

July 11, 2016

Report to:

Richard Miller
Gadeco, LLC
3600 S Yosemite Ste 800
Denver, CO 80237

Bill to:

Richard Miller
Gadeco, LLC
3600 S Yosemite Ste 800
Denver, CO 80237

cc: Carl Colby

Project ID:

ACZ Project ID: L31367

Richard Miller:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 30, 2016. This project has been assigned to ACZ's project number, L31367. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L31367. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 10, 2016. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed
and approved this report.



Gadeco, LLC
 Project ID:
 Sample ID: #27

ACZ Sample ID: **L31367-01**
 Date Sampled: 06/29/16 12:36
 Date Received: 06/30/16
 Sample Matrix: Soil

BTEX/Gasoline Range Organics (C6-C10)

Analysis Method: **M8021B/8015D GC/PID/FID**
 Extract Method: **5035A**

Workgroup: WG405770

Analyst: mmn
 Extract Date: 07/05/16 17:08
 Analysis Date: 07/05/16 17:08

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|--------------------------|-----------|------------|------|----------|----|-------|------|------|
| Benzene | 71-43-2 | | U | 1 | * | ug/Kg | 1 | 1 |
| Ethylbenzene | 100-41-4 | | U | 1 | * | ug/Kg | 1 | 1 |
| m p Xylene | 1330-20-7 | | U | 1 | * | ug/Kg | 2 | 2 |
| o Xylene | 95-47-6 | | U | 1 | * | ug/Kg | 1 | 1 |
| Toluene | 108-88-3 | | U | 1 | * | ug/Kg | 1 | 1 |
| TVH C6 to C10 | TVH | | U | 1 | * | mg/Kg | 0.05 | 0.05 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| Bromofluorobenzene | 460-00-4 | 89.4 | | 1 | | % | 70 | 130 |
| Bromofluorobenzene (TVH) | 460-00 4 | 89.3 | | 1 | | % | 70 | 130 |

Gadeco, LLC

Project ID:

Sample ID: #27

ACZ Sample ID: **L31367-01**

Date Sampled: 06/29/16 12:36

Date Received: 06/30/16

Sample Matrix: Soil

Diesel Range Organics (C10-C28)Analysis Method: **M8015D GC/FID**Extract Method: **M3540****Workgroup:** WG405924

Analyst: itk

Extract Date: 06/30/16 15:50

Analysis Date: 07/07/16 16:46

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|----------------------|---------|------------|------|----------|----|-------|-----|-----|
| TPH C10 to C28 | | 70 | | 66.7 | * | mg/Kg | 7 | 30 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| OTP | 84-15-1 | 91.7 | | 66.7 | | % | 70 | 130 |

Gadeco, LLC
Project ID:
Sample ID: #19

ACZ Sample ID: **L31367-02**
Date Sampled: 06/29/16 12:36
Date Received: 06/30/16
Sample Matrix: Soil

BTEX/Gasoline Range Organics (C6-C10)

Analysis Method: **M8021B/8015D GC/PID/FID**
Extract Method: **5035A**

Workgroup: WG405770

Analyst: mmn
Extract Date: 07/07/16 12:48
Analysis Date: 07/07/16 12:48

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|--------------------------|-----------|------------|------|----------|----|-------|-----|-----|
| Benzene | 71-43-2 | | U | 10 | * | ug/Kg | 10 | 10 |
| Ethylbenzene | 100-41-4 | | U | 10 | * | ug/Kg | 10 | 10 |
| m p Xylene | 1330-20-7 | | U | 10 | * | ug/Kg | 20 | 20 |
| o Xylene | 95-47-6 | | U | 10 | * | ug/Kg | 10 | 10 |
| Toluene | 108-88-3 | | U | 10 | * | ug/Kg | 10 | 10 |
| TVH C6 to C10 | TVH | 1 | | 10 | * | mg/Kg | 0.5 | 0.5 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| Bromofluorobenzene | 460-00-4 | 89.1 | | 10 | | % | 70 | 130 |
| Bromofluorobenzene (TVH) | 460-00 4 | 92.2 | | 10 | | % | 70 | 130 |

Gadeco, LLC

Project ID:

Sample ID: #19

ACZ Sample ID: **L31367-02**

Date Sampled: 06/29/16 12:36

Date Received: 06/30/16

Sample Matrix: Soil

Diesel Range Organics (C10-C28)Analysis Method: **M8015D GC/FID**Extract Method: **M3540****Workgroup:** WG405924

