



June 27, 2015

Stan Spencer
NW Environmental Protection Specialist
Colorado Oil and Gas Conservation Commission
796 Megan Ave, Suite 201,
Rifle, CO 81650

Re: GM 21-2 Closure Request for the Condensate Spill and Historically Impacted Soil
Remediation #7714.

Dear Mr. Spencer,

Attached are the laboratory reports and the sample location map for soil samples collected from the excavated area and landfarmed material in order to close the condensate spill and historically impacted soil discovered during excavation activities. Both incidents occurred at the GM 21-2 well pad and were discovered on October 19th and October 30th of 2012.

The impacted soil was excavated and confirmation samples were collected from the bottom and walls of the excavation. The excavated soil was landfarmed on location in seven batches. A composite sample was collected from each batch. All samples were analyzed for a reduced list of analytes which included organic compounds listed in COGCC Table 910-1. The abbreviated list of analytes was approved by COGCC via email dated 11/8/2012.

As the attached lab reports indicate, all organic compounds listed in the COGCC Table 910-1 are in compliance with the cleanup requirements. The excavated area was backfilled with the landfarmed material.

Please do not hesitate to contact me at (970) 683-2295 should you have any questions or concerns regarding this information.

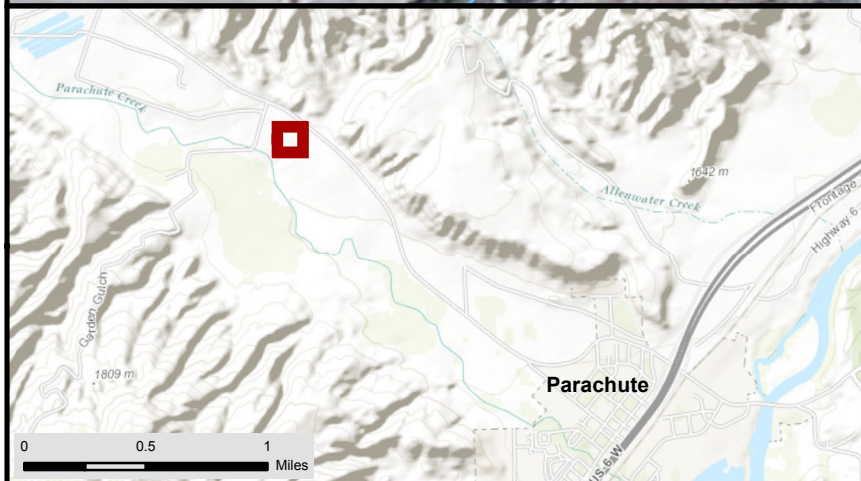
Sincerely,

A handwritten signature in blue ink that reads "Karolina Blaney".

Karolina Blaney
Environmental Specialist

Attachments (2)

- Sampling Location Map
- Laboratory Reports



Spill Closure Map: GM 21-2

39.470599 -108.077010
Section 2, Township 7 South, Range 96 West

| | | |
|-------------------|-----------------------|-----------------------|
| ● Sample Location | Transportation | Hydrography |
| ▨ Excavated Area | — CO Highways | — Ditch |
| | — County Roads | — Intermittent Stream |
| PLSS | — Local Streets | — Perennial Stream |
| ▭ Township | — WPX Access | — Waterbody |
| ▭ Section | | — Watershed |



HRL COMPLIANCE SOLUTIONS, INC.
Environmental Consultants



Author: E. Fought

Revision: 0

Date: 6/26/2015

GM 21-2 Analytical Results

| | | Location | Excavation Bottom 24' | South wall | North wall | West Wall | South Wall |
|---------------------------|--------------------|----------|--------------------------|------------|------------|-----------|------------|
| Contaminant of Concern ↓ | COGCC standards | Date | 9/26/2014 | 9/26/2014 | 9/26/2014 | 9/26/2014 | 9/26/2014 |
| Organic Compounds in Soil | | | | | | | |
| TPH (DRO+GRO) | 500 | mg/kg | ND | 55 | ND | ND | ND |
| DRO | | | ND | 31 | ND | ND | ND |
| GRO | | | ND | 24 | ND | ND | ND |
| Benzene | 0.17 | mg/kg | ND | ND | ND | ND | ND |
| Toluene | 85 | mg/kg | ND | 0.05 | ND | ND | ND |
| Ethylbenzene | 100 | mg/kg | ND | 0.085 | ND | ND | ND |
| Xylenes (Total) | 175 | mg/kg | 0.11 | 1.2 | ND | ND | 0.3 |
| Acenaphthene | 1,000 | mg/kg | ND | ND | ND | ND | ND |
| Anthracene | 1,000 | mg/kg | ND | ND | ND | ND | ND |
| Benzo(A)anthracene | 0.22 | mg/kg | ND | ND | ND | ND | ND |
| Benzo(B)fluoranthene | 0.22 | mg/kg | ND | ND | ND | ND | ND |
| Benzo(K)fluoranthene | 2.2 | mg/kg | ND | ND | ND | ND | ND |
| Benzo(A)pyrene | 0.022 | mg/kg | ND | ND | ND | ND | ND |
| Chrysene | 22 | mg/kg | ND | ND | ND | ND | ND |
| Dibenzo(A,H)anthracene | 0.022 | mg/kg | ND | ND | ND | ND | ND |
| Fluoranthene | 1,000 | mg/kg | ND | ND | ND | ND | ND |
| Fluorene | 1,000 | mg/kg | ND | ND | ND | ND | ND |
| Indeno(1,2,3-cd)pyrene | 0.22 | mg/kg | ND | ND | ND | ND | ND |
| Naphthalene | 23 | mg/kg | ND | ND | ND | ND | ND |
| Pyrene | 1,000 | mg/kg | ND | ND | ND | ND | ND |

Note:

ND = Non Detect

mg/Kg = milligrams per kilogram = parts per million

Exceeds COGCC standards

GM 21-2 Analytical Results

| | | Location | Batch 1 | Batch 1 | Batch 2 | Batch 3 | Batch 4 | Batch 5 |
|---------------------------|-----------------|----------|------------|-----------|-----------|-----------|-----------|-----------|
| Contaminant of Concern ↓ | COGCC standards | Date | 10/10/2015 | 12/3/2015 | 2/12/2015 | 3/19/2015 | 4/15/2015 | 5/14/2015 |
| Organic Compounds in Soil | | | | | | | | |
| TPH (DRO+GRO) | 500 | mg/kg | 2090 | 226 | 343.9 | 323 | 140 | 15 |
| DRO | | | 290 | 190 | 340 | 240 | 140 | 15 |
| GRO | | | 1800 | 36 | 3.9 | 83 | ND | ND |
| Benzene | 0.17 | mg/kg | ND | | ND | ND | ND | ND |
| Toluene | 85 | mg/kg | 2.2 | | ND | ND | ND | ND |
| Ethylbenzene | 100 | mg/kg | 1.6 | | ND | ND | ND | ND |
| Xylenes (Total) | 175 | mg/kg | 100 | | ND | ND | ND | ND |
| Acenaphthene | 1,000 | mg/kg | ND | | ND | ND | ND | ND |
| Anthracene | 1,000 | mg/kg | ND | | 0.019 | 0.023 | ND | ND |
| Benzo(A)anthracene | 0.22 | mg/kg | ND | | ND | 0.19 | ND | ND |
| Benzo(B)fluoranthene | 0.22 | mg/kg | ND | | ND | ND | ND | ND |
| Benzo(K)fluoranthene | 2.2 | mg/kg | ND | | ND | ND | ND | ND |
| Benzo(A)pyrene | 0.022 | mg/kg | ND | | ND | ND | ND | ND |
| Chrysene | 22 | mg/kg | ND | | 0.0093 | 0.013 | ND | ND |
| Dibenzo(A,H)anthracene | 0.022 | mg/kg | ND | | ND | ND | ND | ND |
| Fluoranthene | 1,000 | mg/kg | ND | | ND | 0.0094 | ND | ND |
| Fluorene | 1,000 | mg/kg | ND | | 0.043 | ND | ND | ND |
| Indeno(1,2,3-cd)pyrene | 0.22 | mg/kg | ND | | ND | ND | ND | ND |
| Naphthalene | 23 | mg/kg | 0.41 | | ND | 0.15 | 0.056 | ND |
| Pyrene | 1,000 | mg/kg | ND | | 0.011 | 0.019 | ND | ND |

Note:

ND = Non Detect

mg/Kg = milligrams per kilogram = parts per million

Exceeds COGCC standards



30-Sep-2014

Mark Mumby
HRL Compliance Solutions, Inc
2385 F 1/2 Road
Grand Junction, CO 81505

Re: **WPX GM-21-2 9.26.14**

Work Order: **14091398**

Dear Mark,

ALS Environmental received 5 samples on 27-Sep-2014 10:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX GM-21-2 9.26.14
Work Order: 14091398

Work Order Sample Summary

| <u>Lab Samp ID</u> | <u>Client Sample ID</u> | <u>Matrix</u> | <u>Tag Number</u> | <u>Collection Date</u> | <u>Date Received</u> | <u>Hold</u> |
|--------------------|-------------------------|---------------|-------------------|------------------------|----------------------|--------------------------|
| 14091398-01 | Bottom of Exc. 24' | Soil | | 9/26/2014 13:30 | 9/27/2014 10:30 | <input type="checkbox"/> |
| 14091398-02 | SW Wall 12' | Soil | | 9/26/2014 13:40 | 9/27/2014 10:30 | <input type="checkbox"/> |
| 14091398-03 | NE Wall 12' | Soil | | 9/26/2014 13:50 | 9/27/2014 10:30 | <input type="checkbox"/> |
| 14091398-04 | NW Wall 12' | Soil | | 9/26/2014 14:00 | 9/27/2014 10:30 | <input type="checkbox"/> |
| 14091398-05 | SE Wall 12' | Soil | | 9/26/2014 14:10 | 9/27/2014 10:30 | <input type="checkbox"/> |

Client: HRL Compliance Solutions, Inc
Project: WPX GM-21-2 9.26.14
WorkOrder: 14091398

QUALIFIERS, ACRONYMS, UNITS

| <u>Qualifier</u> | <u>Description</u> |
|-------------------------|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte is present at an estimated concentration between the MDL and Report Limit |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL |

| <u>Acronym</u> | <u>Description</u> |
|-----------------------|-------------------------------------|
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| LOD | Limit of Detection (see MDL) |
| LOQ | Limit of Quantitation (see PQL) |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PQL | Practical Quantitation Limit |
| RPD | Relative Percent Difference |
| TDL | Target Detection Limit |
| TNTC | Too Numerous To Count |
| A | APHA Standard Methods |
| D | ASTM |
| E | EPA |
| SW | SW-846 Update III |

| <u>Units Reported</u> | <u>Description</u> |
|------------------------------|------------------------------------|
| % of sample | Percent of Sample |
| µg/Kg-dry | Micrograms per Kilogram Dry Weight |
| mg/Kg-dry | Milligrams per Kilogram Dry Weight |

ALS Group USA, Corp

Date: 30-Sep-14

Client: HRL Compliance Solutions, Inc

Project: WPX GM-21-2 9.26.14

Sample ID: Bottom of Exc. 24'

Collection Date: 9/26/2014 01:30 PM

Work Order: 14091398

Lab ID: 14091398-01

Matrix: SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|--|------------|------|--------------------|------------------|------------------------|---------------------|
| DIESEL RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015M | | Prep: SW3541 / 9/29/14 | Analyst: IT |
| DRO (C10-C28) | ND | | 5.0 | mg/Kg-dry | 1 | 9/29/2014 11:17 PM |
| Surr: 4-Terphenyl-d14 | 74.3 | | 39-133 | %REC | 1 | 9/29/2014 11:17 PM |
| GASOLINE RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015 | | Prep: SW5035 / 9/29/14 | Analyst: IT |
| GRO (C6-C10) | ND | | 3.0 | mg/Kg-dry | 1 | 9/30/2014 12:14 PM |
| Surr: Toluene-d8 | 104 | | 50-150 | %REC | 1 | 9/30/2014 12:14 PM |
| SEMI-VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW846 8270D | | Prep: SW3541 / 9/29/14 | Analyst: RM |
| Acenaphthene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Acenaphthylene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Anthracene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Benzo(a)anthracene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Benzo(a)pyrene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Benzo(b)fluoranthene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Benzo(g,h,i)perylene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Benzo(k)fluoranthene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Chrysene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Dibenzo(a,h)anthracene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Fluoranthene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Fluorene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Indeno(1,2,3-cd)pyrene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Naphthalene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Pyrene | ND | | 8.1 | µg/Kg-dry | 1 | 9/30/2014 02:22 AM |
| Surr: 2-Fluorobiphenyl | 72.9 | | 12-100 | %REC | 1 | 9/30/2014 02:22 AM |
| Surr: 4-Terphenyl-d14 | 102 | | 25-137 | %REC | 1 | 9/30/2014 02:22 AM |
| Surr: Nitrobenzene-d5 | 65.2 | | 37-107 | %REC | 1 | 9/30/2014 02:22 AM |
| VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW8260B | | Prep: SW5035 / 9/29/14 | Analyst: RS |
| Benzene | ND | | 36 | µg/Kg-dry | 1 | 9/29/2014 10:06 PM |
| Ethylbenzene | ND | | 36 | µg/Kg-dry | 1 | 9/29/2014 10:06 PM |
| m,p-Xylene | 110 | | 73 | µg/Kg-dry | 1 | 9/29/2014 10:06 PM |
| o-Xylene | ND | | 36 | µg/Kg-dry | 1 | 9/29/2014 10:06 PM |
| Toluene | ND | | 36 | µg/Kg-dry | 1 | 9/29/2014 10:06 PM |
| Xylenes, Total | 110 | | 110 | µg/Kg-dry | 1 | 9/29/2014 10:06 PM |
| Surr: 1,2-Dichloroethane-d4 | 98.3 | | 70-130 | %REC | 1 | 9/29/2014 10:06 PM |
| Surr: 4-Bromofluorobenzene | 96.3 | | 70-130 | %REC | 1 | 9/29/2014 10:06 PM |
| Surr: Dibromofluoromethane | 97.3 | | 70-130 | %REC | 1 | 9/29/2014 10:06 PM |
| Surr: Toluene-d8 | 98.9 | | 70-130 | %REC | 1 | 9/29/2014 10:06 PM |
| MOISTURE | | | | | | |
| | | | A2540 G | | | Analyst: RLM |
| Moisture | 17 | | 0.050 | % of sample | 1 | 9/29/2014 05:00 PM |

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 30-Sep-14

Client: HRL Compliance Solutions, Inc

Project: WPX GM-21-2 9.26.14

Sample ID: SW Wall 12'

Collection Date: 9/26/2014 01:40 PM

Work Order: 14091398

Lab ID: 14091398-02

Matrix: SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|--|--------------|------|--------------------|--------------------|------------------------|---------------------|
| DIESEL RANGE ORGANICS BY GC-FID | | | | | | |
| DRO (C10-C28) | 31 | | SW8015M | | Prep: SW3541 / 9/29/14 | Analyst: IT |
| | | | 4.5 | mg/Kg-dry | 1 | 9/29/2014 11:45 PM |
| Surr: 4-Terphenyl-d14 | 71.4 | | 39-133 | %REC | 1 | 9/29/2014 11:45 PM |
| GASOLINE RANGE ORGANICS BY GC-FID | | | | | | |
| GRO (C6-C10) | 24 | | SW8015 | | Prep: SW5035 / 9/29/14 | Analyst: IT |
| | | | 2.7 | mg/Kg-dry | 1 | 9/30/2014 12:39 PM |
| Surr: Toluene-d8 | 115 | | 50-150 | %REC | 1 | 9/30/2014 12:39 PM |
| SEMI-VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW846 8270D | | Prep: SW3541 / 9/29/14 | Analyst: RM |
| Acenaphthene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Acenaphthylene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Anthracene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Benzo(a)anthracene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Benzo(a)pyrene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Benzo(b)fluoranthene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Benzo(g,h,i)perylene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Benzo(k)fluoranthene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Chrysene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Dibenzo(a,h)anthracene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Fluoranthene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Fluorene | 9.3 | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Indeno(1,2,3-cd)pyrene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Naphthalene | 43 | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Pyrene | ND | | 7.2 | µg/Kg-dry | 1 | 9/30/2014 02:42 AM |
| Surr: 2-Fluorobiphenyl | 75.7 | | 12-100 | %REC | 1 | 9/30/2014 02:42 AM |
| Surr: 4-Terphenyl-d14 | 119 | | 25-137 | %REC | 1 | 9/30/2014 02:42 AM |
| Surr: Nitrobenzene-d5 | 65.3 | | 37-107 | %REC | 1 | 9/30/2014 02:42 AM |
| VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW8260B | | Prep: SW5035 / 9/29/14 | Analyst: RS |
| Benzene | ND | | 33 | µg/Kg-dry | 1 | 9/29/2014 10:30 PM |
| Ethylbenzene | 85 | | 33 | µg/Kg-dry | 1 | 9/29/2014 10:30 PM |
| m,p-Xylene | 1,100 | | 65 | µg/Kg-dry | 1 | 9/29/2014 10:30 PM |
| o-Xylene | 170 | | 33 | µg/Kg-dry | 1 | 9/29/2014 10:30 PM |
| Toluene | 50 | | 33 | µg/Kg-dry | 1 | 9/29/2014 10:30 PM |
| Xylenes, Total | 1,200 | | 98 | µg/Kg-dry | 1 | 9/29/2014 10:30 PM |
| Surr: 1,2-Dichloroethane-d4 | 99.6 | | 70-130 | %REC | 1 | 9/29/2014 10:30 PM |
| Surr: 4-Bromofluorobenzene | 103 | | 70-130 | %REC | 1 | 9/29/2014 10:30 PM |
| Surr: Dibromofluoromethane | 97.4 | | 70-130 | %REC | 1 | 9/29/2014 10:30 PM |
| Surr: Toluene-d8 | 97.2 | | 70-130 | %REC | 1 | 9/29/2014 10:30 PM |
| MOISTURE | | | | | | |
| | | | A2540 G | | | Analyst: RLM |
| Moisture | 7.8 | | 0.050 | % of sample | 1 | 9/29/2014 05:00 PM |

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 30-Sep-14

Client: HRL Compliance Solutions, Inc

Project: WPX GM-21-2 9.26.14

Sample ID: NE Wall 12'

Collection Date: 9/26/2014 01:50 PM

Work Order: 14091398

Lab ID: 14091398-03

Matrix: SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|--|--------|------|--------------------|-------------|------------------------|---------------------|
| DIESEL RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015M | | Prep: SW3541 / 9/29/14 | Analyst: IT |
| DRO (C10-C28) | ND | | 4.8 | mg/Kg-dry | 1 | 9/30/2014 12:13 PM |
| Surr: 4-Terphenyl-d14 | 75.4 | | 39-133 | %REC | 1 | 9/30/2014 12:13 PM |
| GASOLINE RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015 | | Prep: SW5035 / 9/29/14 | Analyst: IT |
| GRO (C6-C10) | ND | | 2.9 | mg/Kg-dry | 1 | 9/30/2014 01:05 PM |
| Surr: Toluene-d8 | 112 | | 50-150 | %REC | 1 | 9/30/2014 01:05 PM |
| SEMI-VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW846 8270D | | Prep: SW3541 / 9/29/14 | Analyst: RM |
| Acenaphthene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Acenaphthylene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Anthracene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Benzo(a)anthracene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Benzo(a)pyrene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Benzo(b)fluoranthene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Benzo(g,h,i)perylene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Benzo(k)fluoranthene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Chrysene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Dibenzo(a,h)anthracene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Fluoranthene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Fluorene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Indeno(1,2,3-cd)pyrene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Naphthalene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Pyrene | ND | | 7.6 | µg/Kg-dry | 1 | 9/30/2014 03:01 AM |
| Surr: 2-Fluorobiphenyl | 61.6 | | 12-100 | %REC | 1 | 9/30/2014 03:01 AM |
| Surr: 4-Terphenyl-d14 | 106 | | 25-137 | %REC | 1 | 9/30/2014 03:01 AM |
| Surr: Nitrobenzene-d5 | 56.7 | | 37-107 | %REC | 1 | 9/30/2014 03:01 AM |
| VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW8260B | | Prep: SW5035 / 9/29/14 | Analyst: RS |
| Benzene | ND | | 35 | µg/Kg-dry | 1 | 9/29/2014 10:55 PM |
| Ethylbenzene | ND | | 35 | µg/Kg-dry | 1 | 9/29/2014 10:55 PM |
| m,p-Xylene | ND | | 69 | µg/Kg-dry | 1 | 9/29/2014 10:55 PM |
| o-Xylene | ND | | 35 | µg/Kg-dry | 1 | 9/29/2014 10:55 PM |
| Toluene | ND | | 35 | µg/Kg-dry | 1 | 9/29/2014 10:55 PM |
| Xylenes, Total | ND | | 100 | µg/Kg-dry | 1 | 9/29/2014 10:55 PM |
| Surr: 1,2-Dichloroethane-d4 | 99.3 | | 70-130 | %REC | 1 | 9/29/2014 10:55 PM |
| Surr: 4-Bromofluorobenzene | 96.4 | | 70-130 | %REC | 1 | 9/29/2014 10:55 PM |
| Surr: Dibromofluoromethane | 98.0 | | 70-130 | %REC | 1 | 9/29/2014 10:55 PM |
| Surr: Toluene-d8 | 96.6 | | 70-130 | %REC | 1 | 9/29/2014 10:55 PM |
| MOISTURE | | | | | | |
| | | | A2540 G | | | Analyst: RML |
| Moisture | 13 | | 0.050 | % of sample | 1 | 9/29/2014 05:00 PM |

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 30-Sep-14

Client: HRL Compliance Solutions, Inc

Project: WPX GM-21-2 9.26.14

Sample ID: NW Wall 12'

Collection Date: 9/26/2014 02:00 PM

Work Order: 14091398

Lab ID: 14091398-04

Matrix: SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|--|--------|------|--------------------|-------------|------------------------|---------------------|
| DIESEL RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015M | | Prep: SW3541 / 9/29/14 | Analyst: IT |
| DRO (C10-C28) | ND | | 4.9 | mg/Kg-dry | 1 | 9/30/2014 12:40 PM |
| Surr: 4-Terphenyl-d14 | 83.2 | | 39-133 | %REC | 1 | 9/30/2014 12:40 PM |
| GASOLINE RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015 | | Prep: SW5035 / 9/29/14 | Analyst: IT |
| GRO (C6-C10) | ND | | 2.9 | mg/Kg-dry | 1 | 9/30/2014 01:30 PM |
| Surr: Toluene-d8 | 116 | | 50-150 | %REC | 1 | 9/30/2014 01:30 PM |
| SEMI-VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW846 8270D | | Prep: SW3541 / 9/29/14 | Analyst: RM |
| Acenaphthene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Acenaphthylene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Anthracene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Benzo(a)anthracene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Benzo(a)pyrene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Benzo(b)fluoranthene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Benzo(g,h,i)perylene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Benzo(k)fluoranthene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Chrysene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Dibenzo(a,h)anthracene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Fluoranthene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Fluorene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Indeno(1,2,3-cd)pyrene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Naphthalene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Pyrene | ND | | 7.8 | µg/Kg-dry | 1 | 9/30/2014 03:21 AM |
| Surr: 2-Fluorobiphenyl | 70.9 | | 12-100 | %REC | 1 | 9/30/2014 03:21 AM |
| Surr: 4-Terphenyl-d14 | 111 | | 25-137 | %REC | 1 | 9/30/2014 03:21 AM |
| Surr: Nitrobenzene-d5 | 65.1 | | 37-107 | %REC | 1 | 9/30/2014 03:21 AM |
| VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW8260B | | Prep: SW5035 / 9/29/14 | Analyst: RS |
| Benzene | ND | | 35 | µg/Kg-dry | 1 | 9/29/2014 11:20 PM |
| Ethylbenzene | ND | | 35 | µg/Kg-dry | 1 | 9/29/2014 11:20 PM |
| m,p-Xylene | ND | | 71 | µg/Kg-dry | 1 | 9/29/2014 11:20 PM |
| o-Xylene | ND | | 35 | µg/Kg-dry | 1 | 9/29/2014 11:20 PM |
| Toluene | ND | | 35 | µg/Kg-dry | 1 | 9/29/2014 11:20 PM |
| Xylenes, Total | ND | | 110 | µg/Kg-dry | 1 | 9/29/2014 11:20 PM |
| Surr: 1,2-Dichloroethane-d4 | 100 | | 70-130 | %REC | 1 | 9/29/2014 11:20 PM |
| Surr: 4-Bromofluorobenzene | 96.2 | | 70-130 | %REC | 1 | 9/29/2014 11:20 PM |
| Surr: Dibromofluoromethane | 96.2 | | 70-130 | %REC | 1 | 9/29/2014 11:20 PM |
| Surr: Toluene-d8 | 96.7 | | 70-130 | %REC | 1 | 9/29/2014 11:20 PM |
| MOISTURE | | | | | | |
| | | | A2540 G | | | Analyst: RLM |
| Moisture | 15 | | 0.050 | % of sample | 1 | 9/29/2014 05:00 PM |

