260 | 8260 N | 8260 DLO | | |
| 1 | TP01e 32' | 9/1/15 | 11:35 | 1 | | | X | | | X | | | X | X | | | |
| 2 | TP03e 28' | | 14:20 | 1 | | | X | | | X | | | X | X | | | |
| 3 | TP03e 32' | | 15:05 | 1 | | | X | | | X | | | X | X | | | |
| 4 | TP04e 30' | | 16:35 | 1 | | | X | | | X | | | X | X | | | |
| 5 | TP04e 32' | | 16:55 | 1 | | | X | | | X | | | X | X | | | |
| 6 | TP05e 32' | | 19:10 | 1 | | | X | | | X | | | X | X | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | |
|------------------|-------------------|--------------|------------|---|--------|
| Relinquished by: | Date/Time: 9/1/15 | Received by: | Date/Time: | Turn Around Time (Check) | Notes: |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | Same Day <input checked="" type="checkbox"/> 72 hours | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | 24 hours <input type="checkbox"/> Standard | |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | 48 hours <input type="checkbox"/> | |
| | | | | Sample Integrity: | |
| | | | | Temperature Upon Receipt: 4.4 | |
| | | | | Intact: Yes No | |

www.s2scientific.com

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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

TP01@32'
1509024-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 09/01/15 11:35

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1509012 | 09/01/15 | 09/01/15 | 8015M | |

Date Sampled: 09/01/15 11:35

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 99.8 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 09/01/15 11:35

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1509011 | 09/01/15 | 09/01/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: 09/01/15 11:35

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 115 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 96.8 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

TP03@28'
1509024-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/01/15 14:20**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1509012 | 09/01/15 | 09/01/15 | 8015M | |

Date Sampled: **09/01/15 14:20**

| 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: **09/01/15 14:20**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1509011 | 09/01/15 | 09/01/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **09/01/15 14:20**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 110 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 103 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.5 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

TP03@32'
1509024-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/01/15 15:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1509012 | 09/01/15 | 09/01/15 | 8015M | |

Date Sampled: **09/01/15 15:05**

| 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: **09/01/15 15:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.014 | 0.010 | mg/kg | 1 | 1509011 | 09/01/15 | 09/02/15 | EPA 8260B | |
| Benzene | 0.15 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.72 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.054 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.87 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 8.9 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **09/01/15 15:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 108 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 109 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 102 % | 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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

TP04@30'
1509024-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 09/01/15 16:35

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1509012 | 09/01/15 | 09/01/15 | 8015M | |

Date Sampled: 09/01/15 16:35

| 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: 09/01/15 16:35

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | 0.014 | 0.010 | mg/kg | 1 | 1509011 | 09/01/15 | 09/02/15 | EPA 8260B | |
| Benzene | 0.029 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.020 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.026 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.14 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 7.8 | 0.50 | " | " | " | " | " | " | |

Date Sampled: 09/01/15 16:35

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 109 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 118 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 100 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

TP04@32'
1509024-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/01/15 16:55**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1509012 | 09/01/15 | 09/01/15 | 8015M | |

Date Sampled: **09/01/15 16:55**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/01/15 16:55**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1509011 | 09/01/15 | 09/01/15 | EPA 8260B | |
| Benzene | 0.019 | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.032 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.025 | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **09/01/15 16:55**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 111 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.5 % | 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: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

TP05@32'
1509024-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 09/01/15 19:10

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1509012 | 09/01/15 | 09/01/15 | 8015M | |

Date Sampled: 09/01/15 19:10

| 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: 09/01/15 19:10

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|---------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Naphthalene | ND | 0.010 | mg/kg | 1 | 1509011 | 09/01/15 | 09/01/15 | EPA 8260B | |
| Benzene | ND | 0.0020 | " | " | " | " | " | " | |
| Toluene | 0.0059 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.010 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: 09/01/15 19:10

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 113 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 98.3 % | 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: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

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 1509012 - EPA 3550A

Blank (1509012-BLK1)

Prepared & Analyzed: 09/01/15

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 13.2 " 12.2 108 30-150

LCS (1509012-BS1)

Prepared & Analyzed: 09/01/15

C10-C28 (DRO) 469 50 mg/kg 499 94.1 73-134

Surrogate: o-Terphenyl 12.2 " 12.2 100 30-150

Matrix Spike (1509012-MS1)

Source: 1509017-01

Prepared & Analyzed: 09/01/15

C10-C28 (DRO) 460 50 mg/kg 495 10.1 90.9 50-148

Surrogate: o-Terphenyl 12.0 " 12.1 98.9 30-150

Matrix Spike Dup (1509012-MSD1)

Source: 1509017-01

Prepared & Analyzed: 09/01/15

C10-C28 (DRO) 456 50 mg/kg 492 10.1 90.5 50-148 0.980 13

Surrogate: o-Terphenyl 12.0 " 12.0 99.7 30-150

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

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 1509011 - EPA 5030 Soil MS

Blank (1509011-BLK1)