Analyst: itk

Extract Date: 06/30/16 15:53

Analysis Date: 07/08/16 10:29

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|----------------------|---------|------------|------|----------|----|-------|-----|-----|
| TPH C10 to C28 | | 830 | | 133 | * | mg/Kg | 10 | 70 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| OTP | 84-15-1 | 102.7 | | 133 | * | % | 70 | 130 |

Gadeco, LLC
Project ID:
Sample ID: #13

ACZ Sample ID: **L31367-03**
Date Sampled: 06/29/16 12:37
Date Received: 06/30/16
Sample Matrix: Soil

BTEX/Gasoline Range Organics (C6-C10)

Analysis Method: **M8021B/8015D GC/PID/FID**
Extract Method: **5035A**

Workgroup: WG405770

Analyst: mmn
Extract Date: 07/05/16 18:19
Analysis Date: 07/05/16 18:19

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|--------------------------|-----------|------------|------|----------|----|-------|------|------|
| Benzene | 71-43-2 | | U | 1 | * | ug/Kg | 1 | 1 |
| Ethylbenzene | 100-41-4 | | U | 1 | * | ug/Kg | 1 | 1 |
| m p Xylene | 1330-20-7 | | U | 1 | * | ug/Kg | 2 | 2 |
| o Xylene | 95-47-6 | | U | 1 | * | ug/Kg | 1 | 1 |
| Toluene | 108-88-3 | | U | 1 | * | ug/Kg | 1 | 1 |
| TVH C6 to C10 | TVH | | U | 1 | * | mg/Kg | 0.05 | 0.05 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| Bromofluorobenzene | 460-00-4 | 87.7 | | 1 | | % | 70 | 130 |
| Bromofluorobenzene (TVH) | 460-00 4 | 89.8 | | 1 | | % | 70 | 130 |

Gadeco, LLC

Project ID:

Sample ID: #13

ACZ Sample ID: **L31367-03**

Date Sampled: 06/29/16 12:37

Date Received: 06/30/16

Sample Matrix: Soil

Diesel Range Organics (C10-C28)Analysis Method: **M8015D GC/FID**Extract Method: **M3540****Workgroup:** WG405924

Analyst: itk

Extract Date: 06/30/16 15:55

Analysis Date: 07/07/16 17:41

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|----------------------|---------|------------|------|----------|----|-------|-----|-----|
| TPH C10 to C28 | | 49 | | 66.7 | * | mg/Kg | 7 | 30 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| OTP | 84-15-1 | 95.7 | | 66.7 | | % | 70 | 130 |

Gadeco, LLC
Project ID:
Sample ID: #16

ACZ Sample ID: **L31367-04**
Date Sampled: 06/29/16 12:38
Date Received: 06/30/16
Sample Matrix: Soil

BTEX/Gasoline Range Organics (C6-C10)

Analysis Method: **M8021B/8015D GC/PID/FID**
Extract Method: **5035A**

Workgroup: WG405770

Analyst: mmn
Extract Date: 07/05/16 18:49
Analysis Date: 07/05/16 18:49

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|--------------------------|-----------|------------|------|----------|----|-------|------|------|
| Benzene | 71-43-2 | | U | 1 | * | ug/Kg | 1 | 1 |
| Ethylbenzene | 100-41-4 | | U | 1 | * | ug/Kg | 1 | 1 |
| m p Xylene | 1330-20-7 | | U | 1 | * | ug/Kg | 2 | 2 |
| o Xylene | 95-47-6 | | U | 1 | * | ug/Kg | 1 | 1 |
| Toluene | 108-88-3 | | U | 1 | * | ug/Kg | 1 | 1 |
| TVH C6 to C10 | TVH | | U | 1 | * | mg/Kg | 0.05 | 0.05 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| Bromofluorobenzene | 460-00-4 | 89.9 | | 1 | | % | 70 | 130 |
| Bromofluorobenzene (TVH) | 460-00 4 | 87.6 | | 1 | | % | 70 | 130 |

Gadeco, LLC

Project ID:

Sample ID: #16

ACZ Sample ID: **L31367-04**

Date Sampled: 06/29/16 12:38

Date Received: 06/30/16

Sample Matrix: Soil

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**

Extract Method: **M3540**

Workgroup: **WG405924**

Analyst: itk

Extract Date: 06/30/16 15:58

Analysis Date: 07/07/16 18:08

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|----------------------|---------|------------|------|----------|----|-------|-----|-----|
| TPH C10 to C28 | | 236 | | 66.7 | * | mg/Kg | 7 | 30 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| OTP | 84-15-1 | 97.7 | | 66.7 | | % | 70 | 130 |

Gadeco, LLC
 Project ID:
 Sample ID: #14

ACZ Sample ID: **L31367-05**
 Date Sampled: 06/29/16 12:38
 Date Received: 06/30/16
 Sample Matrix: Soil

BTEX/Gasoline Range Organics (C6-C10)

Analysis Method: **M8021B/8015D GC/PID/FID**
 Extract Method: **5035A**

Workgroup: WG405770

Analyst: mmn
 Extract Date: 07/05/16 19:19
 Analysis Date: 07/05/16 19:19

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|--------------------------|-----------|------------|------|----------|----|-------|------|------|
| Benzene | 71-43-2 | | U | 1 | * | ug/Kg | 1 | 1 |
| Ethylbenzene | 100-41-4 | | U | 1 | * | ug/Kg | 1 | 1 |
| m p Xylene | 1330-20-7 | | U | 1 | * | ug/Kg | 2 | 2 |
| o Xylene | 95-47-6 | | U | 1 | * | ug/Kg | 1 | 1 |
| Toluene | 108-88-3 | | U | 1 | * | ug/Kg | 1 | 1 |
| TVH C6 to C10 | TVH | | U | 1 | * | mg/Kg | 0.05 | 0.05 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| Bromofluorobenzene | 460-00-4 | 85.3 | | 1 | | % | 70 | 130 |
| Bromofluorobenzene (TVH) | 460-00 4 | 84.6 | | 1 | | % | 70 | 130 |

Gadeco, LLC
 Project ID:
 Sample ID: #14

ACZ Sample ID: **L31367-05**
 Date Sampled: 06/29/16 12:38
 Date Received: 06/30/16
 Sample Matrix: Soil

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
 Extract Method: **M3540**

Workgroup: WG405924
Analyst: itk
Extract Date: 06/30/16 16:01
Analysis Date: 07/07/16 18:35

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|----------------------|---------|------------|------|----------|----|-------|-----|-----|
| TPH C10 to C28 | | 12 | J | 66.7 | * | mg/Kg | 7 | 30 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| OTP | 84-15-1 | 94.9 | | 66.7 | | % | 70 | 130 |

Gadeco, LLC
Project ID:
Sample ID: #17

ACZ Sample ID: **L31367-06**
Date Sampled: 06/29/16 12:40
Date Received: 06/30/16
Sample Matrix: Soil

BTEX/Gasoline Range Organics (C6-C10)

Analysis Method: **M8021B/8015D GC/PID/FID**
Extract Method: **5035A**

Workgroup: WG405770

Analyst: mmn
Extract Date: 07/05/16 19:48
Analysis Date: 07/05/16 19:48

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|--------------------------|-----------|------------|------|----------|----|-------|------|------|
| Benzene | 71-43-2 | | U | 1 | * | ug/Kg | 1 | 1 |
| Ethylbenzene | 100-41-4 | | U | 1 | * | ug/Kg | 1 | 1 |
| m p Xylene | 1330-20-7 | | U | 1 | * | ug/Kg | 2 | 2 |
| o Xylene | 95-47-6 | | U | 1 | * | ug/Kg | 1 | 1 |
| Toluene | 108-88-3 | | U | 1 | * | ug/Kg | 1 | 1 |
| TVH C6 to C10 | TVH | | U | 1 | * | mg/Kg | 0.05 | 0.05 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| Bromofluorobenzene | 460-00-4 | 82.5 | | 1 | | % | 70 | 130 |
| Bromofluorobenzene (TVH) | 460-00 4 | 82.3 | | 1 | | % | 70 | 130 |

Gadeco, LLC

Project ID:

Sample ID: #17

ACZ Sample ID: **L31367-06**

Date Sampled: 06/29/16 12:40

Date Received: 06/30/16

Sample Matrix: Soil

Diesel Range Organics (C10-C28)Analysis Method: **M8015D GC/FID**Extract Method: **M3540****Workgroup:** WG405924