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 30-Sep-14

Client: HRL Compliance Solutions, Inc

Project: WPX GM-21-2 9.26.14

Sample ID: SE Wall 12'

Collection Date: 9/26/2014 02:10 PM

Work Order: 14091398

Lab ID: 14091398-05

Matrix: SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|--|--------|------|--------------------|-------------|------------------------|---------------------|
| DIESEL RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015M | | Prep: SW3541 / 9/29/14 | Analyst: IT |
| DRO (C10-C28) | ND | | 4.6 | mg/Kg-dry | 1 | 9/30/2014 01:08 AM |
| Surr: 4-Terphenyl-d14 | 73.5 | | 39-133 | %REC | 1 | 9/30/2014 01:08 AM |
| GASOLINE RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015 | | Prep: SW5035 / 9/29/14 | Analyst: IT |
| GRO (C6-C10) | ND | | 2.8 | mg/Kg-dry | 1 | 9/30/2014 01:56 PM |
| Surr: Toluene-d8 | 114 | | 50-150 | %REC | 1 | 9/30/2014 01:56 PM |
| SEMI-VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW846 8270D | | Prep: SW3541 / 9/29/14 | Analyst: RM |
| Acenaphthene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Acenaphthylene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Anthracene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Benzo(a)anthracene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Benzo(a)pyrene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Benzo(b)fluoranthene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Benzo(g,h,i)perylene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Benzo(k)fluoranthene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Chrysene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Dibenzo(a,h)anthracene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Fluoranthene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Fluorene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Indeno(1,2,3-cd)pyrene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Naphthalene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Pyrene | ND | | 7.4 | µg/Kg-dry | 1 | 9/30/2014 03:41 AM |
| Surr: 2-Fluorobiphenyl | 71.4 | | 12-100 | %REC | 1 | 9/30/2014 03:41 AM |
| Surr: 4-Terphenyl-d14 | 110 | | 25-137 | %REC | 1 | 9/30/2014 03:41 AM |
| Surr: Nitrobenzene-d5 | 64.6 | | 37-107 | %REC | 1 | 9/30/2014 03:41 AM |
| VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW8260B | | Prep: SW5035 / 9/29/14 | Analyst: RS |
| Benzene | ND | | 34 | µg/Kg-dry | 1 | 9/29/2014 11:44 PM |
| Ethylbenzene | ND | | 34 | µg/Kg-dry | 1 | 9/29/2014 11:44 PM |
| m,p-Xylene | 230 | | 68 | µg/Kg-dry | 1 | 9/29/2014 11:44 PM |
| o-Xylene | 72 | | 34 | µg/Kg-dry | 1 | 9/29/2014 11:44 PM |
| Toluene | ND | | 34 | µg/Kg-dry | 1 | 9/29/2014 11:44 PM |
| Xylenes, Total | 300 | | 100 | µg/Kg-dry | 1 | 9/29/2014 11:44 PM |
| Surr: 1,2-Dichloroethane-d4 | 100 | | 70-130 | %REC | 1 | 9/29/2014 11:44 PM |
| Surr: 4-Bromofluorobenzene | 98.0 | | 70-130 | %REC | 1 | 9/29/2014 11:44 PM |
| Surr: Dibromofluoromethane | 96.8 | | 70-130 | %REC | 1 | 9/29/2014 11:44 PM |
| Surr: Toluene-d8 | 97.2 | | 70-130 | %REC | 1 | 9/29/2014 11:44 PM |
| MOISTURE | | | | | | |
| | | | A2540 G | | | Analyst: RLM |
| Moisture | 12 | | 0.050 | % of sample | 1 | 9/29/2014 05:00 PM |

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: HRL Compliance Solutions, Inc

QC BATCH REPORT

Work Order: 14091398

Project: WPX GM-21-2 9.26.14

Batch ID: 63287

Instrument ID GC8

Method: SW8015M

| | | | | | | | | | | |
|-----------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MBLK | | Sample ID: DBLKS1-63287-63287 | | | | Units: mg/Kg | | Analysis Date: 9/29/2014 04:51 PM | | |
| Client ID: | | Run ID: GC8_140929A | | | | SeqNo: 2958174 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | ND | 4.2 | | | | | | | | |
| Surr: 4-Terphenyl-d14 | 1.277 | 0 | 1.667 | 0 | 76.6 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|-----------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| LCS | | Sample ID: DLCSS1-63287-63287 | | | | Units: mg/Kg | | Analysis Date: 9/29/2014 05:19 PM | | |
| Client ID: | | Run ID: GC8_140929A | | | | SeqNo: 2958175 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | 177.6 | 4.2 | 166.7 | 0 | 107 | 61-109 | 0 | | | |
| Surr: 4-Terphenyl-d14 | 1.175 | 0 | 1.667 | 0 | 70.5 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|-----------------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MS | | Sample ID: 14091300-06C MS | | | | Units: mg/Kg | | Analysis Date: 9/29/2014 05:47 PM | | |
| Client ID: | | Run ID: GC8_140929A | | | | SeqNo: 2958176 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | 293.2 | 8.1 | 323.4 | 7.547 | 88.3 | 48-110 | 0 | | | |
| Surr: 4-Terphenyl-d14 | 2.011 | 0 | 3.234 | 0 | 62.2 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|-----------------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MSD | | Sample ID: 14091300-06C MSD | | | | Units: mg/Kg | | Analysis Date: 9/29/2014 06:14 PM | | |
| Client ID: | | Run ID: GC8_140929A | | | | SeqNo: 2958177 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | 281.9 | 8.3 | 331.5 | 7.547 | 82.8 | 48-110 | 293.2 | 3.95 | 30 | |
| Surr: 4-Terphenyl-d14 | 1.994 | 0 | 3.315 | 0 | 60.2 | 39-133 | 2.011 | 0.821 | 30 | |

The following samples were analyzed in this batch:

| | | |
|--------------|--------------|--------------|
| 14091398-01A | 14091398-02A | 14091398-03A |
| 14091398-04A | 14091398-05A | |

Client: HRL Compliance Solutions, Inc
Work Order: 14091398
Project: WPX GM-21-2 9.26.14

QC BATCH REPORT

Batch ID: **63343** Instrument ID **GC9** Method: **SW8015**

| | | | | | | | | | | |
|-------------------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MBLK | | Sample ID: MBLK-63343-63343 | | | | Units: µg/Kg | | Analysis Date: 9/30/2014 12:46 PM | | |
| Client ID: | | Run ID: GC9_140929A | | | | SeqNo: 2958151 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| GRO (C6-C10) | ND | 2,500 | | | | | | | | |
| <i>Surr: Toluene-d8</i> | 4864 | 0 | 5000 | 0 | 97.3 | 50-150 | 0 | | | |

| | | | | | | | | | | |
|-------------------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| LCS | | Sample ID: LCS-63343-63343 | | | | Units: µg/Kg | | Analysis Date: 9/30/2014 12:21 PM | | |
| Client ID: | | Run ID: GC9_140929A | | | | SeqNo: 2958150 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| GRO (C6-C10) | 499000 | 2,500 | 500000 | 0 | 99.8 | 70-130 | 0 | | | |
| <i>Surr: Toluene-d8</i> | 4467 | 0 | 5000 | 0 | 89.3 | 50-150 | 0 | | | |

| | | | | | | | | | | |
|-------------------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MS | | Sample ID: 14091416-01A MS | | | | Units: µg/Kg | | Analysis Date: 9/30/2014 04:10 AM | | |
| Client ID: | | Run ID: GC9_140929A | | | | SeqNo: 2958146 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| GRO (C6-C10) | 509900 | 2,500 | 500000 | 0 | 102 | 70-130 | 0 | | | |
| <i>Surr: Toluene-d8</i> | 4394 | 0 | 5000 | 0 | 87.9 | 50-150 | 0 | | | |

| | | | | | | | | | | |
|-------------------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MSD | | Sample ID: 14091416-01A MSD | | | | Units: µg/Kg | | Analysis Date: 9/30/2014 04:35 AM | | |
| Client ID: | | Run ID: GC9_140929A | | | | SeqNo: 2958147 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| GRO (C6-C10) | 508700 | 2,500 | 500000 | 0 | 102 | 70-130 | 509900 | 0.229 | 30 | |
| <i>Surr: Toluene-d8</i> | 4970 | 0 | 5000 | 0 | 99.4 | 50-150 | 4394 | 12.3 | 30 | |

The following samples were analyzed in this batch:

| | | |
|--------------|--------------|--------------|
| 14091398-01A | 14091398-02A | 14091398-03A |
| 14091398-04A | 14091398-05A | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 14091398
Project: WPX GM-21-2 9.26.14

QC BATCH REPORT

Batch ID: **63286** Instrument ID **SVMS8** Method: **SW846 8270D**

| MBLK | | Sample ID: SBLKS1-63286-63286 | | | | Units: µg/Kg | | Analysis Date: 9/29/2014 05:56 PM | | |
|-------------------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: SVMS8_140929A | | | | SeqNo: 2959126 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Acenaphthene | ND | 6.7 | | | | | | | | |
| Acenaphthylene | ND | 6.7 | | | | | | | | |
| Anthracene | ND | 6.7 | | | | | | | | |
| Benzo(a)anthracene | ND | 6.7 | | | | | | | | |
| Benzo(a)pyrene | ND | 6.7 | | | | | | | | |
| Benzo(b)fluoranthene | ND | 6.7 | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 6.7 | | | | | | | | |
| Benzo(k)fluoranthene | ND | 6.7 | | | | | | | | |
| Chrysene | ND | 6.7 | | | | | | | | |
| Dibenzo(a,h)anthracene | ND | 6.7 | | | | | | | | |
| Fluoranthene | ND | 6.7 | | | | | | | | |
| Fluorene | ND | 6.7 | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 6.7 | | | | | | | | |
| Naphthalene | ND | 6.7 | | | | | | | | |
| Pyrene | ND | 6.7 | | | | | | | | |
| <i>Surr: 2-Fluorobiphenyl</i> | 1265 | 0 | 1667 | 0 | 75.9 | 12-100 | 0 | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 2017 | 0 | 1667 | 0 | 121 | 25-137 | 0 | | | |
| <i>Surr: Nitrobenzene-d5</i> | 1283 | 0 | 1667 | 0 | 77 | 37-107 | 0 | | | |

| LCS | | Sample ID: SLCSS1-63286-63286 | | | | Units: µg/Kg | | Analysis Date: 9/29/2014 06:16 PM | | |
|-------------------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: SVMS8_140929A | | | | SeqNo: 2959127 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Acenaphthene | 519 | 6.7 | 666.7 | 0 | 77.8 | 45-110 | 0 | | | |
| Acenaphthylene | 522 | 6.7 | 666.7 | 0 | 78.3 | 45-105 | 0 | | | |
| Anthracene | 563 | 6.7 | 666.7 | 0 | 84.4 | 55-105 | 0 | | | |
| Benzo(a)anthracene | 564.3 | 6.7 | 666.7 | 0 | 84.6 | 50-110 | 0 | | | |
| Benzo(a)pyrene | 593.7 | 6.7 | 666.7 | 0 | 89 | 50-110 | 0 | | | |
| Benzo(b)fluoranthene | 619.3 | 6.7 | 666.7 | 0 | 92.9 | 45-115 | 0 | | | |
| Benzo(g,h,i)perylene | 525.7 | 6.7 | 666.7 | 0 | 78.8 | 40-125 | 0 | | | |
| Benzo(k)fluoranthene | 623 | 6.7 | 666.7 | 0 | 93.4 | 45-115 | 0 | | | |
| Chrysene | 617.7 | 6.7 | 666.7 | 0 | 92.6 | 55-110 | 0 | | | |
| Dibenzo(a,h)anthracene | 522.3 | 6.7 | 666.7 | 0 | 78.3 | 40-125 | 0 | | | |
| Fluoranthene | 564.3 | 6.7 | 666.7 | 0 | 84.6 | 55-115 | 0 | | | |
| Fluorene | 511 | 6.7 | 666.7 | 0 | 76.6 | 50-110 | 0 | | | |
| Indeno(1,2,3-cd)pyrene | 540.3 | 6.7 | 666.7 | 0 | 81 | 40-120 | 0 | | | |
| Naphthalene | 498.3 | 6.7 | 666.7 | 0 | 74.7 | 40-105 | 0 | | | |
| Pyrene | 680.3 | 6.7 | 666.7 | 0 | 102 | 45-125 | 0 | | | |
| <i>Surr: 2-Fluorobiphenyl</i> | 1247 | 0 | 1667 | 0 | 74.8 | 12-100 | 0 | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 1767 | 0 | 1667 | 0 | 106 | 25-137 | 0 | | | |
| <i>Surr: Nitrobenzene-d5</i> | 1333 | 0 | 1667 | 0 | 80 | 37-107 | 0 | | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 14091398
Project: WPX GM-21-2 9.26.14

QC BATCH REPORT

Batch ID: **63286** Instrument ID **SVMS8** Method: **SW846 8270D**

| MS | | | | Sample ID: 14091324-01A MS | | | Units: µg/Kg | | Analysis Date: 9/29/2014 08:44 PM | |
|------------------------|--------|-----------------------|---------|----------------------------|----------------|---------------|----------------------|------|-----------------------------------|------|
| Client ID: | | Run ID: SVMS8_140929A | | | SeqNo: 2959128 | | Prep Date: 9/29/2014 | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Acenaphthene | 1041 | 13 | 1286 | 0 | 80.9 | 45-110 | 0 | | | |
| Acenaphthylene | 1062 | 13 | 1286 | 0 | 82.6 | 45-105 | 0 | | | |
| Anthracene | 1162 | 13 | 1286 | 0 | 90.3 | 55-105 | 0 | | | |
| Benzo(a)anthracene | 1153 | 13 | 1286 | 0 | 89.6 | 50-110 | 0 | | | |
| Benzo(a)pyrene | 1206 | 13 | 1286 | 0 | 93.8 | 50-110 | 0 | | | |
| Benzo(b)fluoranthene | 1256 | 13 | 1286 | 0 | 97.6 | 45-115 | 0 | | | |
| Benzo(g,h,i)perylene | 1063 | 13 | 1286 | 0 | 82.6 | 40-125 | 0 | | | |
| Benzo(k)fluoranthene | 1252 | 13 | 1286 | 0 | 97.4 | 45-115 | 0 | | | |
| Chrysene | 1236 | 13 | 1286 | 0 | 96.1 | 55-110 | 0 | | | |
| Dibenzo(a,h)anthracene | 1058 | 13 | 1286 | 0 | 82.2 | 40-125 | 0 | | | |
| Fluoranthene | 1133 | 13 | 1286 | 0 | 88.1 | 55-115 | 0 | | | |
| Fluorene | 1038 | 13 | 1286 | 0 | 80.7 | 50-110 | 0 | | | |
| Indeno(1,2,3-cd)pyrene | 1093 | 13 | 1286 | 0 | 85 | 40-120 | 0 | | | |
| Naphthalene | 991.3 | 13 | 1286 | 0 | 77.1 | 40-105 | 0 | | | |
| Pyrene | 1381 | 13 | 1286 | 0 | 107 | 45-125 | 0 | | | |
| Surr: 2-Fluorobiphenyl | 2593 | 0 | 3214 | 0 | 80.7 | 12-100 | 0 | | | |
| Surr: 4-Terphenyl-d14 | 3635 | 0 | 3214 | 0 | 113 | 25-137 | 0 | | | |
| Surr: Nitrobenzene-d5 | 2749 | 0 | 3214 | 0 | 85.5 | 37-107 | 0 | | | |

| MSD | | | | Sample ID: 14091324-01A MSD | | | Units: µg/Kg | | Analysis Date: 9/29/2014 09:04 PM | |
|------------------------|--------|-----------------------|---------|-----------------------------|----------------|---------------|----------------------|-------|-----------------------------------|------|
| Client ID: | | Run ID: SVMS8_140929A | | | SeqNo: 2959129 | | Prep Date: 9/29/2014 | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Acenaphthene | 1022 | 13 | 1295 | 0 | 78.9 | 45-110 | 1041 | 1.79 | 30 | |
| Acenaphthylene | 1066 | 13 | 1295 | 0 | 82.3 | 45-105 | 1062 | 0.346 | 30 | |
| Anthracene | 1108 | 13 | 1295 | 0 | 85.6 | 55-105 | 1162 | 4.69 | 30 | |
| Benzo(a)anthracene | 1096 | 13 | 1295 | 0 | 84.6 | 50-110 | 1153 | 5.03 | 30 | |
| Benzo(a)pyrene | 1150 | 13 | 1295 | 0 | 88.8 | 50-110 | 1206 | 4.77 | 30 | |
| Benzo(b)fluoranthene | 1228 | 13 | 1295 | 0 | 94.8 | 45-115 | 1256 | 2.2 | 30 | |
| Benzo(g,h,i)perylene | 991.3 | 13 | 1295 | 0 | 76.5 | 40-125 | 1063 | 6.95 | 30 | |
| Benzo(k)fluoranthene | 1198 | 13 | 1295 | 0 | 92.5 | 45-115 | 1252 | 4.45 | 30 | |
| Chrysene | 1179 | 13 | 1295 | 0 | 91 | 55-110 | 1236 | 4.74 | 30 | |
| Dibenzo(a,h)anthracene | 997.7 | 13 | 1295 | 0 | 77 | 40-125 | 1058 | 5.82 | 30 | |
| Fluoranthene | 1024 | 13 | 1295 | 0 | 79.1 | 55-115 | 1133 | 10.1 | 30 | |
| Fluorene | 1017 | 13 | 1295 | 0 | 78.5 | 50-110 | 1038 | 1.99 | 30 | |
| Indeno(1,2,3-cd)pyrene | 1015 | 13 | 1295 | 0 | 78.3 | 40-120 | 1093 | 7.43 | 30 | |
| Naphthalene | 1017 | 13 | 1295 | 0 | 78.5 | 40-105 | 991.3 | 2.57 | 30 | |
| Pyrene | 1360 | 13 | 1295 | 0 | 105 | 45-125 | 1381 | 1.5 | 30 | |
| Surr: 2-Fluorobiphenyl | 2666 | 0 | 3237 | 0 | 82.4 | 12-100 | 2593 | 2.77 | 40 | |
| Surr: 4-Terphenyl-d14 | 3628 | 0 | 3237 | 0 | 112 | 25-137 | 3635 | 0.214 | 40 | |
| Surr: Nitrobenzene-d5 | 2797 | 0 | 3237 | 0 | 86.4 | 37-107 | 2749 | 1.73 | 40 | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 14091398
Project: WPX GM-21-2 9.26.14

QC BATCH REPORT

Batch ID: **63286** Instrument ID **SVMS8** Method: **SW846 8270D**

The following samples were analyzed in this batch:

| | | |
|--------------|--------------|--------------|
| 14091398-01A | 14091398-02A | 14091398-03A |
| 14091398-04A | 14091398-05A | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 14091398
Project: WPX GM-21-2 9.26.14

QC BATCH REPORT

Batch ID: **63316** Instrument ID **VMS6** Method: **SW8260B**

| MBLK | | Sample ID: MBLK-63316-63316 | | | | Units: µg/Kg | | Analysis Date: 9/30/2014 03:24 PM | | |
|------------------------------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: VMS6_140930A | | | | SeqNo: 2959729 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | ND | 30 | | | | | | | | |
| Ethylbenzene | ND | 30 | | | | | | | | |
| m,p-Xylene | ND | 60 | | | | | | | | |
| o-Xylene | ND | 30 | | | | | | | | |
| Toluene | ND | 30 | | | | | | | | |
| Xylenes, Total | ND | 90 | | | | | | | | |
| <i>Surr: 1,2-Dichloroethane-d4</i> | 964.5 | 0 | 1000 | 0 | 96.4 | 70-130 | 0 | | | |
| <i>Surr: 4-Bromofluorobenzene</i> | 974.5 | 0 | 1000 | 0 | 97.4 | 70-130 | 0 | | | |
| <i>Surr: Dibromofluoromethane</i> | 961 | 0 | 1000 | 0 | 96.1 | 70-130 | 0 | | | |
| <i>Surr: Toluene-d8</i> | 966.5 | 0 | 1000 | 0 | 96.6 | 70-130 | 0 | | | |

| LCS | | Sample ID: LCS-63316-63316 | | | | Units: µg/Kg | | Analysis Date: 9/30/2014 02:06 PM | | |
|------------------------------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: VMS6_140930A | | | | SeqNo: 2959728 | | Prep Date: 9/29/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 1021 | 30 | 1000 | 0 | 102 | 75-125 | 0 | | | |
| Ethylbenzene | 1051 | 30 | 1000 | 0 | 105 | 75-125 | 0 | | | |
| m,p-Xylene | 2072 | 60 | 2000 | 0 | 104 | 80-125 | 0 | | | |
| o-Xylene | 1006 | 30 | 1000 | 0 | 101 | 75-125 | 0 | | | |
| Toluene | 1038 | 30 | 1000 | 0 | 104 | 70-125 | 0 | | | |
| Xylenes, Total | 3078 | 90 | 3000 | 0 | 103 | 75-125 | 0 | | | |
| <i>Surr: 1,2-Dichloroethane-d4</i> | 934.5 | 0 | 1000 | 0 | 93.4 | 70-130 | 0 | | | |
| <i>Surr: 4-Bromofluorobenzene</i> | 975.5 | 0 | 1000 | 0 | 97.6 | 70-130 | 0 | | | |
| <i>Surr: Dibromofluoromethane</i> | 946.5 | 0 | 1000 | 0 | 94.6 | 70-130 | 0 | | | |
| <i>Surr: Toluene-d8</i> | 971 | 0 | 1000 | 0 | 97.1 | 70-130 | 0 | | | |

The following samples were analyzed in this batch:

| | | |
|--------------|--------------|--------------|
| 14091398-01A | 14091398-02A | 14091398-03A |
| 14091398-04A | 14091398-05A | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 14091398
Project: WPX GM-21-2 9.26.14