Prepared & Analyzed: 09/01/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | | | | |
| Benzene | ND | 0.0020 | " | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.010 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0425</i> | | <i>"</i> | <i>0.0396</i> | | <i>107</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0383</i> | | <i>"</i> | <i>0.0400</i> | | <i>95.7</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0404</i> | | <i>"</i> | <i>0.0400</i> | | <i>101</i> | <i>21-167</i> | | | |

LCS (1509011-BS1)

Prepared & Analyzed: 09/01/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|--|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | | | 66-138 | | | |
| Benzene | 0.110 | 0.0020 | " | 0.100 | | 110 | 58-130 | | | |
| Toluene | 0.103 | 0.0050 | " | 0.100 | | 103 | 61-134 | | | |
| Ethylbenzene | 0.114 | 0.0050 | " | 0.0992 | | 115 | 74-139 | | | |
| m,p-Xylene | 0.233 | 0.010 | " | 0.200 | | 117 | 73-137 | | | |
| o-Xylene | 0.119 | 0.0050 | " | 0.0984 | | 121 | 73-141 | | | |
| Xylenes (total) | 0.351 | 0.010 | " | | | | 0-200 | | | |
| Gasoline Range Hydrocarbons | 2.17 | 0.50 | " | | | | 30-150 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0434</i> | | <i>"</i> | <i>0.0396</i> | | <i>109</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0391</i> | | <i>"</i> | <i>0.0400</i> | | <i>97.6</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0413</i> | | <i>"</i> | <i>0.0400</i> | | <i>103</i> | <i>21-167</i> | | | |

Matrix Spike (1509011-MS1)

Source: 1509017-01

Prepared & Analyzed: 09/01/15

| | | | | | | | | | | |
|---|---------------|--------|----------|---------------|------|-------------|---------------|--|--|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | | |
| Benzene | 0.104 | 0.0020 | " | 0.0978 | ND | 106 | 30-131 | | | |
| Toluene | 0.0980 | 0.0050 | " | 0.0978 | ND | 100 | 30-134 | | | |
| Ethylbenzene | 0.111 | 0.0050 | " | 0.0971 | ND | 114 | 22-153 | | | |
| m,p-Xylene | 0.224 | 0.010 | " | 0.195 | ND | 115 | 10-159 | | | |
| o-Xylene | 0.116 | 0.0050 | " | 0.0963 | ND | 121 | 31-151 | | | |
| Xylenes (total) | 0.341 | 0.010 | " | | 0.00 | | 30-160 | | | |
| Gasoline Range Hydrocarbons | 2.14 | 0.50 | " | | ND | | 30-160 | | | |
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>0.0442</i> | | <i>"</i> | <i>0.0387</i> | | <i>114</i> | <i>23-173</i> | | | |
| <i>Surrogate: Toluene-d8</i> | <i>0.0373</i> | | <i>"</i> | <i>0.0391</i> | | <i>95.2</i> | <i>20-170</i> | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | <i>0.0398</i> | | <i>"</i> | <i>0.0391</i> | | <i>102</i> | <i>21-167</i> | | | |

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

Project: Edwards 33, 43-9
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

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 1509011 - EPA 5030 Soil MS

| Matrix Spike Dup (1509011-MSD1) | | Source: 1509017-01 | | | Prepared & Analyzed: 09/01/15 | | | | | |
|----------------------------------|--------|--------------------|-------|--------|-------------------------------|------|--------|-------|----|--|
| Naphthalene | ND | 0.010 | mg/kg | | ND | | 10-158 | | 42 | |
| Benzene | 0.103 | 0.0020 | " | 0.0975 | ND | 105 | 30-131 | 1.33 | 34 | |
| Toluene | 0.0958 | 0.0050 | " | 0.0975 | ND | 98.3 | 30-134 | 2.33 | 30 | |
| Ethylbenzene | 0.108 | 0.0050 | " | 0.0967 | ND | 112 | 22-153 | 2.64 | 24 | |
| m,p-Xylene | 0.221 | 0.010 | " | 0.195 | ND | 114 | 10-159 | 1.36 | 68 | |
| o-Xylene | 0.113 | 0.0050 | " | 0.0959 | ND | 118 | 31-151 | 3.13 | 38 | |
| Xylenes (total) | 0.334 | 0.010 | " | | 0.00 | | 30-160 | 1.96 | 30 | |
| Gasoline Range Hydrocarbons | 2.14 | 0.50 | " | | ND | | 30-160 | 0.170 | 30 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0442 | | " | 0.0386 | | 114 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0377 | | " | 0.0390 | | 96.8 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0402 | | " | 0.0390 | | 103 | 21-167 | | | |

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

Project: Edwards 33, 43-9

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/02/15 06:36

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

Summit Scientific

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A handwritten signature in black ink, appearing to be 'MSM'.