Analyst: itk

Extract Date: 06/30/16 16:03

Analysis Date: 07/07/16 19:03

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|----------------------|---------|------------|------|----------|----|-------|-----|-----|
| TPH C10 to C28 | | 29 | J | 66.7 | * | mg/Kg | 7 | 30 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| OTP | 84-15-1 | 94.1 | | 66.7 | | % | 70 | 130 |

Gadeco, LLC
 Project ID:
 Sample ID: #11

ACZ Sample ID: **L31367-07**
 Date Sampled: 06/29/16 12:50
 Date Received: 06/30/16
 Sample Matrix: Soil

BTEX/Gasoline Range Organics (C6-C10)

Analysis Method: **M8021B/8015D GC/PID/FID**
 Extract Method: **5035A**

Workgroup: WG405770

Analyst: mmn
 Extract Date: 07/05/16 20:47
 Analysis Date: 07/05/16 20:47

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|--------------------------|-----------|------------|------|----------|----|-------|------|------|
| Benzene | 71-43-2 | | U | 1 | * | ug/Kg | 1 | 1 |
| Ethylbenzene | 100-41-4 | | U | 1 | * | ug/Kg | 1 | 1 |
| m p Xylene | 1330-20-7 | | U | 1 | * | ug/Kg | 2 | 2 |
| o Xylene | 95-47-6 | | U | 1 | * | ug/Kg | 1 | 1 |
| Toluene | 108-88-3 | | U | 1 | * | ug/Kg | 1 | 1 |
| TVH C6 to C10 | TVH | | U | 1 | * | mg/Kg | 0.05 | 0.05 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| Bromofluorobenzene | 460-00-4 | 83.5 | | 1 | | % | 70 | 130 |
| Bromofluorobenzene (TVH) | 460-00 4 | 82.5 | | 1 | | % | 70 | 130 |

Gadeco, LLC

Project ID:

Sample ID: #11

ACZ Sample ID: **L31367-07**

Date Sampled: 06/29/16 12:50

Date Received: 06/30/16

Sample Matrix: Soil

Diesel Range Organics (C10-C28)Analysis Method: **M8015D GC/FID**Extract Method: **M3540****Workgroup:** WG405924

Analyst: itk

Extract Date: 06/30/16 16:06

Analysis Date: 07/07/16 19:57

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|----------------------|---------|------------|------|----------|----|-------|-----|-----|
| TPH C10 to C28 | | 8 | J | 66.7 | * | mg/Kg | 7 | 30 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| OTP | 84-15-1 | 94 | | 66.7 | | % | 70 | 130 |

Gadeco, LLC
 Project ID:
 Sample ID: #10

ACZ Sample ID: **L31367-08**
 Date Sampled: 06/29/16 12:52
 Date Received: 06/30/16
 Sample Matrix: Soil

BTEX/Gasoline Range Organics (C6-C10)

Analysis Method: **M8021B/8015D GC/PID/FID**
 Extract Method: **5035A**

Workgroup: WG405770

Analyst: mmn
 Extract Date: 07/05/16 21:17
 Analysis Date: 07/05/16 21:17

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|--------------------------|-----------|------------|------|----------|----|-------|------|------|
| Benzene | 71-43-2 | | U | 1 | * | ug/Kg | 1 | 1 |
| Ethylbenzene | 100-41-4 | | U | 1 | * | ug/Kg | 1 | 1 |
| m p Xylene | 1330-20-7 | | U | 1 | * | ug/Kg | 2 | 2 |
| o Xylene | 95-47-6 | | U | 1 | * | ug/Kg | 1 | 1 |
| Toluene | 108-88-3 | | U | 1 | * | ug/Kg | 1 | 1 |
| TVH C6 to C10 | TVH | | U | 1 | * | mg/Kg | 0.05 | 0.05 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| Bromofluorobenzene | 460-00-4 | 85.4 | | 1 | | % | 70 | 130 |
| Bromofluorobenzene (TVH) | 460-00 4 | 84.4 | | 1 | | % | 70 | 130 |

Gadeco, LLC

Project ID:

Sample ID: #10

ACZ Sample ID: **L31367-08**

Date Sampled: 06/29/16 12:52

Date Received: 06/30/16

Sample Matrix: Soil

Diesel Range Organics (C10-C28)Analysis Method: **M8015D GC/FID**Extract Method: **M3540****Workgroup:** WG405924