QC BATCH REPORT

Batch ID: **R149188** Instrument ID **MOIST** Method: **A2540 G**

| | | | | | | | | | | |
|-------------|--------|---------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MBLK | | Sample ID: WBLKS-R149188 | | | | Units: % of sample | | Analysis Date: 9/29/2014 05:00 PM | | |
| Client ID: | | Run ID: MOIST_140929B | | | | SeqNo: 2958346 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Moisture ND 0.050

| | | | | | | | | | | |
|------------|--------|-------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| LCS | | Sample ID: LCS-R149188 | | | | Units: % of sample | | Analysis Date: 9/29/2014 05:00 PM | | |
| Client ID: | | Run ID: MOIST_140929B | | | | SeqNo: 2958344 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Moisture 100 0.050 100 0 100 99.5-100.5 0

| | | | | | | | | | | |
|------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| DUP | | Sample ID: 14091376-03B DUP | | | | Units: % of sample | | Analysis Date: 9/29/2014 05:00 PM | | |
| Client ID: | | Run ID: MOIST_140929B | | | | SeqNo: 2958328 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Moisture 8.76 0.050 0 0 0 0-0 8.46 3.48 20

| | | | | | | | | | | |
|------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| DUP | | Sample ID: 14091416-01B DUP | | | | Units: % of sample | | Analysis Date: 9/29/2014 05:00 PM | | |
| Client ID: | | Run ID: MOIST_140929B | | | | SeqNo: 2958338 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Moisture 8.67 0.050 0 0 0 0-0 9.35 7.55 20

The following samples were analyzed in this batch:

| | | |
|--------------|--------------|--------------|
| 14091398-01A | 14091398-02A | 14091398-03A |
| 14091398-04A | 14091398-05A | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Houston, TX
+1 281 530 5656

Spring City, PA
+1 610 948 4903

South Charleston, WV
+1 304 356 3168

Middletown, PA
+1 717 944 5541

Salt Lake City, UT
+1 801 266 7700

York, PA
+1 717 505 5280

Page of

COC ID: 13087

Environmental

| Customer Information | | Project Information | | ALS Project Manager: | | ALS Work Order #: 14091398 | |
|----------------------|---------------------|---------------------|---------------------|----------------------|------|----------------------------|--|
| Purchase Order | | Project Name | GM-21-2 | A | BTEX | | |
| Work Order | | Project Number | | B | GR0 | | |
| Company Name | HRA Compliance S&I | Bill To Company | WPX Energy | C | DRO | | |
| Send Report To | Mark Mumby | Invoice Attn | Leo Braun | D | PAH | | |
| Address | 2385 F 1/2 Rd | Address | 1058 County Rd 215 | E | | | |
| City/State/Zip | Grand Jet, CO 81505 | City/State/Zip | Parachute, CO 81635 | F | | | |
| Phone | 970-243-3271 | Phone | 970-683-2295 | G | | | |
| Fax | 970-243-3280 | Fax | | H | | | |
| e-Mail Address | mmumby@hrcorp.com | e-Mail Address | | I | | | |
| | | | | J | | | |

| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
|-----|--------------------|---------|-------|--------|-------|-----------|---|---|---|---|---|---|---|---|---|---|------|
| 1 | Bottom of Exc. 24' | 9/26/14 | 13:30 | S | 8 | 1 | X | X | X | X | | | | | | | |
| 2 | SW Wall 12' | | 13:46 | | | | | | | | | | | | | | |
| 3 | NE Wall 12' | | 13:50 | | | | | | | | | | | | | | |
| 4 | NW Wall 12' | | 14:00 | | | | | | | | | | | | | | |
| 5 | SE Wall 12' | | 14:10 | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | | | |
|--|---------------|-----------------|---------------------------|---|-------------|--|--|
| Sampler(s) Please Print & Sign Mark Mumby | | Shipment Method | | Required Turnaround Time: (Check Box) <input type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input checked="" type="checkbox"/> 2 Hour | | Results Due Date: | |
| Relinquished by: | Date: 9/26/14 | Time: 14:25 | Received by: | Notes: | | | |
| Relinquished by: | Date: 9/26/14 | Time: 14:30 | Received by (Laboratory): | Cooler ID | Cooler Temp | QC Packages: (Check One Box Below) | |
| Logged by (Laboratory): | Date: 9/27/14 | Time: 11:30 | Checked by (Laboratory): | | 30° | <input checked="" type="checkbox"/> Level II Std QC <input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other | |
| Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₈ 6-NaHSO ₄ 7-Other 8-4°C 9-5035 | | | | <input type="checkbox"/> TRAP Checklist <input type="checkbox"/> TRAP Level IV | | | |

- Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2012 by ALS Environmental.

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **27-Sep-14 10:30**

Work Order: **14091398**

Received by: **KRW**

| | | | |
|---|-----------|---------------------------------|-----------|
| Checklist completed by <u>Keith Wurenga</u> | 27-Sep-14 | Reviewed by: <u>Ann Preston</u> | 28-Sep-14 |
| eSignature | Date | eSignature | Date |

Matrices: **Soil**

Carrier name: **FedEx**

| | | | |
|---|---|-----------------------------|--|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample(s) received on ice? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Temperature(s)/Thermometer(s): | <u>3.0 C</u> | | |
| Cooler(s)/Kit(s): | | | |
| Date/Time sample(s) sent to storage: | <u>9/27/2014 11:32:53 AM</u> | | |
| Water - VOA vials have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| pH adjusted? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| pH adjusted by: | | | |

Login Notes:

Client Contacted:

Date Contacted:

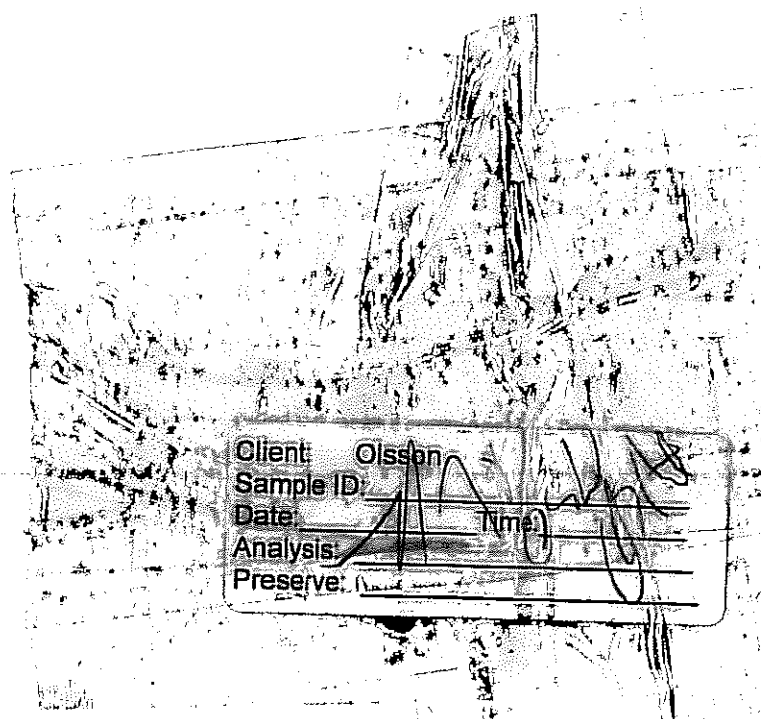
Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



Client: Olsson
Sample ID:
Date: Time:
Analysis:
Preserve:

[Faint handwritten text, possibly a signature or date]



14-Oct-2014

Mark Mumby
HRL Compliance Solutions, Inc
2385 F 1/2 Road
Grand Junction, CO 81505

Re: **WPX GM 21-2 10.10.14**

Work Order: **1410716**

Dear Mark,

ALS Environmental received 1 sample on 11-Oct-2014 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX GM 21-2 10.10.14
Work Order: 1410716

Work Order Sample Summary

| <u>Lab Samp ID</u> | <u>Client Sample ID</u> | <u>Matrix</u> | <u>Tag Number</u> | <u>Collection Date</u> | <u>Date Received</u> | <u>Hold</u> |
|--------------------|-------------------------|---------------|-------------------|------------------------|----------------------|--------------------------|
| 1410716-01 | Baseline | Soil | | 10/10/2014 14:20 | 10/11/2014 10:00 | <input type="checkbox"/> |

Client: HRL Compliance Solutions, Inc**Project:** WPX GM 21-2 10.10.14**Work Order:** 1410716**Case Narrative**

Batch 63802 MS/MSD data for DRO is not related to this project's samples. No data requires qualification.

Batch 63828 sample 1410716-01 was run at a dilution for BTEX.

Batch 63829 sample Baseline MS/MSD recoveries for the GRO surrogate were above control limits due to the sample being double spiked at the time of analysis. No data requires qualification.

Client: HRL Compliance Solutions, Inc
Project: WPX GM 21-2 10.10.14
WorkOrder: 1410716

QUALIFIERS, ACRONYMS, UNITS

| <u>Qualifier</u> | <u>Description</u> |
|-------------------------|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte is present at an estimated concentration between the MDL and Report Limit |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL |

| <u>Acronym</u> | <u>Description</u> |
|-----------------------|-------------------------------------|
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| LOD | Limit of Detection (see MDL) |
| LOQ | Limit of Quantitation (see PQL) |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PQL | Practical Quantitation Limit |
| RPD | Relative Percent Difference |
| TDL | Target Detection Limit |
| TNTC | Too Numerous To Count |
| A | APHA Standard Methods |
| D | ASTM |
| E | EPA |
| SW | SW-846 Update III |

| <u>Units Reported</u> | <u>Description</u> |
|------------------------------|------------------------------------|
| % of sample | Percent of Sample |
| µg/Kg-dry | Micrograms per Kilogram Dry Weight |
| mg/Kg-dry | Milligrams per Kilogram Dry Weight |

ALS Group USA, Corp

Date: 14-Oct-14

Client: HRL Compliance Solutions, Inc

Project: WPX GM 21-2 10.10.14

Sample ID: Baseline

Collection Date: 10/10/2014 02:20 PM

Work Order: 1410716

Lab ID: 1410716-01

Matrix: SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|--|----------------|------|--------------------|--------------------|-------------------------|---------------------|
| DIESEL RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015M | | Prep: SW3541 / 10/13/14 | Analyst: IT |
| DRO (C10-C28) | 290 | | 4.8 | mg/Kg-dry | 1 | 10/14/2014 01:57 AM |
| Surr: 4-Terphenyl-d14 | 62.2 | | 39-133 | %REC | 1 | 10/14/2014 01:57 AM |
| GASOLINE RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015 | | Prep: SW5035 / 10/13/14 | Analyst: IT |
| GRO (C6-C10) | 1,800 | | 2.9 | mg/Kg-dry | 1 | 10/13/2014 03:45 PM |
| Surr: Toluene-d8 | 122 | | 50-150 | %REC | 1 | 10/13/2014 03:45 PM |
| SEMI-VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW846 8270D | | Prep: SW3541 / 10/12/14 | Analyst: RM |
| Acenaphthene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Acenaphthylene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Anthracene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Benzo(a)anthracene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Benzo(a)pyrene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Benzo(b)fluoranthene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Benzo(g,h,i)perylene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Benzo(k)fluoranthene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Chrysene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Dibenzo(a,h)anthracene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Fluoranthene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Fluorene | 36 | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Indeno(1,2,3-cd)pyrene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Naphthalene | 410 | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Pyrene | ND | | 7.6 | µg/Kg-dry | 1 | 10/13/2014 03:47 PM |
| Surr: 2-Fluorobiphenyl | 69.0 | | 12-100 | %REC | 1 | 10/13/2014 03:47 PM |
| Surr: 4-Terphenyl-d14 | 100 | | 25-137 | %REC | 1 | 10/13/2014 03:47 PM |
| Surr: Nitrobenzene-d5 | 91.8 | | 37-107 | %REC | 1 | 10/13/2014 03:47 PM |
| VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW8260B | | Prep: SW5035 / 10/13/14 | Analyst: AK |
| Benzene | ND | | 700 | µg/Kg-dry | 20 | 10/13/2014 03:52 PM |
| Ethylbenzene | 1,600 | | 700 | µg/Kg-dry | 20 | 10/13/2014 03:52 PM |
| m,p-Xylene | 88,000 | | 1,400 | µg/Kg-dry | 20 | 10/13/2014 03:52 PM |
| o-Xylene | 12,000 | | 700 | µg/Kg-dry | 20 | 10/13/2014 03:52 PM |
| Toluene | 2,200 | | 700 | µg/Kg-dry | 20 | 10/13/2014 03:52 PM |
| Xylenes, Total | 100,000 | | 2,100 | µg/Kg-dry | 20 | 10/13/2014 03:52 PM |
| Surr: 1,2-Dichloroethane-d4 | 98.0 | | 70-130 | %REC | 20 | 10/13/2014 03:52 PM |
| Surr: 4-Bromofluorobenzene | 105 | | 70-130 | %REC | 20 | 10/13/2014 03:52 PM |
| Surr: Dibromofluoromethane | 95.8 | | 70-130 | %REC | 20 | 10/13/2014 03:52 PM |
| Surr: Toluene-d8 | 106 | | 70-130 | %REC | 20 | 10/13/2014 03:52 PM |
| MOISTURE | | | | | | |
| | | | A2540 G | | | Analyst: RLM |
| Moisture | 14 | | 0.050 | % of sample | 1 | 10/13/2014 09:23 AM |

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 14-Oct-14

Client: HRL Compliance Solutions, Inc
Work Order: 1410716
Project: WPX GM 21-2 10.10.14

QC BATCH REPORT

Batch ID: **63802** Instrument ID **GC8** Method: **SW8015M**

| | | | | | | | | | | |
|-----------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| MBLK | | Sample ID: DBLKS1-63802-63802 | | | | Units: mg/Kg | | Analysis Date: 10/13/2014 09:21 PM | | |
| Client ID: | | Run ID: GC8_141013B | | | | SeqNo: 2979794 | | Prep Date: 10/13/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | ND | 5.0 | | | | | | | | |
| Surr: 4-Terphenyl-d14 | 1.538 | 0 | 2 | 0 | 76.9 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|-----------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| LCS | | Sample ID: DLCSS1-63802-63802 | | | | Units: mg/Kg | | Analysis Date: 10/13/2014 09:49 PM | | |
| Client ID: | | Run ID: GC8_141013B | | | | SeqNo: 2979795 | | Prep Date: 10/13/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | 175.3 | 5.0 | 200 | 0 | 87.7 | 61-109 | 0 | | | |
| Surr: 4-Terphenyl-d14 | 1.229 | 0 | 2 | 0 | 61.5 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|-----------------------|--------|----------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| MS | | Sample ID: 1410642-01B MS | | | | Units: mg/Kg | | Analysis Date: 10/13/2014 10:17 PM | | |
| Client ID: | | Run ID: GC8_141013B | | | | SeqNo: 2979796 | | Prep Date: 10/13/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | 1875 | 8.0 | 319.7 | 753.9 | 351 | 48-110 | 0 | | | S |
| Surr: 4-Terphenyl-d14 | 2.482 | 0 | 3.197 | 0 | 77.7 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|-----------------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| MSD | | Sample ID: 1410642-01B MSD | | | | Units: mg/Kg | | Analysis Date: 10/13/2014 10:44 PM | | |
| Client ID: | | Run ID: GC8_141013B | | | | SeqNo: 2979797 | | Prep Date: 10/13/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | 3217 | 8.1 | 324.4 | 753.9 | 759 | 48-110 | 1875 | 52.7 | 30 | SR |
| Surr: 4-Terphenyl-d14 | 3.445 | 0 | 3.244 | 0 | 106 | 39-133 | 2.482 | 32.5 | 30 | R |

The following samples were analyzed in this batch: | 1410716-01B |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
 Work Order: 1410716
 Project: WPX GM 21-2 10.10.14

QC BATCH REPORT

Batch ID: **63829** Instrument ID **GC9** Method: **SW8015**

| | | | | | | | | | | |
|------------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| MBLK | | Sample ID: MBLK-63829-63829 | | | | Units: µg/Kg | | Analysis Date: 10/13/2014 02:50 PM | | |
| Client ID: | | Run ID: GC9_141013A | | | | SeqNo: 2979291 | | Prep Date: 10/13/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| GRO (C6-C10) | ND | 2,500 | | | | | | | | |
| Surr: Toluene-d8 | 5008 | 0 | 5000 | 0 | 100 | 50-150 | 0 | | | |

| | | | | | | | | | | |
|------------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| LCS | | Sample ID: LCS-63829-63829 | | | | Units: µg/Kg | | Analysis Date: 10/13/2014 02:25 PM | | |
| Client ID: | | Run ID: GC9_141013A | | | | SeqNo: 2979290 | | Prep Date: 10/13/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| GRO (C6-C10) | 526500 | 2,500 | 500000 | 0 | 105 | 70-130 | 0 | | | |
| Surr: Toluene-d8 | 4969 | 0 | 5000 | 0 | 99.4 | 50-150 | 0 | | | |

| | | | | | | | | | | |
|----------------------------|---------|----------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| MS | | Sample ID: 1410716-01A MS | | | | Units: µg/Kg | | Analysis Date: 10/14/2014 12:49 PM | | |
| Client ID: Baseline | | Run ID: GC9_141014A | | | | SeqNo: 2980606 | | Prep Date: 10/13/2014 | | DF: 2 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| GRO (C6-C10) | 3634000 | 5,000 | 2000000 | 1540000 | 105 | 70-130 | 0 | | | |
| Surr: Toluene-d8 | 57920 | 0 | 10000 | 0 | 579 | 50-150 | 0 | | | S |

| | | | | | | | | | | |
|----------------------------|---------|-----------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| MSD | | Sample ID: 1410716-01A MSD | | | | Units: µg/Kg | | Analysis Date: 10/14/2014 01:14 PM | | |
| Client ID: Baseline | | Run ID: GC9_141014A | | | | SeqNo: 2980607 | | Prep Date: 10/13/2014 | | DF: 2 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| GRO (C6-C10) | 3611000 | 5,000 | 2000000 | 1540000 | 104 | 70-130 | 3634000 | 0.653 | 30 | |
| Surr: Toluene-d8 | 59050 | 0 | 10000 | 0 | 591 | 50-150 | 57920 | 1.95 | 30 | S |

The following samples were analyzed in this batch: 1410716-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 1410716
Project: WPX GM 21-2 10.10.14

QC BATCH REPORT

Batch ID: **63794** Instrument ID **SVMS8** Method: **SW846 8270D**

| MBLK | | Sample ID: SBLKS1-63794-63794 | | | | Units: µg/Kg | | Analysis Date: 10/13/2014 12:38 PM | | |
|-------------------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| Client ID: | | Run ID: SVMS8_141013A | | | | SeqNo: 2980996 | | Prep Date: 10/12/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Acenaphthene | ND | 6.7 | | | | | | | | |
| Acenaphthylene | ND | 6.7 | | | | | | | | |
| Anthracene | ND | 6.7 | | | | | | | | |
| Benzo(a)anthracene | ND | 6.7 | | | | | | | | |
| Benzo(a)pyrene | ND | 6.7 | | | | | | | | |
| Benzo(b)fluoranthene | ND | 6.7 | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 6.7 | | | | | | | | |
| Benzo(k)fluoranthene | ND | 6.7 | | | | | | | | |
| Chrysene | ND | 6.7 | | | | | | | | |
| Dibenzo(a,h)anthracene | ND | 6.7 | | | | | | | | |
| Fluoranthene | ND | 6.7 | | | | | | | | |
| Fluorene | ND | 6.7 | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 6.7 | | | | | | | | |
| Naphthalene | ND | 6.7 | | | | | | | | |
| Pyrene | ND | 6.7 | | | | | | | | |
| <i>Surr: 2-Fluorobiphenyl</i> | 1039 | 0 | 1667 | 0 | 62.4 | 12-100 | 0 | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 1879 | 0 | 1667 | 0 | 113 | 25-137 | 0 | | | |
| <i>Surr: Nitrobenzene-d5</i> | 1026 | 0 | 1667 | 0 | 61.6 | 37-107 | 0 | | | |

| LCS | | Sample ID: SLCSS1-63794-63794 | | | | Units: µg/Kg | | Analysis Date: 10/13/2014 12:59 PM | | |
|-------------------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| Client ID: | | Run ID: SVMS8_141013A | | | | SeqNo: 2980997 | | Prep Date: 10/12/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Acenaphthene | 488.3 | 6.7 | 666.7 | 0 | 73.2 | 45-110 | 0 | | | |
| Acenaphthylene | 505 | 6.7 | 666.7 | 0 | 75.7 | 45-105 | 0 | | | |
| Anthracene | 580.7 | 6.7 | 666.7 | 0 | 87.1 | 55-105 | 0 | | | |
| Benzo(a)anthracene | 583.3 | 6.7 | 666.7 | 0 | 87.5 | 50-110 | 0 | | | |
| Benzo(a)pyrene | 626.3 | 6.7 | 666.7 | 0 | 93.9 | 50-110 | 0 | | | |
| Benzo(b)fluoranthene | 663 | 6.7 | 666.7 | 0 | 99.4 | 45-115 | 0 | | | |
| Benzo(g,h,i)perylene | 520.7 | 6.7 | 666.7 | 0 | 78.1 | 40-125 | 0 | | | |
| Benzo(k)fluoranthene | 653 | 6.7 | 666.7 | 0 | 97.9 | 45-115 | 0 | | | |
| Chrysene | 637.7 | 6.7 | 666.7 | 0 | 95.6 | 55-110 | 0 | | | |
| Dibenzo(a,h)anthracene | 538.3 | 6.7 | 666.7 | 0 | 80.7 | 40-125 | 0 | | | |
| Fluoranthene | 568 | 6.7 | 666.7 | 0 | 85.2 | 55-115 | 0 | | | |
| Fluorene | 505.3 | 6.7 | 666.7 | 0 | 75.8 | 50-110 | 0 | | | |
| Indeno(1,2,3-cd)pyrene | 539.7 | 6.7 | 666.7 | 0 | 80.9 | 40-120 | 0 | | | |
| Naphthalene | 445.3 | 6.7 | 666.7 | 0 | 66.8 | 40-105 | 0 | | | |
| Pyrene | 716 | 6.7 | 666.7 | 0 | 107 | 45-125 | 0 | | | |
| <i>Surr: 2-Fluorobiphenyl</i> | 1121 | 0 | 1667 | 0 | 67.2 | 12-100 | 0 | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 1837 | 0 | 1667 | 0 | 110 | 25-137 | 0 | | | |
| <i>Surr: Nitrobenzene-d5</i> | 1120 | 0 | 1667 | 0 | 67.2 | 37-107 | 0 | | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 1410716
Project: WPX GM 21-2 10.10.14

QC BATCH REPORT

Batch ID: **63794** Instrument ID **SVMS8** Method: **SW846 8270D**

| MS | | | | Sample ID: 1410569-07A MS | | | | Units: µg/Kg | | Analysis Date: 10/13/2014 02:47 PM | |
|------------------------|--------|-----------------------|---------|---------------------------|---------------|---------------|-----------------------|--------------|-----------|------------------------------------|--|
| Client ID: | | Run ID: SVMS8_141013A | | | SeqNo:2981001 | | Prep Date: 10/12/2014 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | |
| Acenaphthene | 987.6 | 13 | 1257 | 0 | 78.5 | 45-110 | 0 | | | | |
| Acenaphthylene | 1067 | 13 | 1257 | 0 | 84.9 | 45-105 | 0 | | | | |
| Anthracene | 1140 | 13 | 1257 | 0 | 90.6 | 55-105 | 0 | | | | |
| Benzo(a)anthracene | 1133 | 13 | 1257 | 0 | 90.1 | 50-110 | 0 | | | | |
| Benzo(a)pyrene | 1221 | 13 | 1257 | 0 | 97.1 | 50-110 | 0 | | | | |
| Benzo(b)fluoranthene | 1252 | 13 | 1257 | 0 | 99.6 | 45-115 | 0 | | | | |
| Benzo(g,h,i)perylene | 1047 | 13 | 1257 | 0 | 83.3 | 40-125 | 0 | | | | |
| Benzo(k)fluoranthene | 1287 | 13 | 1257 | 0 | 102 | 45-115 | 0 | | | | |
| Chrysene | 1223 | 13 | 1257 | 0 | 97.3 | 55-110 | 0 | | | | |
| Dibenzo(a,h)anthracene | 1080 | 13 | 1257 | 0 | 85.9 | 40-125 | 0 | | | | |
| Fluoranthene | 1099 | 13 | 1257 | 0 | 87.4 | 55-115 | 0 | | | | |
| Fluorene | 1020 | 13 | 1257 | 0 | 81.1 | 50-110 | 0 | | | | |
| Indeno(1,2,3-cd)pyrene | 1128 | 13 | 1257 | 0 | 89.7 | 40-120 | 0 | | | | |
| Naphthalene | 988.2 | 13 | 1257 | 0 | 78.6 | 40-105 | 0 | | | | |
| Pyrene | 1388 | 13 | 1257 | 0 | 110 | 45-125 | 0 | | | | |
| Surr: 2-Fluorobiphenyl | 2397 | 0 | 3143 | 0 | 76.3 | 12-100 | 0 | | | | |
| Surr: 4-Terphenyl-d14 | 3356 | 0 | 3143 | 0 | 107 | 25-137 | 0 | | | | |
| Surr: Nitrobenzene-d5 | 2497 | 0 | 3143 | 0 | 79.5 | 37-107 | 0 | | | | |

| MSD | | | | | Sample ID: 1410569-07A MSD | | | Units: µg/Kg | | Analysis Date: 10/13/2014 03:07 PM | |
|------------------------|--------|-----|-----------------------|---------------|----------------------------|---------------|---------------|-----------------------|-----------|------------------------------------|--|
| Client ID: | | | Run ID: SVMS8_141013A | | | SeqNo:2981002 | | Prep Date: 10/12/2014 | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | |
| Acenaphthene | 1012 | 13 | 1332 | 0 | 76 | 45-110 | 987.6 | 2.48 | 30 | | |
| Acenaphthylene | 1102 | 13 | 1332 | 0 | 82.7 | 45-105 | 1067 | 3.22 | 30 | | |
| Anthracene | 1180 | 13 | 1332 | 0 | 88.5 | 55-105 | 1140 | 3.44 | 30 | | |
| Benzo(a)anthracene | 1188 | 13 | 1332 | 0 | 89.1 | 50-110 | 1133 | 4.72 | 30 | | |
| Benzo(a)pyrene | 1263 | 13 | 1332 | 0 | 94.8 | 50-110 | 1221 | 3.39 | 30 | | |
| Benzo(b)fluoranthene | 1282 | 13 | 1332 | 0 | 96.2 | 45-115 | 1252 | 2.36 | 30 | | |
| Benzo(g,h,i)perylene | 1121 | 13 | 1332 | 0 | 84.1 | 40-125 | 1047 | 6.8 | 30 | | |
| Benzo(k)fluoranthene | 1300 | 13 | 1332 | 0 | 97.6 | 45-115 | 1287 | 0.983 | 30 | | |
| Chrysene | 1273 | 13 | 1332 | 0 | 95.6 | 55-110 | 1223 | 4.02 | 30 | | |
| Dibenzo(a,h)anthracene | 1121 | 13 | 1332 | 0 | 84.1 | 40-125 | 1080 | 3.73 | 30 | | |
| Fluoranthene | 1165 | 13 | 1332 | 0 | 87.4 | 55-115 | 1099 | 5.78 | 30 | | |
| Fluorene | 1074 | 13 | 1332 | 0 | 80.6 | 50-110 | 1020 | 5.23 | 30 | | |
| Indeno(1,2,3-cd)pyrene | 1151 | 13 | 1332 | 0 | 86.4 | 40-120 | 1128 | 1.98 | 30 | | |
| Naphthalene | 999.7 | 13 | 1332 | 0 | 75 | 40-105 | 988.2 | 1.16 | 30 | | |
| Pyrene | 1414 | 13 | 1332 | 0 | 106 | 45-125 | 1388 | 1.86 | 30 | | |
| Surr: 2-Fluorobiphenyl | 2449 | 0 | 3330 | 0 | 73.5 | 12-100 | 2397 | 2.15 | 40 | | |
| Surr: 4-Terphenyl-d14 | 3494 | 0 | 3330 | 0 | 105 | 25-137 | 3356 | 4.03 | 40 | | |
| Surr: Nitrobenzene-d5 | 2562 | 0 | 3330 | 0 | 76.9 | 37-107 | 2497 | 2.56 | 40 | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 1410716
Project: WPX GM 21-2 10.10.14

QC BATCH REPORT

Batch ID: **63794** Instrument ID **SVMS8** Method: **SW846 8270D**

The following samples were analyzed in this batch:

| |
|-------------|
| 1410716-01B |
|-------------|

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
 Work Order: 1410716
 Project: WPX GM 21-2 10.10.14

QC BATCH REPORT

Batch ID: **63828** Instrument ID **VMS5** Method: **SW8260B**

| MBLK | | | | Sample ID: MBLK-63828-63828 | | | | Units: µg/Kg | | | Analysis Date: 10/13/2014 11:30 AM | | |
|-----------------------------|--------|-----|----------------------|-----------------------------|------|---------------|----------------|--------------|-----------------------|------|------------------------------------|--|--|
| Client ID: | | | Run ID: VMS5_141013A | | | | SeqNo: 2979836 | | Prep Date: 10/13/2014 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | | | |
| Benzene | ND | 30 | | | | | | | | | | | |
| Ethylbenzene | ND | 30 | | | | | | | | | | | |
| m,p-Xylene | ND | 60 | | | | | | | | | | | |
| o-Xylene | ND | 30 | | | | | | | | | | | |
| Toluene | ND | 30 | | | | | | | | | | | |
| Xylenes, Total | ND | 90 | | | | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 902 | 0 | 1000 | 0 | 90.2 | 70-130 | | 0 | | | | | |
| Surr: 4-Bromofluorobenzene | 971 | 0 | 1000 | 0 | 97.1 | 70-130 | | 0 | | | | | |
| Surr: Dibromofluoromethane | 971 | 0 | 1000 | 0 | 97.1 | 70-130 | | 0 | | | | | |
| Surr: Toluene-d8 | 945 | 0 | 1000 | 0 | 94.5 | 70-130 | | 0 | | | | | |

| LCS | | | | Sample ID: LCS-63828-63828 | | | | Units: µg/Kg | | | Analysis Date: 10/13/2014 10:12 AM | | |
|-----------------------------|--------|-----|----------------------|----------------------------|------|---------------|----------------|--------------|-----------------------|------|------------------------------------|--|--|
| Client ID: | | | Run ID: VMS5_141013A | | | | SeqNo: 2979834 | | Prep Date: 10/13/2014 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | | | |
| Benzene | 1042 | 30 | 1000 | 0 | 104 | 75-125 | 0 | | | | | | |
| Ethylbenzene | 1006 | 30 | 1000 | 0 | 101 | 75-125 | 0 | | | | | | |
| m,p-Xylene | 2006 | 60 | 2000 | 0 | 100 | 80-125 | 0 | | | | | | |
| o-Xylene | 980.5 | 30 | 1000 | 0 | 98 | 75-125 | 0 | | | | | | |
| Toluene | 976.5 | 30 | 1000 | 0 | 97.6 | 70-125 | 0 | | | | | | |
| Xylenes, Total | 2987 | 90 | 3000 | 0 | 99.6 | 75-125 | 0 | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 883 | 0 | 1000 | 0 | 88.3 | 70-130 | 0 | | | | | | |
| Surr: 4-Bromofluorobenzene | 1006 | 0 | 1000 | 0 | 101 | 70-130 | 0 | | | | | | |
| Surr: Dibromofluoromethane | 949.5 | 0 | 1000 | 0 | 95 | 70-130 | 0 | | | | | | |
| Surr: Toluene-d8 | 958 | 0 | 1000 | 0 | 95.8 | 70-130 | 0 | | | | | | |

The following samples were analyzed in this batch:

1410716-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 1410716
Project: WPX GM 21-2 10.10.14

QC BATCH REPORT

Batch ID: **R150161** Instrument ID **MOIST** Method: **A2540 G**

| | | | | | | | | | | |
|-------------|--------|---------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| MBLK | | Sample ID: WBLKS-R150161 | | | | Units: % of sample | | Analysis Date: 10/13/2014 09:23 AM | | |
| Client ID: | | Run ID: MOIST_141013A | | | | SeqNo: 2979152 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Moisture ND 0.050

| | | | | | | | | | | |
|------------|--------|-------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| LCS | | Sample ID: LCS-R150161 | | | | Units: % of sample | | Analysis Date: 10/13/2014 09:23 AM | | |
| Client ID: | | Run ID: MOIST_141013A | | | | SeqNo: 2979151 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Moisture 100 0.050 100 0 100 99.5-100.5 0

| | | | | | | | | | | |
|----------------------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|---|-----------|--------------|
| DUP | | Sample ID: 1410716-01B DUP | | | | Units: % of sample | | Analysis Date: 10/13/2014 09:23 AM | | |
| Client ID: Baseline | | Run ID: MOIST_141013A | | | | SeqNo: 2979150 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Moisture 14.51 0.050 0 0 0 0-0 14.02 3.43 20

The following samples were analyzed in this batch:

1410716-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



ALS Laboratory Group

3352 128th Ave. Holland, MI 49424
TF: (800) 443-1511 PH: (818) 399-6070 FX: (818) 399-6185

Chain-of-Custody

Form 20278

WORKORDER #

1410716

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

PROJECT NAME WPX GM 21-2

SAMPLER

CASEY RICHARDSON

DATE

10-10-14

SITE ID

TURNAROUND

24 HR

PROJECT No.

EDD FORMAT

PURCHASE ORDER

COMPANY NAME HCSI

BILL TO COMPANY

WPX Energy

SEND REPORT TO MARK MUMBY

INVOICE ATTN TO

KAROLINA BLANEY

ADDRESS 2385 F 1/2 Road

ADDRESS

1058 County Road 215

CITY/STATE/ZIP Grand Junction, CO. 81505

CITY/STATE/ZIP

Parachute, CO 81635

PHONE 970-243-3271

PHONE

970-683-2295

FAX 970-243-3280

FAX

970-285-9573

E-MAIL www.mumbychrlcomp.com

E-MAIL

Lab ID

Field ID

Matrix

Sample Date

Sample Time

Bottles

Pres.

QC

ORO GRD BTEX PAH

1

BASLINE

S

10-10-14

1420

2

1

X X X X

Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments:

DM 4.2°C

QC PACKAGE (check below)

x

LEVEL II (Standard QC)

LEVEL III (Std QC + forms)

LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

SIGNATURE

PRINTED NAME

DATE

TIME

RELINQUISHED BY

CASEY RICHARDSON

CASEY RICHARDSON

10-10-14 1515

RECEIVED BY

MM

MM

10-10-14 1515

RELINQUISHED BY

MM

MM

10-10-14 1515

RECEIVED BY

KEITH WIERENNA

KEITH WIERENNA

10-11-14 1000

RELINQUISHED BY

RECEIVED BY

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **11-Oct-14 10:00**

Work Order: **1410716**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

11-Oct-14
Date

Reviewed by: Ann Preston
eSignature

12-Oct-14
Date

Matrices: **Soil**

Carrier name: **FedEx**

| | | | |
|---|---|-----------------------------|--|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample(s) received on ice? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Temperature(s)/Thermometer(s): | <u>4.2 C</u> | | |
| Cooler(s)/Kit(s): | | | |
| Date/Time sample(s) sent to storage: | <u>10/11/2014 11:38:21 AM</u> | | |
| Water - VOA vials have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| pH adjusted? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| pH adjusted by: | | | |

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



09-Dec-2014

Mark Mumby
HRL Compliance Solutions, Inc
2385 F 1/2 Road
Grand Junction, CO 81505

Re: **WPX GM 21-2 Batch 1 12.3.14**

Work Order: **1412199**

Dear Mark,

ALS Environmental received 1 sample on 04-Dec-2014 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental The ALS logo, a stylized blue triangle with a yellow flame inside.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX GM 21-2 Batch 1 12.3.14
Work Order: 1412199

Work Order Sample Summary

| <u>Lab Samp ID</u> | <u>Client Sample ID</u> | <u>Matrix</u> | <u>Tag Number</u> | <u>Collection Date</u> | <u>Date Received</u> | <u>Hold</u> |
|--------------------|-------------------------|---------------|-------------------|------------------------|----------------------|--------------------------|
| 1412199-01 | GM 21-2 Batch 1 | Soil | | 12/3/2014 10:20 | 12/4/2014 09:30 | <input type="checkbox"/> |

Client: HRL Compliance Solutions, Inc
Project: WPX GM 21-2 Batch 1 12.3.14
WorkOrder: 1412199

QUALIFIERS, ACRONYMS, UNITS

| <u>Qualifier</u> | <u>Description</u> |
|-------------------------|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte is present at an estimated concentration between the MDL and Report Limit |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL |

| <u>Acronym</u> | <u>Description</u> |
|-----------------------|-------------------------------------|
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| LOD | Limit of Detection (see MDL) |
| LOQ | Limit of Quantitation (see PQL) |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PQL | Practical Quantitation Limit |
| RPD | Relative Percent Difference |
| TDL | Target Detection Limit |
| TNTC | Too Numerous To Count |
| A | APHA Standard Methods |
| D | ASTM |
| E | EPA |
| SW | SW-846 Update III |

| <u>Units Reported</u> | <u>Description</u> |
|------------------------------|------------------------------------|
| % of sample | Percent of Sample |
| mg/Kg-dry | Milligrams per Kilogram Dry Weight |

ALS Group USA, Corp

Date: 09-Dec-14

Client: HRL Compliance Solutions, Inc

Project: WPX GM 21-2 Batch 1 12.3.14

Sample ID: GM 21-2 Batch 1

Collection Date: 12/3/2014 10:20 AM

Work Order: 1412199

Lab ID: 1412199-01

Matrix: SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|--|-------------|------|----------------|--------------------|------------------------|---------------------|
| DIESEL RANGE ORGANICS BY GC-FID | | | | | | |
| DRO (C10-C28) | 190 | | SW8015M | | Prep: SW3541 / 12/5/14 | Analyst: IT |
| <i>Surr: 4-Terphenyl-d14</i> | <i>81.0</i> | | 23 | mg/Kg-dry | 5 | 12/5/2014 11:47 PM |
| | | | 39-133 | %REC | 5 | 12/5/2014 11:47 PM |
| GASOLINE RANGE ORGANICS BY GC-FID | | | | | | |
| GRO (C6-C10) | 36 | | SW8015 | | Prep: SW5035 / 12/4/14 | Analyst: IT |
| <i>Surr: Toluene-d8</i> | <i>104</i> | | 2.8 | mg/Kg-dry | 1 | 12/5/2014 10:30 PM |
| | | | 50-150 | %REC | 1 | 12/5/2014 10:30 PM |
| MOISTURE | | | | | | |
| Moisture | 11 | | A2540 G | | | Analyst: EVB |
| | | | 0.050 | % of sample | 1 | 12/5/2014 04:00 PM |

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: HRL Compliance Solutions, Inc
Work Order: 1412199
Project: WPX GM 21-2 Batch 1 12.3.14

QC BATCH REPORT

Batch ID: **65665** Instrument ID **GC8** Method: **SW8015M**

| | | | | | | | | | | |
|------------------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MBLK | | Sample ID: DBLKS1-65665-65665 | | | | Units: mg/Kg | | Analysis Date: 12/5/2014 08:23 PM | | |
| Client ID: | | Run ID: GC8_141205A | | | | SeqNo: 3064025 | | Prep Date: 12/5/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | ND | 5.0 | | | | | | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 1.832 | 0 | 2 | 0 | 91.6 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|------------------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| LCS | | Sample ID: DLCSS1-65665-65665 | | | | Units: mg/Kg | | Analysis Date: 12/5/2014 08:48 PM | | |
| Client ID: | | Run ID: GC8_141205A | | | | SeqNo: 3064026 | | Prep Date: 12/5/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | 165.8 | 5.0 | 200 | 0 | 82.9 | 61-109 | 0 | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 1.49 | 0 | 2 | 0 | 74.5 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|------------------------------|--------|----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MS | | Sample ID: 1412197-01A MS | | | | Units: mg/Kg | | Analysis Date: 12/5/2014 09:14 PM | | |
| Client ID: | | Run ID: GC8_141205A | | | | SeqNo: 3064027 | | Prep Date: 12/5/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | 368 | 8.2 | 327.5 | 95.64 | 83.2 | 48-110 | 0 | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 2.419 | 0 | 3.275 | 0 | 73.9 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|------------------------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MSD | | Sample ID: 1412197-01A MSD | | | | Units: mg/Kg | | Analysis Date: 12/5/2014 09:39 PM | | |
| Client ID: | | Run ID: GC8_141205A | | | | SeqNo: 3064028 | | Prep Date: 12/5/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (C10-C28) | 351.8 | 8.1 | 322.2 | 95.64 | 79.5 | 48-110 | 368 | 4.52 | 30 | |
| <i>Surr: 4-Terphenyl-d14</i> | 2.496 | 0 | 3.222 | 0 | 77.5 | 39-133 | 2.419 | 3.14 | 30 | |

The following samples were analyzed in this batch: | 1412199-01A |

Client: HRL Compliance Solutions, Inc
Work Order: 1412199
Project: WPX GM 21-2 Batch 1 12.3.14

QC BATCH REPORT

Batch ID: **65645** Instrument ID **GC10** Method: **SW8015**

| | | | | | | | | | | |
|-------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MBLK | | Sample ID: MBLK-65645-65645 | | | | Units: µg/Kg | | Analysis Date: 12/5/2014 03:55 PM | | |
| Client ID: | | Run ID: GC10_141205A | | | | SeqNo: 3063991 | | Prep Date: 12/4/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------|------|-------|------|---|-----|--------|---|--|--|--|
| GRO (C6-C10) | ND | 2,500 | | | | | | | | |
| Surr: Toluene-d8 | 5464 | 0 | 5000 | 0 | 109 | 50-150 | 0 | | | |

| | | | | | | | | | | |
|------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| LCS | | Sample ID: LCS-65645-65645 | | | | Units: µg/Kg | | Analysis Date: 12/5/2014 03:31 PM | | |
| Client ID: | | Run ID: GC10_141205A | | | | SeqNo: 3063990 | | Prep Date: 12/4/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------|--------|-------|--------|---|-----|--------|---|--|--|--|
| GRO (C6-C10) | 554100 | 2,500 | 500000 | 0 | 111 | 70-130 | 0 | | | |
| Surr: Toluene-d8 | 5173 | 0 | 5000 | 0 | 103 | 50-150 | 0 | | | |

| | | | | | | | | | | |
|------------|--------|----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MS | | Sample ID: 1412177-01A MS | | | | Units: µg/Kg | | Analysis Date: 12/5/2014 11:21 PM | | |
| Client ID: | | Run ID: GC10_141205A | | | | SeqNo: 3064010 | | Prep Date: 12/4/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------|--------|-------|--------|---|-----|--------|---|--|--|--|
| GRO (C6-C10) | 540800 | 2,500 | 500000 | 0 | 108 | 70-130 | 0 | | | |
| Surr: Toluene-d8 | 5242 | 0 | 5000 | 0 | 105 | 50-150 | 0 | | | |

| | | | | | | | | | | |
|------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MSD | | Sample ID: 1412177-01A MSD | | | | Units: µg/Kg | | Analysis Date: 12/5/2014 11:45 PM | | |
| Client ID: | | Run ID: GC10_141205A | | | | SeqNo: 3064011 | | Prep Date: 12/4/2014 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------|--------|-------|--------|---|-----|--------|--------|------|----|--|
| GRO (C6-C10) | 505500 | 2,500 | 500000 | 0 | 101 | 70-130 | 540800 | 6.75 | 30 | |
| Surr: Toluene-d8 | 5049 | 0 | 5000 | 0 | 101 | 50-150 | 5242 | 3.74 | 30 | |

The following samples were analyzed in this batch:

1412199-01A

Client: HRL Compliance Solutions, Inc
Work Order: 1412199
Project: WPX GM 21-2 Batch 1 12.3.14

QC BATCH REPORT

Batch ID: **R153789** Instrument ID **MOIST** Method: **A2540 G**

| | | | | | | | | | | |
|-------------|--------|---------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MBLK | | Sample ID: WBLKS-R153789 | | | | Units: % of sample | | Analysis Date: 12/5/2014 04:00 PM | | |
| Client ID: | | Run ID: MOIST_141205C | | | | SeqNo: 3065063 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Moisture ND 0.050

| | | | | | | | | | | |
|------------|--------|-------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| LCS | | Sample ID: LCS-R153789 | | | | Units: % of sample | | Analysis Date: 12/5/2014 04:00 PM | | |
| Client ID: | | Run ID: MOIST_141205C | | | | SeqNo: 3065061 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Moisture 100 0.050 100 0 100 99.5-100.5 0

| | | | | | | | | | | |
|------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| DUP | | Sample ID: 1412194-01A DUP | | | | Units: % of sample | | Analysis Date: 12/5/2014 04:00 PM | | |
| Client ID: | | Run ID: MOIST_141205C | | | | SeqNo: 3065009 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Moisture 8.39 0.050 0 0 0 0-0 8.69 3.51 20

| | | | | | | | | | | |
|------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| DUP | | Sample ID: 1412253-01A DUP | | | | Units: % of sample | | Analysis Date: 12/5/2014 04:00 PM | | |
| Client ID: | | Run ID: MOIST_141205C | | | | SeqNo: 3065041 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Moisture 10.11 0.050 0 0 0 0-0 10.03 0.794 20

The following samples were analyzed in this batch:

1412199-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



WORKORDER

1412199

Forts 2021

For metals or anions, please detail analytes below.

Comments:

4.2.2

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

| | SIGNATURE | PRINTED NAME | DATE | TIME |
|-----------------|----------------------|--------------------|---------|-------|
| RELINQUISHED BY | <i>Matt Fought</i> | Matt Fought | 12/3/14 | 1:30 |
| RECEIVED BY | <i>[Signature]</i> | <i>[Signature]</i> | 12-3-14 | 1:20 |
| RELINQUISHED BY | <i>[Signature]</i> | <i>[Signature]</i> | 12-3-14 | 1:40 |
| RECEIVED BY | <i>Diane F. Shaw</i> | Diane F. Shaw | 12/4/14 | 09:38 |
| RELINQUISHED BY | | | | |
| RECEIVED BY | | | | |

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **04-Dec-14 09:30**

Work Order: **1412199**

Received by: **DS**

| | | | |
|--|-----------|---------------------------------|-----------|
| Checklist completed by <u>Diane Shaw</u> | 04-Dec-14 | Reviewed by: <u>Ann Preston</u> | 04-Dec-14 |
| eSignature | Date | eSignature | Date |

Matrices: **Soil**

Carrier name: **FedEx**

| | | | |
|---|---|-----------------------------|--|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample(s) received on ice? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Temperature(s)/Thermometer(s): | <u>4.2 c</u> | | |
| Cooler(s)/Kit(s): | | | |
| Date/Time sample(s) sent to storage: | <u>12/4/2014 1:14:47 PM</u> | | |
| Water - VOA vials have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| pH adjusted? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| pH adjusted by: | | | |

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

From: (616) 399-8070
 Nick Martinez
 ALS Environmental
 127 E. 1st Street
 PARACHUTE, CO 81835

Origin ID: RLA



Ship Date: 03DEC14
 ActWgt: 60.0 LB
 CAD: 2264840/NET3550

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code



SHIP TO: (616) 399-8070
 sample receiving
 ALS Laboratory Group
 3352 128TH AVE

BILL SENDER

HOLLAND, MI 48424

Ref # 120314-1
 Invoice #
 PO # Parachute
 Dept #

1 of 2

THU - 04 DEC 10:30A
 PRIORITY OVERNIGHT

TRK# 7720 8412 1035

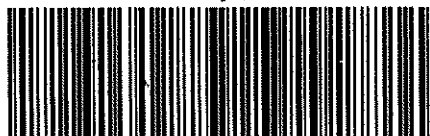
19201

MASTER

49424

MI-US

GRR

XX HLMA

8220200758403

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ALS Parachute Custody Seal

DATE 12-3-14 Time 17:00

Name AMM



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

Report Summary

Friday February 20, 2015

Report Number: L748905

Samples Received: 02/13/15

Client Project: GM 21-2 BATCH 2

Description: GM 21-2 Batch 2

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

February 20, 2015

Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

Date Received : February 13, 2015
Description : GM 21-2 Batch 2
Sample ID : GM 21-2 BATCH 2
Collected By :
Collection Date : 02/12/15 11:00

ESC Sample # : L748905-01

Site ID : GM 21-2 BATCH 2

Project # : GM 21-2 BATCH 2

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|-----------------------------------|--------|------------|--------|-----------|----------|------|
| Benzene | BDL | 0.0025 | mg/kg | 8021 | 02/18/15 | 5 |
| Toluene | BDL | 0.025 | mg/kg | 8021 | 02/18/15 | 5 |
| Ethylbenzene | BDL | 0.0025 | mg/kg | 8021 | 02/18/15 | 5 |
| Total Xylene | BDL | 0.0075 | mg/kg | 8021 | 02/18/15 | 5 |
| TPH (GC/FID) Low Fraction | 3.9 | 0.50 | mg/kg | 8015 | 02/18/15 | 5 |
| Surrogate Recovery-% | | | | | | |
| a,a,a-Trifluorotoluene(FID) | 102. | | % Rec. | 8015 | 02/18/15 | 1 |
| a,a,a-Trifluorotoluene(PID) | 102. | | % Rec. | 8021 | 02/18/15 | 1 |
| TPH (GC/FID) High Fraction | 340 | 4.0 | mg/kg | 3546/DRO | 02/18/15 | 1 |
| Surrogate recovery(%) | | | | | | |
| o-Terphenyl | 69.4 | | % Rec. | 3546/DRO | 02/18/15 | 1 |
| Polynuclear Aromatic Hydrocarbons | | | | | | |
| Anthracene | 0.019 | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Acenaphthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Benzo(a)anthracene | BDL | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Benzo(a)pyrene | BDL | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Benzo(b)fluoranthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Benzo(k)fluoranthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Chrysene | 0.0093 | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Dibenz(a,h)anthracene | BDL | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Fluoranthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Fluorene | 0.043 | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Indeno(1,2,3-cd)pyrene | BDL | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Pyrene | 0.011 | 0.0060 | mg/kg | 8270C-SIM | 02/19/15 | 1 |
| Surrogate Recovery | | | | | | |
| 2-Fluorobiphenyl | 83.7 | | % Rec. | 8270C-SIM | 02/19/15 | 1 |
| p-Terphenyl-d14 | 91.1 | | % Rec. | 8270C-SIM | 02/19/15 | 1 |

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 02/20/15 13:36 Printed: 02/20/15 13:37

Attachment A
List of Analytes with QC Qualifiers

| Sample Number | Work Group | Sample Type | Analyte | Run ID | Qualifier |
|------------------|---------------|----------------|----------------------------|-----------|-----------|
| L748905-01 | WG770396 | SAMP | TPH (GC/FID) High Fraction | R3020278 | V |

Attachment B
Explanation of QC Qualifier Codes

| Qualifier | Meaning |
|-----------|---|
| V | (ESC) - Additional QC Info: The sample concentration is too high to evaluate accurate spike recoveries. |

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



YOUR LAB OF CHOICE

WPX Energy
Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L748905

12065 Lebanon Rd.
Mt. Juliet, TN 37122
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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

February 20, 2015

| Analyte | Result | Laboratory Blank | | Limit | Batch | Date Analyzed |
|-----------------------------|---------|------------------|-------|----------|----------|----------------|
| | | Units | % Rec | | | |
| TPH (GC/FID) High Fraction | < 4 | mg/kg | | | WG770396 | 02/17/15 21:53 |
| o-Terphenyl | | % Rec. | 75.30 | 50-150 | WG770396 | 02/17/15 21:53 |
| Benzene | < .0005 | mg/kg | | | WG770847 | 02/18/15 10:50 |
| Ethylbenzene | < .0005 | mg/kg | | | WG770847 | 02/18/15 10:50 |
| Toluene | < .005 | mg/kg | | | WG770847 | 02/18/15 10:50 |
| TPH (GC/FID) Low Fraction | < .1 | mg/kg | | | WG770847 | 02/18/15 10:50 |
| Total Xylene | < .0015 | mg/kg | | | WG770847 | 02/18/15 10:50 |
| a,a,a-Trifluorotoluene(FID) | | % Rec. | 104.0 | 59-128 | WG770847 | 02/18/15 10:50 |
| a,a,a-Trifluorotoluene(PID) | | % Rec. | 102.0 | 54-144 | WG770847 | 02/18/15 10:50 |
| Acenaphthene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| Anthracene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| Benzo(a)anthracene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| Benzo(a)pyrene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| Benzo(b)fluoranthene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| Benzo(k)fluoranthene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| Chrysene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| Dibenz(a,h)anthracene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| Fluoranthene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| Fluorene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| Indeno(1,2,3-cd)pyrene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| Pyrene | < .006 | mg/kg | | | WG770816 | 02/19/15 05:21 |
| 2-Fluorobiphenyl | | % Rec. | 82.30 | 38.2-135 | WG770816 | 02/19/15 05:21 |
| Nitrobenzene-d5 | | % Rec. | 94.20 | 28.4-151 | WG770816 | 02/19/15 05:21 |
| p-Terphenyl-d14 | | % Rec. | 80.20 | 34.2-141 | WG770816 | 02/19/15 05:21 |

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|-----------------------------|-------|---------------------------|--------|-------|----------|----------|
| | | Known Val | Result | | | |
| TPH (GC/FID) High Fraction | mg/kg | 60 | 45.7 | 76.2 | 50-150 | WG770396 |
| o-Terphenyl | | | | 69.50 | 50-150 | WG770396 |
| Benzene | mg/kg | .05 | 0.0416 | 83.2 | 70-130 | WG770847 |
| Ethylbenzene | mg/kg | .05 | 0.0463 | 92.7 | 70-130 | WG770847 |
| Toluene | mg/kg | .05 | 0.0455 | 91.0 | 70-130 | WG770847 |
| Total Xylene | mg/kg | .15 | 0.148 | 99.0 | 70-130 | WG770847 |
| a,a,a-Trifluorotoluene(PID) | | | | 102.0 | 54-144 | WG770847 |
| TPH (GC/FID) Low Fraction | mg/kg | 5.5 | 5.23 | 95.1 | 63.5-137 | WG770847 |
| a,a,a-Trifluorotoluene(FID) | | | | 101.0 | 59-128 | WG770847 |
| Acenaphthene | mg/kg | .08 | 0.0683 | 85.4 | 48.7-127 | WG770816 |
| Anthracene | mg/kg | .08 | 0.0770 | 96.2 | 51.3-136 | WG770816 |
| Benzo(a)anthracene | mg/kg | .08 | 0.0657 | 82.1 | 55-126 | WG770816 |
| Benzo(a)pyrene | mg/kg | .08 | 0.0714 | 89.2 | 51.9-127 | WG770816 |
| Benzo(b)fluoranthene | mg/kg | .08 | 0.0719 | 89.9 | 54-125 | WG770816 |
| Benzo(k)fluoranthene | mg/kg | .08 | 0.0818 | 102. | 53.9-132 | WG770816 |
| Chrysene | mg/kg | .08 | 0.0712 | 89.0 | 55.7-133 | WG770816 |
| Dibenz(a,h)anthracene | mg/kg | .08 | 0.0599 | 74.9 | 52.6-137 | WG770816 |
| Fluoranthene | mg/kg | .08 | 0.0710 | 88.8 | 54-132 | WG770816 |
| Fluorene | mg/kg | .08 | 0.0740 | 92.5 | 48.7-127 | WG770816 |
| Indeno(1,2,3-cd)pyrene | mg/kg | .08 | 0.0606 | 75.7 | 53.8-138 | WG770816 |
| Pyrene | mg/kg | .08 | 0.0733 | 91.7 | 54-129 | WG770816 |
| 2-Fluorobiphenyl | | | | 84.70 | 38.2-135 | WG770816 |
| Nitrobenzene-d5 | | | | 96.40 | 28.4-151 | WG770816 |

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Est. 1970

February 20, 2015

| Analyte | Units | Laboratory Control Sample Duplicate | | | Limit | RPD | Limit | Batch |
|-----------------------------|-------|-------------------------------------|--------|-------|----------|--------|----------|----------|
| | | Result | Ref | %Rec | | | | |
| p-Terphenyl-d14 | | | | | 81.70 | | 34.2-141 | |
| Analyte | Units | Laboratory Control Sample Duplicate | | | Limit | RPD | Limit | Batch |
| | | Result | Ref | %Rec | | | | |
| TPH (GC/FID) High Fraction | mg/kg | 41.6 | 45.7 | 69.0 | 50-150 | 9.43 | 20 | WG770396 |
| o-Terphenyl | | | | 62.00 | 50-150 | | | WG770396 |
| Benzene | mg/kg | 0.0425 | 0.0416 | 85.0 | 70-130 | 2.04 | 20 | WG770847 |
| Ethylbenzene | mg/kg | 0.0471 | 0.0463 | 94.0 | 70-130 | 1.65 | 20 | WG770847 |
| Toluene | mg/kg | 0.0462 | 0.0455 | 92.0 | 70-130 | 1.45 | 20 | WG770847 |
| Total Xylene | mg/kg | 0.151 | 0.148 | 101. | 70-130 | 1.78 | 20 | WG770847 |
| a,a,a-Trifluorotoluene(PID) | | | | 102.0 | 54-144 | | | WG770847 |
| TPH (GC/FID) Low Fraction | mg/kg | 5.41 | 5.23 | 98.0 | 63.5-137 | 3.28 | 20 | WG770847 |
| a,a,a-Trifluorotoluene(FID) | | | | 102.0 | 59-128 | | | WG770847 |
| Acenaphthene | mg/kg | 0.0683 | 0.0683 | 85.0 | 48.7-127 | 0.0100 | 20 | WG770816 |
| Anthracene | mg/kg | 0.0795 | 0.0770 | 99.0 | 51.3-136 | 3.17 | 20 | WG770816 |
| Benzo(a)anthracene | mg/kg | 0.0670 | 0.0657 | 84.0 | 55-126 | 2.02 | 20 | WG770816 |
| Benzo(a)pyrene | mg/kg | 0.0730 | 0.0714 | 91.0 | 51.9-127 | 2.32 | 20 | WG770816 |
| Benzo(b)fluoranthene | mg/kg | 0.0724 | 0.0719 | 90.0 | 54-125 | 0.680 | 20 | WG770816 |
| Benzo(k)fluoranthene | mg/kg | 0.0845 | 0.0818 | 106. | 53.9-132 | 3.33 | 20 | WG770816 |
| Chrysene | mg/kg | 0.0745 | 0.0712 | 93.0 | 55.7-133 | 4.62 | 20 | WG770816 |
| Dibenz(a,h)anthracene | mg/kg | 0.0607 | 0.0599 | 76.0 | 52.6-137 | 1.28 | 20 | WG770816 |
| Fluoranthene | mg/kg | 0.0700 | 0.0710 | 88.0 | 54-132 | 1.43 | 20 | WG770816 |
| Fluorene | mg/kg | 0.0676 | 0.0740 | 84.0 | 48.7-127 | 9.02 | 20 | WG770816 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.0617 | 0.0606 | 77.0 | 53.8-138 | 1.84 | 20 | WG770816 |
| Pyrene | mg/kg | 0.0731 | 0.0733 | 91.0 | 54-129 | 0.390 | 20 | WG770816 |
| 2-Fluorobiphenyl | | | | 81.20 | 38.2-135 | | | WG770816 |
| Nitrobenzene-d5 | | | | 88.60 | 28.4-151 | | | WG770816 |
| p-Terphenyl-d14 | | | | 80.40 | 34.2-141 | | | WG770816 |

| Analyte | Units | Matrix Spike | | | % Rec | Limit | Ref Samp | Batch |
|-----------------------------|-------|--------------|----------|-----|-------|----------|------------|----------|
| | | MS Res | Ref Res | TV | | | | |
| TPH (GC/FID) High Fraction | mg/kg | 406. | 341. | 60 | 110. | 50-150 | L748905-01 | WG770396 |
| o-Terphenyl | | | | | 68.90 | 50-150 | | WG770396 |
| Benzene | mg/kg | 0.181 | 0.000444 | .05 | 72.0 | 49.7-127 | L748857-02 | WG770847 |
| Ethylbenzene | mg/kg | 0.189 | 0.000212 | .05 | 76.0 | 40.8-141 | L748857-02 | WG770847 |
| Toluene | mg/kg | 0.191 | 0.000394 | .05 | 76.0 | 49.8-132 | L748857-02 | WG770847 |
| Total Xylene | mg/kg | 0.601 | 0.00116 | .15 | 80.0 | 41.2-140 | L748857-02 | WG770847 |
| a,a,a-Trifluorotoluene(PID) | | | | | 101.0 | 54-144 | | WG770847 |
| TPH (GC/FID) Low Fraction | mg/kg | 20.2 | 0.0 | 5.5 | 73.0 | 28.5-138 | L748857-02 | WG770847 |
| a,a,a-Trifluorotoluene(FID) | | | | | 98.30 | 59-128 | | WG770847 |
| Acenaphthene | mg/kg | 0.0742 | 0.0 | .08 | 93.0 | 39.4-132 | L748905-01 | WG770816 |
| Anthracene | mg/kg | 0.0894 | 0.0192 | .08 | 88.0 | 36.7-144 | L748905-01 | WG770816 |
| Benzo(a)anthracene | mg/kg | 0.0738 | 0.00114 | .08 | 91.0 | 28-144 | L748905-01 | WG770816 |
| Benzo(a)pyrene | mg/kg | 0.0719 | 0.0 | .08 | 90.0 | 23.8-147 | L748905-01 | WG770816 |
| Benzo(b)fluoranthene | mg/kg | 0.0818 | 0.00433 | .08 | 97.0 | 18.2-147 | L748905-01 | WG770816 |
| Benzo(k)fluoranthene | mg/kg | 0.0723 | 0.00173 | .08 | 88.0 | 26.5-143 | L748905-01 | WG770816 |
| Chrysene | mg/kg | 0.0884 | 0.00931 | .08 | 99.0 | 27.4-150 | L748905-01 | WG770816 |
| Dibenz(a,h)anthracene | mg/kg | 0.0623 | 0.0 | .08 | 78.0 | 13.8-150 | L748905-01 | WG770816 |
| Fluoranthene | mg/kg | 0.0866 | 0.00206 | .08 | 110. | 23.2-158 | L748905-01 | WG770816 |

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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1058 County Road 215

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Level II

L748905

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Mt. Juliet, TN 37122
(615) 758-5858
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

February 20, 2015

| Analyte | Units | MS Res | Matrix Spike | | % Rec | Limit | Ref Samp | Batch |
|------------------------|-------|--------|--------------|-----|--------|----------|------------|----------|
| | | | Ref Res | TV | | | | |
| Fluorene | mg/kg | 0.110 | 0.0429 | .08 | 84.0 | 30.8-139 | L748905-01 | WG770816 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.0630 | 0.0 | .08 | 79.0 | 10.7-155 | L748905-01 | WG770816 |
| Pyrene | mg/kg | 0.0922 | 0.0111 | .08 | 100. | 22.6-151 | L748905-01 | WG770816 |
| 2-Fluorobiphenyl | | | | | 82.50 | 38.2-135 | | WG770816 |
| Nitrobenzene-d5 | | | | | 159.0* | 28.4-151 | | WG770816 |
| p-Terphenyl-d14 | | | | | 88.90 | 34.2-141 | | WG770816 |

| Analyte | Units | MSD | Matrix Spike Duplicate | | Limit | RPD | Limit | Ref Samp | Batch |
|-----------------------------|-------|--------|------------------------|--------|----------|--------|-------|------------|----------|
| | | | Ref | %Rec | | | | | |
| TPH (GC/FID) High Fraction | mg/kg | 367. | 406. | 42.4* | 50-150 | 10.2 | 20 | L748905-01 | WG770396 |
| o-Terphenyl | | | | 70.40 | 50-150 | | | | WG770396 |
| Benzene | mg/kg | 0.203 | 0.181 | 81.2 | 49.7-127 | 11.9 | 23.5 | L748857-02 | WG770847 |
| Ethylbenzene | mg/kg | 0.215 | 0.189 | 85.8 | 40.8-141 | 12.5 | 23.8 | L748857-02 | WG770847 |
| Toluene | mg/kg | 0.218 | 0.191 | 87.0 | 49.8-132 | 13.3 | 23.5 | L748857-02 | WG770847 |
| Total Xylene | mg/kg | 0.677 | 0.601 | 90.1 | 41.2-140 | 11.9 | 23.7 | L748857-02 | WG770847 |
| a,a,a-Trifluorotoluene(PID) | | | | 101.0 | 54-144 | | | | WG770847 |
| TPH (GC/FID) Low Fraction | mg/kg | 20.8 | 20.2 | 75.7 | 28.5-138 | 3.13 | 23.6 | L748857-02 | WG770847 |
| a,a,a-Trifluorotoluene(FID) | | | | 96.70 | 59-128 | | | | WG770847 |
| Acenaphthene | mg/kg | 0.0737 | 0.0742 | 92.2 | 39.4-132 | 0.560 | 20 | L748905-01 | WG770816 |
| Anthracene | mg/kg | 0.0863 | 0.0894 | 83.9 | 36.7-144 | 3.55 | 20.7 | L748905-01 | WG770816 |
| Benzo(a)anthracene | mg/kg | 0.0722 | 0.0738 | 88.8 | 28-144 | 2.19 | 24.7 | L748905-01 | WG770816 |
| Benzo(a)pyrene | mg/kg | 0.0710 | 0.0719 | 88.7 | 23.8-147 | 1.24 | 25.3 | L748905-01 | WG770816 |
| Benzo(b)fluoranthene | mg/kg | 0.0791 | 0.0818 | 93.4 | 18.2-147 | 3.42 | 29.5 | L748905-01 | WG770816 |
| Benzo(k)fluoranthene | mg/kg | 0.0711 | 0.0723 | 86.7 | 26.5-143 | 1.69 | 26.1 | L748905-01 | WG770816 |
| Chrysene | mg/kg | 0.0858 | 0.0884 | 95.6 | 27.4-150 | 2.97 | 25.7 | L748905-01 | WG770816 |
| Dibenz(a,h)anthracene | mg/kg | 0.0603 | 0.0623 | 75.4 | 13.8-150 | 3.27 | 25.8 | L748905-01 | WG770816 |
| Fluoranthene | mg/kg | 0.0787 | 0.0866 | 95.8 | 23.2-158 | 9.53 | 26 | L748905-01 | WG770816 |
| Fluorene | mg/kg | 0.110 | 0.110 | 84.0 | 30.8-139 | 0.0900 | 20 | L748905-01 | WG770816 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.0599 | 0.0630 | 74.9 | 10.7-155 | 4.97 | 26.9 | L748905-01 | WG770816 |
| Pyrene | mg/kg | 0.0885 | 0.0922 | 96.8 | 22.6-151 | 4.07 | 25.1 | L748905-01 | WG770816 |
| 2-Fluorobiphenyl | | | | 81.50 | 38.2-135 | | | | WG770816 |
| Nitrobenzene-d5 | | | | 168.0* | 28.4-151 | | | | WG770816 |
| p-Terphenyl-d14 | | | | 85.30 | 34.2-141 | | | | WG770816 |

Batch number / Run number / Sample number cross reference

WG770396: R3020278 R3020478: L748905-01
WG770847: R3020388: L748905-01
WG770816: R3020653 R3020740: L748905-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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February 20, 2015

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.



30-Mar-2015

Karolina Blaney
WPX Energy Rocky Mountain, LLC
1058 Country Rd 215
Parachute, CO 81635

Re: **GM 21-2 Batch 3**

Work Order: **15031244**

Dear Karolina,

ALS Environmental received 1 sample on 21-Mar-2015 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

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

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy Rocky Mountain, LLC
Project: GM 21-2 Batch 3
Work Order: 15031244

Work Order Sample Summary

| <u>Lab Samp ID</u> | <u>Client Sample ID</u> | <u>Matrix</u> | <u>Tag Number</u> | <u>Collection Date</u> | <u>Date Received</u> | <u>Hold</u> |
|--------------------|-------------------------|---------------|-------------------|------------------------|----------------------|--------------------------|
| 15031244-01 | GM 21-2 Batch 3 | Soil | | 3/19/2015 11:00 | 3/21/2015 10:00 | <input type="checkbox"/> |

Client: WPX Energy Rocky Mountain, LLC
Project: GM 21-2 Batch 3
WorkOrder: 15031244

QUALIFIERS, ACRONYMS, UNITS

| <u>Qualifier</u> | <u>Description</u> |
|-------------------------|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte is present at an estimated concentration between the MDL and Report Limit |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL |
| X | Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level. |

| <u>Acronym</u> | <u>Description</u> |
|-----------------------|-------------------------------------|
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| LOD | Limit of Detection (see MDL) |
| LOQ | Limit of Quantitation (see PQL) |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PQL | Practical Quantitation Limit |
| RPD | Relative Percent Difference |
| TDL | Target Detection Limit |
| TNTC | Too Numerous To Count |
| A | APHA Standard Methods |
| D | ASTM |
| E | EPA |
| SW | SW-846 Update III |

| <u>Units Reported</u> | <u>Description</u> |
|------------------------------|------------------------------------|
| % of sample | Percent of Sample |
| µg/Kg-dry | Micrograms per Kilogram Dry Weight |
| mg/Kg-dry | Milligrams per Kilogram Dry Weight |

ALS Group USA, Corp

Date: 30-Mar-15

Client: WPX Energy Rocky Mountain, LLC
Project: GM 21-2 Batch 3
Sample ID: GM 21-2 Batch 3
Collection Date: 3/19/2015 11:00 AM

Work Order: 15031244
Lab ID: 15031244-01
Matrix: SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|--|------------|------|--------------------|------------------|------------------------|---------------------|
| DIESEL RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015M | | Prep: SW3541 / 3/25/15 | Analyst: IT |
| DRO (C10-C28) | 240 | | 24 | mg/Kg-dry | 5 | 3/26/2015 05:41 AM |
| Surr: 4-Terphenyl-d14 | 77.2 | | 39-133 | %REC | 5 | 3/26/2015 05:41 AM |
| GASOLINE RANGE ORGANICS BY GC-FID | | | | | | |
| | | | SW8015D | | Prep: SW5035 / 3/25/15 | Analyst: IT |
| GRO (C6-C10) | 83 | | 3.0 | mg/Kg-dry | 1 | 3/25/2015 06:24 PM |
| Surr: Toluene-d8 | 99.5 | | 50-150 | %REC | 1 | 3/25/2015 06:24 PM |
| SEMI-VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW846 8270D | | Prep: SW3541 / 3/25/15 | Analyst: RM |
| Acenaphthene | ND | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Anthracene | 23 | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Benzo(a)anthracene | 19 | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Benzo(a)pyrene | ND | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Benzo(b)fluoranthene | ND | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Benzo(g,h,i)perylene | ND | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Benzo(k)fluoranthene | ND | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Chrysene | 13 | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Dibenzo(a,h)anthracene | ND | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Fluoranthene | 9.4 | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Fluorene | 47 | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Indeno(1,2,3-cd)pyrene | ND | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Naphthalene | 150 | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Pyrene | 19 | | 7.8 | µg/Kg-dry | 1 | 3/25/2015 10:41 PM |
| Surr: 2,4,6-Tribromophenol | 102 | | 34-140 | %REC | 1 | 3/25/2015 10:41 PM |
| Surr: 2-Fluorobiphenyl | 77.0 | | 12-100 | %REC | 1 | 3/25/2015 10:41 PM |
| Surr: 2-Fluorophenol | 82.4 | | 33-117 | %REC | 1 | 3/25/2015 10:41 PM |
| Surr: 4-Terphenyl-d14 | 105 | | 25-137 | %REC | 1 | 3/25/2015 10:41 PM |
| Surr: Nitrobenzene-d5 | 93.2 | | 37-107 | %REC | 1 | 3/25/2015 10:41 PM |
| Surr: Phenol-d6 | 83.0 | | 40-106 | %REC | 1 | 3/25/2015 10:41 PM |
| VOLATILE ORGANIC COMPOUNDS | | | | | | |
| | | | SW8260B | | Prep: SW5035 / 3/25/15 | Analyst: LSY |
| Benzene | ND | | 36 | µg/Kg-dry | 1 | 3/27/2015 05:03 AM |
| Ethylbenzene | ND | | 36 | µg/Kg-dry | 1 | 3/27/2015 05:03 AM |
| m,p-Xylene | 76 | | 71 | µg/Kg-dry | 1 | 3/27/2015 05:03 AM |
| o-Xylene | ND | | 36 | µg/Kg-dry | 1 | 3/27/2015 05:03 AM |
| Toluene | ND | | 36 | µg/Kg-dry | 1 | 3/27/2015 05:03 AM |
| Xylenes, Total | ND | | 110 | µg/Kg-dry | 1 | 3/27/2015 05:03 AM |
| Surr: 1,2-Dichloroethane-d4 | 103 | | 70-130 | %REC | 1 | 3/27/2015 05:03 AM |
| Surr: 4-Bromofluorobenzene | 103 | | 70-130 | %REC | 1 | 3/27/2015 05:03 AM |
| Surr: Dibromofluoromethane | 97.2 | | 70-130 | %REC | 1 | 3/27/2015 05:03 AM |
| Surr: Toluene-d8 | 99.6 | | 70-130 | %REC | 1 | 3/27/2015 05:03 AM |

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 30-Mar-15

Client: WPX Energy Rocky Mountain, LLC

Project: GM 21-2 Batch 3

Work Order: 15031244

Sample ID: GM 21-2 Batch 3

Lab ID: 15031244-01

Collection Date: 3/19/2015 11:00 AM

Matrix: SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|-----------------|--------|------|-----------------|-------------|--------------------|---------------------|
| MOISTURE | | | E160.3M | | | Analyst: EVB |
| Moisture | 16 | | 0.050 | % of sample | 1 | 3/25/2015 03:35 PM |

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 30-Mar-15

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031244
Project: GM 21-2 Batch 3

QC BATCH REPORT

Batch ID: **69013** Instrument ID **GC8** Method: **SW8015M**

| | | | | | | | | | | |
|-------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MBLK | | Sample ID: DBLKS1-69013-69013 | | | | Units: mg/Kg | | Analysis Date: 3/25/2015 11:11 PM | | |
| Client ID: | | Run ID: GC8_150325A | | | | SeqNo: 3195907 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------------------|-------|-----|---|---|------|--------|---|--|--|--|
| DRO (C10-C28) | ND | 5.0 | | | | | | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 1.716 | 0 | 2 | 0 | 85.8 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| LCS | | Sample ID: DLCSS1-69013-69013 | | | | Units: mg/Kg | | Analysis Date: 3/25/2015 11:41 PM | | |
| Client ID: | | Run ID: GC8_150325A | | | | SeqNo: 3195908 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------------------|-------|-----|-----|---|------|--------|---|--|--|--|
| DRO (C10-C28) | 189.6 | 5.0 | 200 | 0 | 94.8 | 61-109 | 0 | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 1.442 | 0 | 2 | 0 | 72.1 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MS | | Sample ID: 15031265-05B MS | | | | Units: mg/Kg | | Analysis Date: 3/26/2015 12:11 PM | | |
| Client ID: | | Run ID: GC8_150325A | | | | SeqNo: 3195915 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------------------|-------|-----|-------|-------|------|--------|---|--|--|--|
| DRO (C10-C28) | 427 | 8.1 | 325.5 | 159.9 | 82.1 | 48-110 | 0 | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 2.476 | 0 | 3.255 | 0 | 76.1 | 39-133 | 0 | | | |

| | | | | | | | | | | |
|------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| MSD | | Sample ID: 15031265-05B MSD | | | | Units: mg/Kg | | Analysis Date: 3/26/2015 12:41 PM | | |
| Client ID: | | Run ID: GC8_150325A | | | | SeqNo: 3195917 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------------------|-------|-----|-------|-------|------|--------|-------|------|----|--|
| DRO (C10-C28) | 336.8 | 8.0 | 320.8 | 159.9 | 55.1 | 48-110 | 427 | 23.6 | 30 | |
| <i>Surr: 4-Terphenyl-d14</i> | 2.119 | 0 | 3.208 | 0 | 66.1 | 39-133 | 2.476 | 15.5 | 30 | |

The following samples were analyzed in this batch:

| |
|--------------|
| 15031244-01A |
|--------------|

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031244
Project: GM 21-2 Batch 3

QC BATCH REPORT

Batch ID: **69050** Instrument ID **GC9** Method: **SW8015D**

| MBLK | | Sample ID: MBLK-69050-69050 | | | | Units: µg/Kg | | Analysis Date: 3/25/2015 04:44 PM | | |
|-------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: GC9_150325A | | | | SeqNo: 3195844 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------|------|-------|------|---|-----|--------|---|--|--|--|
| GRO (C6-C10) | ND | 2,500 | | | | | | | | |
| Surr: Toluene-d8 | 5570 | 0 | 5000 | 0 | 111 | 50-150 | 0 | | | |

| LCS | | Sample ID: LCS-69050-69050 | | | | Units: µg/Kg | | Analysis Date: 3/25/2015 04:15 PM | | |
|------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: GC9_150325A | | | | SeqNo: 3195843 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------|--------|-------|--------|---|-----|--------|---|--|--|--|
| GRO (C6-C10) | 649800 | 2,500 | 500000 | 0 | 130 | 70-130 | 0 | | | |
| Surr: Toluene-d8 | 5004 | 0 | 5000 | 0 | 100 | 50-150 | 0 | | | |

| MS | | Sample ID: 15031245-05A MS | | | | Units: µg/Kg | | Analysis Date: 3/25/2015 07:39 PM | | |
|------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: GC9_150325A | | | | SeqNo: 3195850 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------|--------|-------|--------|---|-----|--------|---|--|--|--|
| GRO (C6-C10) | 603900 | 2,500 | 500000 | 0 | 121 | 70-130 | 0 | | | |
| Surr: Toluene-d8 | 5272 | 0 | 5000 | 0 | 105 | 50-150 | 0 | | | |

| MSD | | Sample ID: 15031245-05A MSD | | | | Units: µg/Kg | | Analysis Date: 3/25/2015 08:04 PM | | |
|------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: GC9_150325A | | | | SeqNo: 3195851 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|------------------|--------|-------|--------|---|------|--------|--------|------|----|--|
| GRO (C6-C10) | 517700 | 2,500 | 500000 | 0 | 104 | 70-130 | 603900 | 15.4 | 30 | |
| Surr: Toluene-d8 | 4820 | 0 | 5000 | 0 | 96.4 | 50-150 | 5272 | 8.96 | 30 | |

The following samples were analyzed in this batch:

15031244-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031244
Project: GM 21-2 Batch 3

QC BATCH REPORT

Batch ID: **69012** Instrument ID **SVMS8** Method: **SW846 8270D**

| MBLK | | Sample ID: SBLKS1-69012-69012 | | | | Units: µg/Kg | | Analysis Date: 3/25/2015 05:36 PM | | |
|-------------------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: SVMS8_150325A | | | | SeqNo: 3196403 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Acenaphthene | ND | 6.7 | | | | | | | | |
| Anthracene | ND | 6.7 | | | | | | | | |
| Benzo(a)anthracene | ND | 6.7 | | | | | | | | |
| Benzo(a)pyrene | ND | 6.7 | | | | | | | | |
| Benzo(b)fluoranthene | ND | 6.7 | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 6.7 | | | | | | | | |
| Benzo(k)fluoranthene | ND | 6.7 | | | | | | | | |
| Chrysene | ND | 6.7 | | | | | | | | |
| Dibenzo(a,h)anthracene | ND | 6.7 | | | | | | | | |
| Fluoranthene | ND | 6.7 | | | | | | | | |
| Fluorene | ND | 6.7 | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 6.7 | | | | | | | | |
| Naphthalene | ND | 6.7 | | | | | | | | |
| Pyrene | ND | 6.7 | | | | | | | | |
| <i>Surr: 2-Fluorobiphenyl</i> | 1261 | 0 | 1667 | 0 | 75.7 | 12-100 | 0 | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 1758 | 0 | 1667 | 0 | 105 | 25-137 | 0 | | | |
| <i>Surr: Nitrobenzene-d5</i> | 1400 | 0 | 1667 | 0 | 84 | 37-107 | 0 | | | |

| LCS | | Sample ID: SLCSS1-69012-69012 | | | | Units: µg/Kg | | Analysis Date: 3/25/2015 05:59 PM | | |
|-------------------------------|--------|--------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: SVMS8_150325A | | | | SeqNo: 3196404 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Acenaphthene | 545.7 | 6.7 | 666.7 | 0 | 81.8 | 45-110 | 0 | | | |
| Anthracene | 665.7 | 6.7 | 666.7 | 0 | 99.8 | 55-105 | 0 | | | |
| Benzo(a)anthracene | 687 | 6.7 | 666.7 | 0 | 103 | 50-110 | 0 | | | |
| Benzo(a)pyrene | 701.3 | 6.7 | 666.7 | 0 | 105 | 50-110 | 0 | | | |
| Benzo(b)fluoranthene | 679.7 | 6.7 | 666.7 | 0 | 102 | 45-115 | 0 | | | |
| Benzo(g,h,i)perylene | 680.7 | 6.7 | 666.7 | 0 | 102 | 40-125 | 0 | | | |
| Benzo(k)fluoranthene | 645.3 | 6.7 | 666.7 | 0 | 96.8 | 45-115 | 0 | | | |
| Chrysene | 642.7 | 6.7 | 666.7 | 0 | 96.4 | 55-110 | 0 | | | |
| Dibenzo(a,h)anthracene | 699 | 6.7 | 666.7 | 0 | 105 | 40-125 | 0 | | | |
| Fluoranthene | 636 | 6.7 | 666.7 | 0 | 95.4 | 55-115 | 0 | | | |
| Fluorene | 573.3 | 6.7 | 666.7 | 0 | 86 | 50-110 | 0 | | | |
| Indeno(1,2,3-cd)pyrene | 735.3 | 6.7 | 666.7 | 0 | 110 | 40-120 | 0 | | | |
| Naphthalene | 546.7 | 6.7 | 666.7 | 0 | 82 | 40-105 | 0 | | | |
| Pyrene | 723.7 | 6.7 | 666.7 | 0 | 109 | 45-125 | 0 | | | |
| <i>Surr: 2-Fluorobiphenyl</i> | 1347 | 0 | 1667 | 0 | 80.8 | 12-100 | 0 | | | |
| <i>Surr: 4-Terphenyl-d14</i> | 1758 | 0 | 1667 | 0 | 105 | 25-137 | 0 | | | |
| <i>Surr: Nitrobenzene-d5</i> | 1514 | 0 | 1667 | 0 | 90.9 | 37-107 | 0 | | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031244
Project: GM 21-2 Batch 3

QC BATCH REPORT

Batch ID: **69012** Instrument ID **SVMS8** Method: **SW846 8270D**

| MS | | | | Sample ID: 15031200-05B MS | | | Units: µg/Kg | | Analysis Date: 3/25/2015 06:19 PM | |
|------------------------|--------|-----|---------|----------------------------|------|---------------|----------------|------|-----------------------------------|------|
| Client ID: | | | | Run ID: SVMS8_150325A | | | SeqNo: 3196405 | | Prep Date: 3/25/2015 | |
| | | | | | | | | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Acenaphthene | 918.5 | 13 | 1290 | 0 | 71.2 | 45-110 | 0 | | | |
| Anthracene | 1217 | 13 | 1290 | 0 | 94.3 | 55-105 | 0 | | | |
| Benzo(a)anthracene | 1300 | 13 | 1290 | 0 | 101 | 50-110 | 0 | | | |
| Benzo(a)pyrene | 1315 | 13 | 1290 | 0 | 102 | 50-110 | 0 | | | |
| Benzo(b)fluoranthene | 1289 | 13 | 1290 | 0 | 99.9 | 45-115 | 0 | | | |
| Benzo(g,h,i)perylene | 1286 | 13 | 1290 | 0 | 99.7 | 40-125 | 0 | | | |
| Benzo(k)fluoranthene | 1262 | 13 | 1290 | 0 | 97.8 | 45-115 | 0 | | | |
| Chrysene | 1214 | 13 | 1290 | 0 | 94.1 | 55-110 | 0 | | | |
| Dibenzo(a,h)anthracene | 1315 | 13 | 1290 | 0 | 102 | 40-125 | 0 | | | |
| Fluoranthene | 1175 | 13 | 1290 | 0 | 91 | 55-115 | 0 | | | |
| Fluorene | 966.3 | 13 | 1290 | 0 | 74.9 | 50-110 | 0 | | | |
| Indeno(1,2,3-cd)pyrene | 1410 | 13 | 1290 | 0 | 109 | 40-120 | 0 | | | |
| Naphthalene | 897.2 | 13 | 1290 | 0 | 69.5 | 40-105 | 0 | | | |
| Pyrene | 1398 | 13 | 1290 | 0 | 108 | 45-125 | 0 | | | |
| Surr: 2-Fluorobiphenyl | 2246 | 0 | 3225 | 0 | 69.6 | 12-100 | 0 | | | |
| Surr: 4-Terphenyl-d14 | 3342 | 0 | 3225 | 0 | 104 | 25-137 | 0 | | | |
| Surr: Nitrobenzene-d5 | 2527 | 0 | 3225 | 0 | 78.4 | 37-107 | 0 | | | |

| MSD | | | | Sample ID: 15031200-05B MSD | | | Units: µg/Kg | | Analysis Date: 3/25/2015 06:39 PM | |
|------------------------|--------|-----|---------|-----------------------------|------|---------------|----------------|-------|-----------------------------------|------|
| Client ID: | | | | Run ID: SVMS8_150325A | | | SeqNo: 3196406 | | Prep Date: 3/25/2015 | |
| | | | | | | | | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Acenaphthene | 1042 | 13 | 1306 | 0 | 79.8 | 45-110 | 918.5 | 12.6 | 30 | |
| Anthracene | 1282 | 13 | 1306 | 0 | 98.2 | 55-105 | 1217 | 5.19 | 30 | |
| Benzo(a)anthracene | 1266 | 13 | 1306 | 0 | 96.9 | 50-110 | 1300 | 2.66 | 30 | |
| Benzo(a)pyrene | 1322 | 13 | 1306 | 0 | 101 | 50-110 | 1315 | 0.548 | 30 | |
| Benzo(b)fluoranthene | 1315 | 13 | 1306 | 0 | 101 | 45-115 | 1289 | 1.98 | 30 | |
| Benzo(g,h,i)perylene | 1278 | 13 | 1306 | 0 | 97.9 | 40-125 | 1286 | 0.634 | 30 | |
| Benzo(k)fluoranthene | 1251 | 13 | 1306 | 0 | 95.8 | 45-115 | 1262 | 0.878 | 30 | |
| Chrysene | 1192 | 13 | 1306 | 0 | 91.3 | 55-110 | 1214 | 1.83 | 30 | |
| Dibenzo(a,h)anthracene | 1304 | 13 | 1306 | 0 | 99.9 | 40-125 | 1315 | 0.795 | 30 | |
| Fluoranthene | 1207 | 13 | 1306 | 0 | 92.4 | 55-115 | 1175 | 2.71 | 30 | |
| Fluorene | 1063 | 13 | 1306 | 0 | 81.4 | 50-110 | 966.3 | 9.56 | 30 | |
| Indeno(1,2,3-cd)pyrene | 1386 | 13 | 1306 | 0 | 106 | 40-120 | 1410 | 1.69 | 30 | |
| Naphthalene | 1037 | 13 | 1306 | 0 | 79.4 | 40-105 | 897.2 | 14.5 | 30 | |
| Pyrene | 1401 | 13 | 1306 | 0 | 107 | 45-125 | 1398 | 0.214 | 30 | |
| Surr: 2-Fluorobiphenyl | 2589 | 0 | 3264 | 0 | 79.3 | 12-100 | 2246 | 14.2 | 40 | |
| Surr: 4-Terphenyl-d14 | 3372 | 0 | 3264 | 0 | 103 | 25-137 | 3342 | 0.897 | 40 | |
| Surr: Nitrobenzene-d5 | 2903 | 0 | 3264 | 0 | 88.9 | 37-107 | 2527 | 13.8 | 40 | |

The following samples were analyzed in this batch:

15031244-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031244
Project: GM 21-2 Batch 3

QC BATCH REPORT

Batch ID: **69049** Instrument ID **VMS5** Method: **SW8260B**

| MBLK | | Sample ID: MBLK-69049-69049 | | | | Units: µg/Kg | | Analysis Date: 3/25/2015 02:26 PM | | |
|-----------------------------|--------|------------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: VMS5_150325A | | | | SeqNo: 3195820 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | ND | 30 | | | | | | | | |
| Ethylbenzene | ND | 30 | | | | | | | | |
| m,p-Xylene | ND | 60 | | | | | | | | |
| o-Xylene | ND | 30 | | | | | | | | |
| Toluene | ND | 30 | | | | | | | | |
| Xylenes, Total | ND | 90 | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 996.5 | 0 | 1000 | 0 | 99.6 | 70-130 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 964.5 | 0 | 1000 | 0 | 96.4 | 70-130 | 0 | | | |
| Surr: Dibromofluoromethane | 1001 | 0 | 1000 | 0 | 100 | 70-130 | 0 | | | |
| Surr: Toluene-d8 | 996.5 | 0 | 1000 | 0 | 99.6 | 70-130 | 0 | | | |

| LCS | | Sample ID: LCS-69049-69049 | | | | Units: µg/Kg | | Analysis Date: 3/25/2015 01:10 PM | | |
|-----------------------------|--------|-----------------------------------|---------|---------------|------|-----------------------|---------------|--|-----------|--------------|
| Client ID: | | Run ID: VMS5_150325A | | | | SeqNo: 3195808 | | Prep Date: 3/25/2015 | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 952.5 | 30 | 1000 | 0 | 95.2 | 75-125 | 0 | | | |
| Ethylbenzene | 948.5 | 30 | 1000 | 0 | 94.8 | 75-125 | 0 | | | |
| m,p-Xylene | 1885 | 60 | 2000 | 0 | 94.2 | 80-125 | 0 | | | |
| o-Xylene | 927 | 30 | 1000 | 0 | 92.7 | 75-125 | 0 | | | |
| Toluene | 958 | 30 | 1000 | 0 | 95.8 | 70-125 | 0 | | | |
| Xylenes, Total | 2812 | 90 | 3000 | 0 | 93.7 | 75-125 | 0 | | | |
| Surr: 1,2-Dichloroethane-d4 | 996.5 | 0 | 1000 | 0 | 99.6 | 70-130 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 1002 | 0 | 1000 | 0 | 100 | 70-130 | 0 | | | |
| Surr: Dibromofluoromethane | 991 | 0 | 1000 | 0 | 99.1 | 70-130 | 0 | | | |
| Surr: Toluene-d8 | 973 | 0 | 1000 | 0 | 97.3 | 70-130 | 0 | | | |

The following samples were analyzed in this batch:

15031244-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031244
Project: GM 21-2 Batch 3

QC BATCH REPORT

Batch ID: **R159928** Instrument ID **MOIST** Method: **E160.3M**

| | | | | | | | | | | |
|------------|--------|--------------------------|---------|---------------|------|--------------------|---------------|-----------------------------------|-----------|-------|
| MBLK | | Sample ID: WBLKS-R159928 | | | | Units: % of sample | | Analysis Date: 3/25/2015 03:35 PM | | |
| Client ID: | | Run ID: MOIST_150325D | | | | SeqNo: 3196158 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Moisture | 0.03 | 0.050 | | | | | | | | J |

| | | | | | | | | | | |
|------------|--------|------------------------|---------|---------------|------|--------------------|---------------|-----------------------------------|-----------|-------|
| LCS | | Sample ID: LCS-R159928 | | | | Units: % of sample | | Analysis Date: 3/25/2015 03:35 PM | | |
| Client ID: | | Run ID: MOIST_150325D | | | | SeqNo: 3196157 | | Prep Date: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Moisture | 100 | 0.050 | 100 | 0 | 100 | 99.5-100.5 | 0 | | | |

| | | | | | | | | | | | | | | |
|------------|--|--------|-------|-----------------------------|---------------|------|---------------|--------------------|------|-----------|-----------------------------------|--|-------|--|
| DUP | | | | Sample ID: 15031228-11A DUP | | | | Units: % of sample | | | Analysis Date: 3/25/2015 03:35 PM | | | |
| Client ID: | | | | Run ID: MOIST_150325D | | | | SeqNo: 3196136 | | | Prep Date: | | DF: 1 | |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | | | |
| Moisture | | 13.39 | 0.050 | 0 | 0 | 0 | | 14.34 | 6.85 | 20 | | | | |

| | | | | | | | | | | | | | | |
|------------|--|--------|-------|-----------------------------|---------------|------|---------------|--------------------|------|-----------|-----------------------------------|--|-------|--|
| DUP | | | | Sample ID: 15031250-04A DUP | | | | Units: % of sample | | | Analysis Date: 3/25/2015 03:35 PM | | | |
| Client ID: | | | | Run ID: MOIST_150325D | | | | SeqNo: 3196148 | | | Prep Date: | | DF: 1 | |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | | | |
| Moisture | | 31.7 | 0.050 | 0 | 0 | 0 | | 28.42 | 10.9 | 20 | | | | |

The following samples were analyzed in this batch:

15031244-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

WORKORDER

15031244

PAGE

1 of 1

By Lab or Return to Client

[illegible]

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

| | | |
|---|---------------------------------------|--------------------------------------|
| Comments: <div style="text-align: center; font-size: 2em;">40C</div> | QC PACKAGE (check below) | |
| | <input checked="" type="checkbox"/> X | LEVEL II (Standard QC) |
| | <input type="checkbox"/> | LEVEL III (Std QC + forms) |
| | <input type="checkbox"/> | LEVEL IV (Std QC + forms + raw data) |
| | <input type="checkbox"/> | |
| Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-NaHSO ₄ 7-Other 8-4 degrees C 9-5035 | | |

| | SIGNATURE | PRINTED NAME | DATE | TIME |
|-----------------|------------------------|-----------------|-----------|-------|
| RELINQUISHED BY | <i>Karolina Blaney</i> | Karolina Blaney | 3/19/2015 | 11:30 |
| RECEIVED BY | <i>W/M</i> | <i>W/M</i> | 3-19-15 | 1200 |
| RELINQUISHED BY | <i>W/M</i> | <i>W/M</i> | 3-19-15 | 1230 |
| RECEIVED BY | <i>D. F. Shan</i> | Diane F. Shan | 3/21/15 | 1000 |
| RELINQUISHED BY | | | | |
| RECEIVED BY | | | | |

From: (616) 298-1033
 Nick Martinez
 ALS Environmental
 127 E. 1st Street

Origin ID: RILA



J151215022303uv

PARACHUTE, CO 81635

Ship Date: 19MAR15
 ActWgt: 66.0 LB
 CAD: 2264840/NET3610

Dims: 14 X 26 X 15 IN

SHIP TO: (616) 399-5870
 sample receiving
 ALS Laboratory Group
 3352 128TH AVE

BILL SENDER

HOLLAND, MI 49424

Delivery Address Bar Code



Ref # 031915-1
 Invoice #
 PO # Parachute
 Dept #

1 of 2

FRI - 20 MAR 10:30A
 PRIORITY OVERNIGHT

TRK# 7731 7211 1603

0281

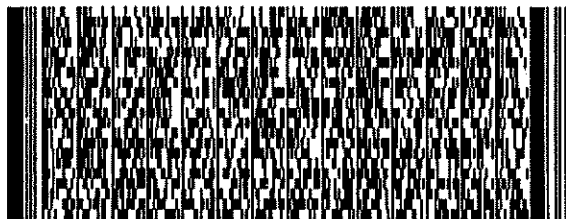
MASTER

XX HLMA

49424

MR-US

GRR



537J1187BAEE4B

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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 Time 1700 Date 3-19
 Name [Signature]

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Sample Receipt Checklist

Client Name: **WPX**

Date/Time Received: **21-Mar-15 10:00**

Work Order: **15031244**

Received by: **DS**

Checklist completed by Diane Shaw 23-Mar-15
eSignature Date

Reviewed by: Chad Whelton 23-Mar-15
eSignature Date

Matrices: **Soil**

Carrier name: **FedEx**

| | | | |
|---|---|-----------------------------|--|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample(s) received on ice? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Temperature(s)/Thermometer(s): | <u>4.0 c</u> <u>SR2</u> | | |
| Cooler(s)/Kit(s): | <u></u> | | |
| Date/Time sample(s) sent to storage: | <u>3/23/2015 8:25:32 AM</u> | | |
| Water - VOA vials have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| pH adjusted? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| pH adjusted by: | <u>-</u> | | |

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

Report Summary

Thursday April 23, 2015

Report Number: L759681

Samples Received: 04/16/15

Client Project: GM 21-2 LANDFARM BAT

Description: GM 21-2 LANDFARM BATCH 4

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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12065 Lebanon Rd.
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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

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REPORT OF ANALYSIS

Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

April 23, 2015

Date Received : April 16, 2015
Description : GM 21-2 LANDFARM BATCH 4
Sample ID : GM 21-2 LANDFARM BATCH 4
Collected By :
Collection Date : 04/15/15 12:30

ESC Sample # : L759681-01

Site ID : GM 21-2 LANDFARM BAT

Project # : GM 21-2 LANDFARM BAT

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|-----------------------------------|--------|------------|--------|-----------|----------|------|
| Benzene | BDL | 0.0025 | mg/kg | 8021 | 04/22/15 | 5 |
| Toluene | BDL | 0.025 | mg/kg | 8021 | 04/22/15 | 5 |
| Ethylbenzene | BDL | 0.0025 | mg/kg | 8021 | 04/22/15 | 5 |
| Total Xylene | BDL | 0.0075 | mg/kg | 8021 | 04/22/15 | 5 |
| TPH (GC/FID) Low Fraction | BDL | 0.50 | mg/kg | 8015 | 04/22/15 | 5 |
| Surrogate Recovery-% | | | | | | |
| a,a,a-Trifluorotoluene(FID) | 100. | | % Rec. | 8015 | 04/22/15 | 1 |
| a,a,a-Trifluorotoluene(PID) | 101. | | % Rec. | 8021 | 04/22/15 | 1 |
| TPH (GC/FID) High Fraction | 140 | 4.0 | mg/kg | 3546/DRO | 04/17/15 | 1 |
| Surrogate recovery(%) | | | | | | |
| o-Terphenyl | 64.7 | | % Rec. | 3546/DRO | 04/17/15 | 1 |
| Polynuclear Aromatic Hydrocarbons | | | | | | |
| Anthracene | BDL | 0.060 | mg/kg | 8270C-SIM | 04/21/15 | 10 |
| Acenaphthene | BDL | 0.060 | mg/kg | 8270C-SIM | 04/21/15 | 10 |
| Benzo(a)anthracene | BDL | 0.060 | mg/kg | 8270C-SIM | 04/21/15 | 10 |
| Benzo(a)pyrene | BDL | 0.0060 | mg/kg | 8270C-SIM | 04/20/15 | 1 |
| Benzo(b)fluoranthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 04/20/15 | 1 |
| Benzo(k)fluoranthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 04/20/15 | 1 |
| Chrysene | BDL | 0.060 | mg/kg | 8270C-SIM | 04/21/15 | 10 |
| Dibenz(a,h)anthracene | BDL | 0.0060 | mg/kg | 8270C-SIM | 04/20/15 | 1 |
| Fluoranthene | BDL | 0.060 | mg/kg | 8270C-SIM | 04/21/15 | 10 |
| Fluorene | BDL | 0.060 | mg/kg | 8270C-SIM | 04/21/15 | 10 |
| Indeno(1,2,3-cd)pyrene | BDL | 0.0060 | mg/kg | 8270C-SIM | 04/20/15 | 1 |
| Naphthalene | 0.056 | 0.020 | mg/kg | 8270C-SIM | 04/20/15 | 1 |
| Pyrene | BDL | 0.060 | mg/kg | 8270C-SIM | 04/21/15 | 10 |
| Surrogate Recovery | | | | | | |
| Nitrobenzene-d5 | 86.9 | | % Rec. | 8270C-SIM | 04/20/15 | 1 |
| 2-Fluorobiphenyl | 57.6 | | % Rec. | 8270C-SIM | 04/21/15 | 10 |
| p-Terphenyl-d14 | 45.8 | | % Rec. | 8270C-SIM | 04/21/15 | 10 |

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 04/22/15 17:01 Revised: 04/23/15 15:53



YOUR LAB OF CHOICE

WPX Energy
Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L759681

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

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Est. 1970

April 23, 2015

| Analyte | Result | Laboratory Blank | | Limit | Batch | Date Analyzed |
|-----------------------------|---------|------------------|-------|----------|----------|----------------|
| | | Units | % Rec | | | |
| TPH (GC/FID) High Fraction | < 4 | mg/kg | | | WG782632 | 04/17/15 01:46 |
| o-Terphenyl | | % Rec. | 86.50 | 50-150 | WG782632 | 04/17/15 01:46 |
| Acenaphthene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Anthracene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Benzo(a)anthracene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Benzo(a)pyrene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Benzo(b)fluoranthene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Benzo(k)fluoranthene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Chrysene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Dibenz(a,h)anthracene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Fluoranthene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Fluorene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Indeno(1,2,3-cd)pyrene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Naphthalene | < .02 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| Pyrene | < .006 | mg/kg | | | WG782913 | 04/20/15 15:47 |
| 2-Fluorobiphenyl | | % Rec. | 77.70 | 40.6-122 | WG782913 | 04/20/15 15:47 |
| Nitrobenzene-d5 | | % Rec. | 75.50 | 22.1-146 | WG782913 | 04/20/15 15:47 |
| p-Terphenyl-d14 | | % Rec. | 89.90 | 32.2-131 | WG782913 | 04/20/15 15:47 |
| Benzene | < .0005 | mg/kg | | | WG782834 | 04/22/15 03:42 |
| Ethylbenzene | < .0005 | mg/kg | | | WG782834 | 04/22/15 03:42 |
| Toluene | < .005 | mg/kg | | | WG782834 | 04/22/15 03:42 |
| TPH (GC/FID) Low Fraction | < .1 | mg/kg | | | WG782834 | 04/22/15 03:42 |
| Total Xylene | < .0015 | mg/kg | | | WG782834 | 04/22/15 03:42 |
| a,a,a-Trifluorotoluene(FID) | | % Rec. | 102.0 | 59-128 | WG782834 | 04/22/15 03:42 |
| a,a,a-Trifluorotoluene(PID) | | % Rec. | 102.0 | 54-144 | WG782834 | 04/22/15 03:42 |

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|----------------------------|-------|---------------------------|--------|-------|----------|----------|
| | | Known Val | Result | | | |
| TPH (GC/FID) High Fraction | mg/kg | 60 | 51.9 | 86.5 | 50-150 | WG782632 |
| o-Terphenyl | | | | 77.60 | 50-150 | WG782632 |
| Acenaphthene | mg/kg | .08 | 0.0625 | 78.2 | 52.4-120 | WG782913 |
| Anthracene | mg/kg | .08 | 0.0672 | 84.0 | 50.3-130 | WG782913 |
| Benzo(a)anthracene | mg/kg | .08 | 0.0661 | 82.6 | 46.7-125 | WG782913 |
| Benzo(a)pyrene | mg/kg | .08 | 0.0586 | 73.3 | 42.3-119 | WG782913 |
| Benzo(b)fluoranthene | mg/kg | .08 | 0.0683 | 85.3 | 43.6-124 | WG782913 |
| Benzo(k)fluoranthene | mg/kg | .08 | 0.0718 | 89.8 | 46.1-131 | WG782913 |
| Chrysene | mg/kg | .08 | 0.0698 | 87.2 | 49.5-131 | WG782913 |
| Dibenz(a,h)anthracene | mg/kg | .08 | 0.0697 | 87.2 | 44.8-133 | WG782913 |
| Fluoranthene | mg/kg | .08 | 0.0634 | 79.3 | 49.3-128 | WG782913 |
| Fluorene | mg/kg | .08 | 0.0628 | 78.5 | 50.6-121 | WG782913 |
| Indeno(1,2,3-cd)pyrene | mg/kg | .08 | 0.0701 | 87.7 | 46.1-135 | WG782913 |
| Naphthalene | mg/kg | .08 | 0.0624 | 78.0 | 49.6-115 | WG782913 |
| Pyrene | mg/kg | .08 | 0.0752 | 94.0 | 44.7-130 | WG782913 |
| 2-Fluorobiphenyl | | | | 74.90 | 40.6-122 | WG782913 |
| Nitrobenzene-d5 | | | | 74.00 | 22.1-146 | WG782913 |
| p-Terphenyl-d14 | | | | 84.00 | 32.2-131 | WG782913 |
| Benzene | mg/kg | .05 | 0.0492 | 98.3 | 70-130 | WG782834 |
| Ethylbenzene | mg/kg | .05 | 0.0528 | 106. | 70-130 | WG782834 |
| Toluene | mg/kg | .05 | 0.0530 | 106. | 70-130 | WG782834 |
| Total Xylene | mg/kg | .15 | 0.162 | 108. | 70-130 | WG782834 |

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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WPX Energy
Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L759681

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
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Est. 1970

April 23, 2015

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|-----------------------------|-------|---------------------------|--------|-------|----------|----------|
| | | Known Val | Result | | | |
| a,a,a-Trifluorotoluene(PID) | | | | 102.0 | 54-144 | |
| TPH (GC/FID) Low Fraction | mg/kg | 5.5 | 5.55 | 101. | 63.5-137 | WG782834 |
| a,a,a-Trifluorotoluene(FID) | | | | 97.70 | 59-128 | WG782834 |

| Analyte | Units | Laboratory Control Sample Duplicate | | | Limit | RPD | Limit | Batch |
|-----------------------------|-------|-------------------------------------|--------|-------|----------|------|-------|----------|
| | | Result | Ref | %Rec | | | | |
| TPH (GC/FID) High Fraction | mg/kg | 49.4 | 51.9 | 82.0 | 50-150 | 4.87 | 20 | WG782632 |
| o-Terphenyl | | | | 75.30 | 50-150 | | | WG782632 |
| Acenaphthene | mg/kg | 0.0670 | 0.0625 | 84.0 | 52.4-120 | 6.90 | 20 | WG782913 |
| Anthracene | mg/kg | 0.0700 | 0.0672 | 88.0 | 50.3-130 | 4.10 | 20 | WG782913 |
| Benzo(a)anthracene | mg/kg | 0.0722 | 0.0661 | 90.0 | 46.7-125 | 8.95 | 20 | WG782913 |
| Benzo(a)pyrene | mg/kg | 0.0650 | 0.0586 | 81.0 | 42.3-119 | 10.3 | 20 | WG782913 |
| Benzo(b)fluoranthene | mg/kg | 0.0747 | 0.0683 | 93.0 | 43.6-124 | 9.06 | 20 | WG782913 |
| Benzo(k)fluoranthene | mg/kg | 0.0776 | 0.0718 | 97.0 | 46.1-131 | 7.75 | 20 | WG782913 |
| Chrysene | mg/kg | 0.0758 | 0.0698 | 95.0 | 49.5-131 | 8.33 | 20 | WG782913 |
| Dibenz(a,h)anthracene | mg/kg | 0.0758 | 0.0697 | 95.0 | 44.8-133 | 8.36 | 20 | WG782913 |
| Fluoranthene | mg/kg | 0.0678 | 0.0634 | 85.0 | 49.3-128 | 6.62 | 20 | WG782913 |
| Fluorene | mg/kg | 0.0679 | 0.0628 | 85.0 | 50.6-121 | 7.86 | 20 | WG782913 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.0755 | 0.0701 | 94.0 | 46.1-135 | 7.36 | 20 | WG782913 |
| Naphthalene | mg/kg | 0.0678 | 0.0624 | 85.0 | 49.6-115 | 8.30 | 20 | WG782913 |
| Pyrene | mg/kg | 0.0815 | 0.0752 | 102. | 44.7-130 | 8.08 | 20 | WG782913 |
| 2-Fluorobiphenyl | | | | 79.80 | 40.6-122 | | | WG782913 |
| Nitrobenzene-d5 | | | | 78.40 | 22.1-146 | | | WG782913 |
| p-Terphenyl-d14 | | | | 90.50 | 32.2-131 | | | WG782913 |
| Benzene | mg/kg | 0.0476 | 0.0492 | 95.0 | 70-130 | 3.15 | 20 | WG782834 |
| Ethylbenzene | mg/kg | 0.0511 | 0.0528 | 102. | 70-130 | 3.14 | 20 | WG782834 |
| Toluene | mg/kg | 0.0513 | 0.0530 | 102. | 70-130 | 3.31 | 20 | WG782834 |
| Total Xylene | mg/kg | 0.157 | 0.162 | 105. | 70-130 | 3.06 | 20 | WG782834 |
| a,a,a-Trifluorotoluene(PID) | | | | 102.0 | 54-144 | | | WG782834 |
| TPH (GC/FID) Low Fraction | mg/kg | 5.63 | 5.55 | 102. | 63.5-137 | 1.38 | 20 | WG782834 |
| a,a,a-Trifluorotoluene(FID) | | | | 98.00 | 59-128 | | | WG782834 |

| Analyte | Units | Matrix Spike | | | % Rec | Limit | Ref Samp | Batch |
|----------------------------|-------|--------------|----------|-----|-------|----------|------------|----------|
| | | MS Res | Ref Res | TV | | | | |
| TPH (GC/FID) High Fraction | mg/kg | 49.9 | 0.915 | 60 | 82.0 | 50-150 | L759692-01 | WG782632 |
| o-Terphenyl | | | | | 74.20 | 50-150 | | WG782632 |
| Acenaphthene | mg/kg | 0.0598 | 0.0 | .08 | 75.0 | 31.9-130 | L759895-06 | WG782913 |
| Anthracene | mg/kg | 0.0546 | 0.0 | .08 | 68.0 | 26.5-141 | L759895-06 | WG782913 |
| Benzo(a)anthracene | mg/kg | 0.0490 | 0.000792 | .08 | 60.0 | 18.3-136 | L759895-06 | WG782913 |
| Benzo(a)pyrene | mg/kg | 0.0466 | 0.000814 | .08 | 57.0 | 16.9-135 | L759895-06 | WG782913 |
| Benzo(b)fluoranthene | mg/kg | 0.0426 | 0.00178 | .08 | 51.0 | 10-134 | L759895-06 | WG782913 |
| Benzo(k)fluoranthene | mg/kg | 0.0500 | 0.0 | .08 | 62.0 | 18.2-138 | L759895-06 | WG782913 |
| Chrysene | mg/kg | 0.0561 | 0.00166 | .08 | 68.0 | 17.1-145 | L759895-06 | WG782913 |
| Dibenz(a,h)anthracene | mg/kg | 0.0494 | 0.0 | .08 | 62.0 | 18.5-138 | L759895-06 | WG782913 |
| Fluoranthene | mg/kg | 0.0479 | 0.00219 | .08 | 57.0 | 15.4-144 | L759895-06 | WG782913 |
| Fluorene | mg/kg | 0.0565 | 0.0 | .08 | 71.0 | 23.5-136 | L759895-06 | WG782913 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.0442 | 0.000605 | .08 | 54.0 | 14.5-142 | L759895-06 | WG782913 |
| Naphthalene | mg/kg | 0.0704 | 0.00147 | .08 | 86.0 | 29.2-128 | L759895-06 | WG782913 |
| Pyrene | mg/kg | 0.0565 | 0.00206 | .08 | 68.0 | 11-148 | L759895-06 | WG782913 |
| 2-Fluorobiphenyl | | | | | 70.10 | 40.6-122 | | WG782913 |
| Nitrobenzene-d5 | | | | | 74.00 | 22.1-146 | | WG782913 |

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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WPX Energy
Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L759681

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

April 23, 2015

| Analyte | Units | MS Res | Matrix Spike | | % Rec | Limit | Ref Samp | Batch |
|-----------------------------|-------|--------|--------------|-----|-------|----------|------------|----------|
| | | | Ref Res | TV | | | | |
| p-Terphenyl-d14 | | | | | 76.50 | 32.2-131 | | |
| Benzene | mg/kg | 0.193 | 0.000615 | .05 | 77.0 | 49.7-127 | L759437-01 | WG782834 |
| Ethylbenzene | mg/kg | 0.190 | 0.000348 | .05 | 76.0 | 40.8-141 | L759437-01 | WG782834 |
| Toluene | mg/kg | 0.200 | 0.000727 | .05 | 80.0 | 49.8-132 | L759437-01 | WG782834 |
| Total Xylene | mg/kg | 0.583 | 0.00149 | .15 | 78.0 | 41.2-140 | L759437-01 | WG782834 |
| a,a,a-Trifluorotoluene(PID) | | | | | 101.0 | 54-144 | | WG782834 |
| TPH (GC/FID) Low Fraction | mg/kg | 19.3 | 0.0 | 5.5 | 70.0 | 28.5-138 | L759437-01 | WG782834 |
| a,a,a-Trifluorotoluene(FID) | | | | | 96.20 | 59-128 | | WG782834 |

| Analyte | Units | MSD | Matrix Spike Duplicate | | Limit | RPD | Limit | Ref Samp | Batch |
|-----------------------------|-------|--------|------------------------|-------|----------|-------|-------|------------|----------|
| | | | Ref | %Rec | | | | | |
| TPH (GC/FID) High Fraction | mg/kg | 46.4 | 49.9 | 75.7 | 50-150 | 7.32 | 20 | L759692-01 | WG782632 |
| o-Terphenyl | | | | 69.80 | 50-150 | | | | WG782632 |
| Acenaphthene | mg/kg | 0.0595 | 0.0598 | 74.3 | 31.9-130 | 0.520 | 20 | L759895-06 | WG782913 |
| Anthracene | mg/kg | 0.0591 | 0.0546 | 73.8 | 26.5-141 | 7.86 | 21.2 | L759895-06 | WG782913 |
| Benzo(a)anthracene | mg/kg | 0.0545 | 0.0490 | 67.2 | 18.3-136 | 10.6 | 24.6 | L759895-06 | WG782913 |
| Benzo(a)pyrene | mg/kg | 0.0519 | 0.0466 | 63.9 | 16.9-135 | 10.8 | 25.2 | L759895-06 | WG782913 |
| Benzo(b)fluoranthene | mg/kg | 0.0515 | 0.0426 | 62.1 | 10-134 | 18.7 | 30.9 | L759895-06 | WG782913 |
| Benzo(k)fluoranthene | mg/kg | 0.0543 | 0.0500 | 67.8 | 18.2-138 | 8.22 | 25.6 | L759895-06 | WG782913 |
| Chrysene | mg/kg | 0.0598 | 0.0561 | 72.7 | 17.1-145 | 6.35 | 24.2 | L759895-06 | WG782913 |
| Dibenz(a,h)anthracene | mg/kg | 0.0546 | 0.0494 | 68.3 | 18.5-138 | 10.1 | 24.3 | L759895-06 | WG782913 |
| Fluoranthene | mg/kg | 0.0556 | 0.0479 | 66.8 | 15.4-144 | 15.0 | 27.1 | L759895-06 | WG782913 |
| Fluorene | mg/kg | 0.0583 | 0.0565 | 72.9 | 23.5-136 | 3.16 | 20 | L759895-06 | WG782913 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.0502 | 0.0442 | 62.0 | 14.5-142 | 12.7 | 25.8 | L759895-06 | WG782913 |
| Naphthalene | mg/kg | 0.0650 | 0.0704 | 79.4 | 29.2-128 | 7.99 | 20 | L759895-06 | WG782913 |
| Pyrene | mg/kg | 0.0654 | 0.0565 | 79.2 | 11-148 | 14.6 | 26.1 | L759895-06 | WG782913 |
| 2-Fluorobiphenyl | | | | 71.50 | 40.6-122 | | | | WG782913 |
| Nitrobenzene-d5 | | | | 72.50 | 22.1-146 | | | | WG782913 |
| p-Terphenyl-d14 | | | | 74.20 | 32.2-131 | | | | WG782913 |
| Benzene | mg/kg | 0.209 | 0.193 | 83.2 | 49.7-127 | 7.91 | 23.5 | L759437-01 | WG782834 |
| Ethylbenzene | mg/kg | 0.209 | 0.190 | 83.4 | 40.8-141 | 9.54 | 23.8 | L759437-01 | WG782834 |
| Toluene | mg/kg | 0.218 | 0.200 | 86.9 | 49.8-132 | 8.63 | 23.5 | L759437-01 | WG782834 |
| Total Xylene | mg/kg | 0.634 | 0.583 | 84.4 | 41.2-140 | 8.47 | 23.7 | L759437-01 | WG782834 |
| a,a,a-Trifluorotoluene(PID) | | | | 101.0 | 54-144 | | | | WG782834 |
| TPH (GC/FID) Low Fraction | mg/kg | 20.6 | 19.3 | 74.9 | 28.5-138 | 6.68 | 23.6 | L759437-01 | WG782834 |
| a,a,a-Trifluorotoluene(FID) | | | | 96.20 | 59-128 | | | | WG782834 |

Batch number / Run number / Sample number cross reference

WG782632: R3031348: L759681-01
WG782913: R3031917 R3031956: L759681-01
WG782834: R3032352: L759681-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
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The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.



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Fax (615) 758-5859

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Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

Report Summary

Tuesday May 26, 2015

Report Number: L765417

Samples Received: 05/15/15

Client Project: GM 21-2 BATCH 5

Description: GM 21-2 BATCH 5

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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12065 Lebanon Rd.
Mt. Juliet, TN 37122
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Fax (615) 758-5859

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Est. 1970

REPORT OF ANALYSIS

Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

May 26, 2015

Date Received : May 15, 2015
Description : GM 21-2 BATCH 5

Sample ID : GM 21-2 BATCH 5

Collected By :
Collection Date : 05/14/15 14:30

ESC Sample # : L765417-01

Site ID :

Project # : GM 21-2 BATCH 5

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|-----------------------------------|--------|------------|--------|-----------|----------|------|
| Benzene | BDL | 0.0025 | mg/kg | 8021 | 05/22/15 | 5 |
| Toluene | BDL | 0.025 | mg/kg | 8021 | 05/22/15 | 5 |
| Ethylbenzene | BDL | 0.0025 | mg/kg | 8021 | 05/22/15 | 5 |
| Total Xylene | BDL | 0.0075 | mg/kg | 8021 | 05/22/15 | 5 |
| TPH (GC/FID) Low Fraction | BDL | 0.50 | mg/kg | 8015 | 05/22/15 | 5 |
| Surrogate Recovery-% | | | | | | |
| a,a,a-Trifluorotoluene(FID) | 90.4 | | % Rec. | 8015 | 05/22/15 | 1 |
| a,a,a-Trifluorotoluene(PID) | 97.0 | | % Rec. | 8021 | 05/22/15 | 1 |
| TPH (GC/FID) High Fraction | 15. | 4.0 | mg/kg | 3546/DRO | 05/17/15 | 1 |
| Surrogate recovery(%) | | | | | | |
| o-Terphenyl | 85.0 | | % Rec. | 3546/DRO | 05/17/15 | 1 |
| Polynuclear Aromatic Hydrocarbons | | | | | | |
| Anthracene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Acenaphthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Acenaphthylene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Benzo(a)anthracene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Benzo(a)pyrene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Benzo(b)fluoranthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Benzo(g,h,i)perylene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Benzo(k)fluoranthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Chrysene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Dibenz(a,h)anthracene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Fluoranthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Fluorene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Indeno(1,2,3-cd)pyrene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Naphthalene | BDL | 0.020 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Phenanthrene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Pyrene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| 1-Methylnaphthalene | BDL | 0.020 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| 2-Methylnaphthalene | BDL | 0.020 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| 2-Chloronaphthalene | BDL | 0.020 | mg/kg | 8270C-SIM | 05/18/15 | 1 |
| Surrogate Recovery | | | | | | |
| p-Terphenyl-d14 | 55.7 | | % Rec. | 8270C-SIM | 05/18/15 | 1 |
| Nitrobenzene-d5 | 74.7 | | % Rec. | 8270C-SIM | 05/18/15 | 1 |
| 2-Fluorobiphenyl | 67.1 | | % Rec. | 8270C-SIM | 05/18/15 | 1 |

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/26/15 13:28 Printed: 05/26/15 13:28



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WPX Energy
Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L765417

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Est. 1970

May 26, 2015

| Analyte | Result | Laboratory Blank | | Limit | Batch | Date Analyzed |
|-----------------------------|---------|------------------|-------|----------|----------|----------------|
| | | Units | % Rec | | | |
| TPH (GC/FID) High Fraction | < 4 | mg/kg | | | WG789376 | 05/17/15 08:05 |
| o-Terphenyl | | % Rec. | 71.10 | 50-150 | WG789376 | 05/17/15 08:05 |
| 1-Methylnaphthalene | < .02 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| 2-Chloronaphthalene | < .02 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| 2-Methylnaphthalene | < .02 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Acenaphthene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Acenaphthylene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Anthracene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Benzo(a)anthracene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Benzo(a)pyrene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Benzo(b)fluoranthene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Benzo(g,h,i)perylene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Benzo(k)fluoranthene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Chrysene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Dibenz(a,h)anthracene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Fluoranthene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Fluorene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Indeno(1,2,3-cd)pyrene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Naphthalene | < .02 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Phenanthrene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| Pyrene | < .006 | mg/kg | | | WG789424 | 05/18/15 03:01 |
| 2-Fluorobiphenyl | | % Rec. | 73.00 | 40.6-122 | WG789424 | 05/18/15 03:01 |
| Nitrobenzene-d5 | | % Rec. | 69.40 | 22.1-146 | WG789424 | 05/18/15 03:01 |
| p-Terphenyl-d14 | | % Rec. | 62.80 | 32.2-131 | WG789424 | 05/18/15 03:01 |
| Benzene | < .0005 | mg/kg | | | WG789536 | 05/22/15 12:32 |
| Ethylbenzene | < .0005 | mg/kg | | | WG789536 | 05/22/15 12:32 |
| Toluene | < .005 | mg/kg | | | WG789536 | 05/22/15 12:32 |
| TPH (GC/FID) Low Fraction | < .1 | mg/kg | | | WG789536 | 05/22/15 12:32 |
| Total Xylene | < .0015 | mg/kg | | | WG789536 | 05/22/15 12:32 |
| a,a,a-Trifluorotoluene(FID) | | % Rec. | 90.80 | 59-128 | WG789536 | 05/22/15 12:32 |
| a,a,a-Trifluorotoluene(PID) | | % Rec. | 97.70 | 54-144 | WG789536 | 05/22/15 12:32 |

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|----------------------------|-------|---------------------------|--------|-------|----------|----------|
| | | Known Val | Result | | | |
| TPH (GC/FID) High Fraction | mg/kg | 60 | 35.1 | 58.5 | 50-150 | WG789376 |
| o-Terphenyl | | | | 58.90 | 50-150 | WG789376 |
| 1-Methylnaphthalene | mg/kg | .08 | 0.0659 | 82.4 | 50.6-122 | WG789424 |
| 2-Chloronaphthalene | mg/kg | .08 | 0.0550 | 68.7 | 53.9-121 | WG789424 |
| 2-Methylnaphthalene | mg/kg | .08 | 0.0599 | 74.9 | 50.4-120 | WG789424 |
| Acenaphthene | mg/kg | .08 | 0.0581 | 72.6 | 52.4-120 | WG789424 |
| Acenaphthylene | mg/kg | .08 | 0.0558 | 69.8 | 49.6-120 | WG789424 |
| Anthracene | mg/kg | .08 | 0.0570 | 71.3 | 50.3-130 | WG789424 |
| Benzo(a)anthracene | mg/kg | .08 | 0.0530 | 66.2 | 46.7-125 | WG789424 |
| Benzo(a)pyrene | mg/kg | .08 | 0.0525 | 65.7 | 42.3-119 | WG789424 |
| Benzo(b)fluoranthene | mg/kg | .08 | 0.0542 | 67.7 | 43.6-124 | WG789424 |
| Benzo(g,h,i)perylene | mg/kg | .08 | 0.0570 | 71.2 | 45.1-132 | WG789424 |
| Benzo(k)fluoranthene | mg/kg | .08 | 0.0573 | 71.7 | 46.1-131 | WG789424 |
| Chrysene | mg/kg | .08 | 0.0576 | 72.0 | 49.5-131 | WG789424 |
| Dibenz(a,h)anthracene | mg/kg | .08 | 0.0611 | 76.4 | 44.8-133 | WG789424 |
| Fluoranthene | mg/kg | .08 | 0.0582 | 72.8 | 49.3-128 | WG789424 |
| Fluorene | mg/kg | .08 | 0.0561 | 70.1 | 50.6-121 | WG789424 |
| Indeno(1,2,3-cd)pyrene | mg/kg | .08 | 0.0606 | 75.7 | 46.1-135 | WG789424 |

* Performance of this Analyte is outside of established criteria.

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May 26, 2015

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|-----------------------------|-------|---------------------------|--------|-------|----------|----------|
| | | Known Val | Result | | | |
| Naphthalene | mg/kg | .08 | 0.0574 | 71.8 | 49.6-115 | WG789424 |
| Phenanthrene | mg/kg | .08 | 0.0520 | 64.9 | 48.8-121 | WG789424 |
| Pyrene | mg/kg | .08 | 0.0593 | 74.1 | 44.7-130 | WG789424 |
| 2-Fluorobiphenyl | | | | 66.80 | 40.6-122 | WG789424 |
| Nitrobenzene-d5 | | | | 69.80 | 22.1-146 | WG789424 |
| p-Terphenyl-d14 | | | | 60.00 | 32.2-131 | WG789424 |
| Benzene | mg/kg | .05 | 0.0477 | 95.5 | 70-130 | WG789536 |
| Ethylbenzene | mg/kg | .05 | 0.0493 | 98.6 | 70-130 | WG789536 |
| Toluene | mg/kg | .05 | 0.0485 | 97.0 | 70-130 | WG789536 |
| Total Xylene | mg/kg | .15 | 0.147 | 98.1 | 70-130 | WG789536 |
| a,a,a-Trifluorotoluene(FID) | | | | 90.40 | 59-128 | WG789536 |
| a,a,a-Trifluorotoluene(PID) | | | | 96.60 | 54-144 | WG789536 |
| TPH (GC/FID) Low Fraction | mg/kg | 5.5 | 4.63 | 84.2 | 63.5-137 | WG789536 |
| a,a,a-Trifluorotoluene(FID) | | | | 97.60 | 59-128 | WG789536 |
| a,a,a-Trifluorotoluene(PID) | | | | 107.0 | 54-144 | WG789536 |

| Analyte | Units | Laboratory Control Sample Duplicate | | | Limit | RPD | Limit | Batch |
|-----------------------------|-------|-------------------------------------|--------|-------|----------|-------|-------|----------|
| | | Result | Ref | %Rec | | | | |
| TPH (GC/FID) High Fraction | mg/kg | 33.3 | 35.1 | 55.0 | 50-150 | 5.42 | 20 | WG789376 |
| o-Terphenyl | | | | 61.40 | 50-150 | | | WG789376 |
| 1-Methylnaphthalene | mg/kg | 0.0597 | 0.0659 | 75.0 | 50.6-122 | 9.87 | 20 | WG789424 |
| 2-Chloronaphthalene | mg/kg | 0.0514 | 0.0550 | 64.0 | 53.9-121 | 6.84 | 20 | WG789424 |
| 2-Methylnaphthalene | mg/kg | 0.0619 | 0.0599 | 77.0 | 50.4-120 | 3.32 | 20 | WG789424 |
| Acenaphthene | mg/kg | 0.0609 | 0.0581 | 76.0 | 52.4-120 | 4.77 | 20 | WG789424 |
| Acenaphthylene | mg/kg | 0.0544 | 0.0558 | 68.0 | 49.6-120 | 2.49 | 20 | WG789424 |
| Anthracene | mg/kg | 0.0597 | 0.0570 | 75.0 | 50.3-130 | 4.61 | 20 | WG789424 |
| Benzo(a)anthracene | mg/kg | 0.0580 | 0.0530 | 72.0 | 46.7-125 | 9.15 | 20 | WG789424 |
| Benzo(a)pyrene | mg/kg | 0.0572 | 0.0525 | 72.0 | 42.3-119 | 8.53 | 20 | WG789424 |
| Benzo(b)fluoranthene | mg/kg | 0.0595 | 0.0542 | 74.0 | 43.6-124 | 9.38 | 20 | WG789424 |
| Benzo(g,h,i)perylene | mg/kg | 0.0604 | 0.0570 | 75.0 | 45.1-132 | 5.79 | 20 | WG789424 |
| Benzo(k)fluoranthene | mg/kg | 0.0582 | 0.0573 | 73.0 | 46.1-131 | 1.55 | 20 | WG789424 |
| Chrysene | mg/kg | 0.0599 | 0.0576 | 75.0 | 49.5-131 | 3.86 | 20 | WG789424 |
| Dibenz(a,h)anthracene | mg/kg | 0.0648 | 0.0611 | 81.0 | 44.8-133 | 5.86 | 20 | WG789424 |
| Fluoranthene | mg/kg | 0.0610 | 0.0582 | 76.0 | 49.3-128 | 4.70 | 20 | WG789424 |
| Fluorene | mg/kg | 0.0584 | 0.0561 | 73.0 | 50.6-121 | 3.99 | 20 | WG789424 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.0642 | 0.0606 | 80.0 | 46.1-135 | 5.82 | 20 | WG789424 |
| Naphthalene | mg/kg | 0.0604 | 0.0574 | 75.0 | 49.6-115 | 5.01 | 20 | WG789424 |
| Phenanthrene | mg/kg | 0.0553 | 0.0520 | 69.0 | 48.8-121 | 6.27 | 20 | WG789424 |
| Pyrene | mg/kg | 0.0622 | 0.0593 | 78.0 | 44.7-130 | 4.75 | 20 | WG789424 |
| 2-Fluorobiphenyl | | | | 63.30 | 40.6-122 | | | WG789424 |
| Nitrobenzene-d5 | | | | 59.20 | 22.1-146 | | | WG789424 |
| p-Terphenyl-d14 | | | | 64.40 | 32.2-131 | | | WG789424 |
| Benzene | mg/kg | 0.0478 | 0.0477 | 96.0 | 70-130 | 0.160 | 20 | WG789536 |
| Ethylbenzene | mg/kg | 0.0498 | 0.0493 | 100. | 70-130 | 1.00 | 20 | WG789536 |
| Toluene | mg/kg | 0.0483 | 0.0485 | 96.0 | 70-130 | 0.460 | 20 | WG789536 |
| Total Xylene | mg/kg | 0.149 | 0.147 | 99.0 | 70-130 | 1.35 | 20 | WG789536 |
| a,a,a-Trifluorotoluene(FID) | | | | 90.60 | 59-128 | | | WG789536 |
| a,a,a-Trifluorotoluene(PID) | | | | 97.30 | 54-144 | | | WG789536 |
| TPH (GC/FID) Low Fraction | mg/kg | 4.61 | 4.63 | 84.0 | 63.5-137 | 0.500 | 20 | WG789536 |
| a,a,a-Trifluorotoluene(FID) | | | | 97.00 | 59-128 | | | WG789536 |
| a,a,a-Trifluorotoluene(PID) | | | | 106.0 | 54-144 | | | WG789536 |

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

WPX Energy
Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Quality Assurance Report
Level II

L765417

May 26, 2015

| Analyte | Units | Matrix Spike | | | % Rec | Limit | Ref Samp | Batch |
|-----------------------------|-------|--------------|----------|-----|-------|----------|------------|----------|
| | | MS Res | Ref Res | TV | | | | |
| TPH (GC/FID) High Fraction | mg/kg | 44.9 | 2.94 | 60 | 70.0 | 50-150 | L765146-07 | WG789376 |
| o-Terphenyl | | | | | 71.80 | 50-150 | | WG789376 |
| 1-Methylnaphthalene | mg/kg | 0.0563 | 0.00684 | .08 | 62.0 | 28.4-137 | L765419-01 | WG789424 |
| 2-Chloronaphthalene | mg/kg | 0.0393 | 0.0 | .08 | 49.0 | 38.6-126 | L765419-01 | WG789424 |
| 2-Methylnaphthalene | mg/kg | 0.0527 | 0.0108 | .08 | 52.0 | 26.6-137 | L765419-01 | WG789424 |
| Acenaphthene | mg/kg | 0.0469 | 0.0 | .08 | 59.0 | 31.9-130 | L765419-01 | WG789424 |
| Acenaphthylene | mg/kg | 0.0498 | 0.0 | .08 | 62.0 | 33.7-129 | L765419-01 | WG789424 |
| Anthracene | mg/kg | 0.0489 | 0.0 | .08 | 61.0 | 26.5-141 | L765419-01 | WG789424 |
| Benzo(a)anthracene | mg/kg | 0.0467 | 0.0 | .08 | 58.0 | 18.3-136 | L765419-01 | WG789424 |
| Benzo(a)pyrene | mg/kg | 0.0457 | 0.0 | .08 | 57.0 | 16.9-135 | L765419-01 | WG789424 |
| Benzo(b)fluoranthene | mg/kg | 0.0374 | 0.0 | .08 | 47.0 | 10-134 | L765419-01 | WG789424 |
| Benzo(g,h,i)perylene | mg/kg | 0.0539 | 0.0 | .08 | 67.0 | 14.1-140 | L765419-01 | WG789424 |
| Benzo(k)fluoranthene | mg/kg | 0.0450 | 0.0 | .08 | 56.0 | 18.2-138 | L765419-01 | WG789424 |
| Chrysene | mg/kg | 0.0526 | 0.0 | .08 | 66.0 | 17.1-145 | L765419-01 | WG789424 |
| Dibenz(a,h)anthracene | mg/kg | 0.0626 | 0.0 | .08 | 78.0 | 18.5-138 | L765419-01 | WG789424 |
| Fluoranthene | mg/kg | 0.0495 | 0.0 | .08 | 62.0 | 15.4-144 | L765419-01 | WG789424 |
| Fluorene | mg/kg | 0.0458 | 0.0 | .08 | 57.0 | 23.5-136 | L765419-01 | WG789424 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.0580 | 0.0 | .08 | 72.0 | 14.5-142 | L765419-01 | WG789424 |
| Naphthalene | mg/kg | 0.0562 | 0.0 | .08 | 70.0 | 29.2-128 | L765419-01 | WG789424 |
| Phenanthrene | mg/kg | 0.0438 | 0.0 | .08 | 55.0 | 20.1-134 | L765419-01 | WG789424 |
| Pyrene | mg/kg | 0.0624 | 0.0 | .08 | 78.0 | 11-148 | L765419-01 | WG789424 |
| 2-Fluorobiphenyl | | | | | 63.10 | 40.6-122 | | WG789424 |
| Nitrobenzene-d5 | | | | | 84.00 | 22.1-146 | | WG789424 |
| p-Terphenyl-d14 | | | | | 84.20 | 32.2-131 | | WG789424 |
| Benzene | mg/kg | 0.211 | 0.000230 | .05 | 84.0 | 49.7-127 | L765212-01 | WG789536 |
| Ethylbenzene | mg/kg | 0.197 | 0.000352 | .05 | 78.0 | 40.8-141 | L765212-01 | WG789536 |
| Toluene | mg/kg | 0.203 | 0.00138 | .05 | 81.0 | 49.8-132 | L765212-01 | WG789536 |
| Total Xylene | mg/kg | 0.587 | 0.00207 | .15 | 78.0 | 41.2-140 | L765212-01 | WG789536 |
| a,a,a-Trifluorotoluene(FID) | | | | | 90.00 | 59-128 | | WG789536 |
| a,a,a-Trifluorotoluene(PID) | | | | | 96.40 | 54-144 | | WG789536 |
| TPH (GC/FID) Low Fraction | mg/kg | 15.9 | 0.0 | 5.5 | 58.0 | 28.5-138 | L765212-01 | WG789536 |
| a,a,a-Trifluorotoluene(FID) | | | | | 94.70 | 59-128 | | WG789536 |
| a,a,a-Trifluorotoluene(PID) | | | | | 103.0 | 54-144 | | WG789536 |

| Analyte | Units | MSD | Matrix Spike Duplicate | | Limit | RPD | Limit | Ref Samp | Batch |
|----------------------------|-------|--------|------------------------|-------|----------|-------|-------|------------|----------|
| | | | Ref | %Rec | | | | | |
| TPH (GC/FID) High Fraction | mg/kg | 45.0 | 44.9 | 70.1 | 50-150 | 0.260 | 20 | L765146-07 | WG789376 |
| o-Terphenyl | | | | 75.10 | 50-150 | | | | WG789376 |
| 1-Methylnaphthalene | mg/kg | 0.106 | 0.0563 | 124. | 28.4-137 | 61.6* | 20 | L765419-01 | WG789424 |
| 2-Chloronaphthalene | mg/kg | 0.0496 | 0.0393 | 62.0 | 38.6-126 | 23.0* | 20 | L765419-01 | WG789424 |
| 2-Methylnaphthalene | mg/kg | 0.125 | 0.0527 | 143.* | 26.6-137 | 81.3* | 20 | L765419-01 | WG789424 |
| Acenaphthene | mg/kg | 0.0506 | 0.0469 | 63.2 | 31.9-130 | 7.45 | 20 | L765419-01 | WG789424 |
| Acenaphthylene | mg/kg | 0.0509 | 0.0498 | 63.6 | 33.7-129 | 2.20 | 20 | L765419-01 | WG789424 |
| Anthracene | mg/kg | 0.0564 | 0.0489 | 70.5 | 26.5-141 | 14.2 | 21.2 | L765419-01 | WG789424 |
| Benzo(a)anthracene | mg/kg | 0.0504 | 0.0467 | 63.0 | 18.3-136 | 7.65 | 24.6 | L765419-01 | WG789424 |
| Benzo(a)pyrene | mg/kg | 0.0521 | 0.0457 | 65.2 | 16.9-135 | 13.2 | 25.2 | L765419-01 | WG789424 |
| Benzo(b)fluoranthene | mg/kg | 0.0453 | 0.0374 | 56.6 | 10-134 | 19.1 | 30.9 | L765419-01 | WG789424 |
| Benzo(g,h,i)perylene | mg/kg | 0.0499 | 0.0539 | 62.4 | 14.1-140 | 7.72 | 25.5 | L765419-01 | WG789424 |
| Benzo(k)fluoranthene | mg/kg | 0.0535 | 0.0450 | 66.8 | 18.2-138 | 17.1 | 25.6 | L765419-01 | WG789424 |
| Chrysene | mg/kg | 0.0536 | 0.0526 | 67.0 | 17.1-145 | 1.90 | 24.2 | L765419-01 | WG789424 |
| Dibenz(a,h)anthracene | mg/kg | 0.0570 | 0.0626 | 71.2 | 18.5-138 | 9.42 | 24.3 | L765419-01 | WG789424 |
| Fluoranthene | mg/kg | 0.0516 | 0.0495 | 64.5 | 15.4-144 | 4.30 | 27.1 | L765419-01 | WG789424 |
| Fluorene | mg/kg | 0.0542 | 0.0458 | 67.7 | 23.5-136 | 16.7 | 20 | L765419-01 | WG789424 |

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Ms. Karolina Blaney
1058 County Road 215

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Quality Assurance Report
Level II

L765417

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 26, 2015

| Analyte | Units | MSD | Matrix Spike Duplicate | | Limit | RPD | Limit | Ref | Samp | Batch |
|-----------------------------|-------|--------|------------------------|-------|----------|-------|-------|------------|------|----------|
| | | | Ref | %Rec | | | | | | |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.0544 | 0.0580 | 68.0 | 14.5-142 | 6.39 | 25.8 | L765419-01 | | WG789424 |
| Naphthalene | mg/kg | 0.0762 | 0.0562 | 95.2 | 29.2-128 | 30.2* | 20 | L765419-01 | | WG789424 |
| Phenanthrene | mg/kg | 0.0513 | 0.0438 | 64.1 | 20.1-134 | 15.6 | 23.6 | L765419-01 | | WG789424 |
| Pyrene | mg/kg | 0.0494 | 0.0624 | 61.8 | 11-148 | 23.2 | 26.1 | L765419-01 | | WG789424 |
| 2-Fluorobiphenyl | | | | 70.30 | 40.6-122 | | | | | WG789424 |
| Nitrobenzene-d5 | | | | 84.00 | 22.1-146 | | | | | WG789424 |
| p-Terphenyl-d14 | | | | 64.80 | 32.2-131 | | | | | WG789424 |
| Benzene | mg/kg | 0.179 | 0.211 | 71.6 | 49.7-127 | 16.5 | 23.5 | L765212-01 | | WG789536 |
| Ethylbenzene | mg/kg | 0.147 | 0.197 | 58.8 | 40.8-141 | 28.7* | 23.8 | L765212-01 | | WG789536 |
| Toluene | mg/kg | 0.163 | 0.203 | 64.5 | 49.8-132 | 22.1 | 23.5 | L765212-01 | | WG789536 |
| Total Xylene | mg/kg | 0.448 | 0.587 | 59.5 | 41.2-140 | 26.7* | 23.7 | L765212-01 | | WG789536 |
| a,a,a-Trifluorotoluene(FID) | | | | 90.30 | 59-128 | | | | | WG789536 |
| a,a,a-Trifluorotoluene(PID) | | | | 96.60 | 54-144 | | | | | WG789536 |
| TPH (GC/FID) Low Fraction | mg/kg | 16.5 | 15.9 | 60.1 | 28.5-138 | 3.88 | 23.6 | L765212-01 | | WG789536 |
| a,a,a-Trifluorotoluene(FID) | | | | 94.70 | 59-128 | | | | | WG789536 |
| a,a,a-Trifluorotoluene(PID) | | | | 103.0 | 54-144 | | | | | WG789536 |

Batch number /Run number / Sample number cross reference

WG789376: R3037560 R3037634: L765417-01
WG789424: R3037605: L765417-01
WG789536: R3039007: L765417-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
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L765417

12065 Lebanon Rd.
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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 26, 2015

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

[illegible]