Analyst: itk

Extract Date: 06/30/16 16:08

Analysis Date: 07/07/16 20:25

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|----------------------|---------|------------|------|----------|----|-------|-----|-----|
| TPH C10 to C28 | | | U | 66.7 | * | mg/Kg | 7 | 30 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| OTP | 84-15-1 | 100.3 | | 66.7 | | % | 70 | 130 |

Gadeco, LLC
Project ID:
Sample ID: #9

ACZ Sample ID: **L31367-09**
Date Sampled: 06/29/16 12:55
Date Received: 06/30/16
Sample Matrix: Soil

BTEX/Gasoline Range Organics (C6-C10)

Analysis Method: **M8021B/8015D GC/PID/FID**
Extract Method: **5035A**

Workgroup: WG405770

Analyst: mmn
Extract Date: 07/05/16 21:47
Analysis Date: 07/05/16 21:47

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|--------------------------|-----------|------------|------|----------|----|-------|------|------|
| Benzene | 71-43-2 | | U | 1 | * | ug/Kg | 1 | 1 |
| Ethylbenzene | 100-41-4 | | U | 1 | * | ug/Kg | 1 | 1 |
| m p Xylene | 1330-20-7 | | U | 1 | * | ug/Kg | 2 | 2 |
| o Xylene | 95-47-6 | | U | 1 | * | ug/Kg | 1 | 1 |
| Toluene | 108-88-3 | | U | 1 | * | ug/Kg | 1 | 1 |
| TVH C6 to C10 | TVH | | U | 1 | * | mg/Kg | 0.05 | 0.05 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| Bromofluorobenzene | 460-00-4 | 84.3 | | 1 | | % | 70 | 130 |
| Bromofluorobenzene (TVH) | 460-00 4 | 82.8 | | 1 | | % | 70 | 130 |

Gadeco, LLC

Project ID:

Sample ID: #9

ACZ Sample ID: **L31367-09**

Date Sampled: 06/29/16 12:55

Date Received: 06/30/16

Sample Matrix: Soil

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**

Extract Method: **M3540**

Workgroup: **WG405924**

Analyst: itk

Extract Date: 06/30/16 16:11

Analysis Date: 07/07/16 20:52

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|----------------------|---------|------------|------|----------|----|-------|-----|-----|
| TPH C10 to C28 | | 125 | | 66.7 | * | mg/Kg | 7 | 30 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| OTP | 84-15-1 | 98.5 | | 66.7 | | % | 70 | 130 |

Gadeco, LLC
Project ID:
Sample ID: #8

ACZ Sample ID: **L31367-10**
Date Sampled: 06/29/16 12:55
Date Received: 06/30/16
Sample Matrix: Soil

BTEX/Gasoline Range Organics (C6-C10)

Analysis Method: **M8021B/8015D GC/PID/FID**
Extract Method: **5035A**

Workgroup: WG405770

Analyst: mmn
Extract Date: 07/05/16 22:16
Analysis Date: 07/05/16 22:16

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|--------------------------|-----------|------------|------|----------|----|-------|------|------|
| Benzene | 71-43-2 | | U | 1 | * | ug/Kg | 1 | 1 |
| Ethylbenzene | 100-41-4 | | U | 1 | * | ug/Kg | 1 | 1 |
| m p Xylene | 1330-20-7 | | U | 1 | * | ug/Kg | 2 | 2 |
| o Xylene | 95-47-6 | | U | 1 | * | ug/Kg | 1 | 1 |
| Toluene | 108-88-3 | | U | 1 | * | ug/Kg | 1 | 1 |
| TVH C6 to C10 | TVH | | U | 1 | * | mg/Kg | 0.05 | 0.05 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| Bromofluorobenzene | 460-00-4 | 84.9 | | 1 | | % | 70 | 130 |
| Bromofluorobenzene (TVH) | 460-00 4 | 82.1 | | 1 | | % | 70 | 130 |

Gadeco, LLC

Project ID:

Sample ID: #8

ACZ Sample ID: **L31367-10**

Date Sampled: 06/29/16 12:55

Date Received: 06/30/16

Sample Matrix: Soil

Diesel Range Organics (C10-C28)Analysis Method: **M8015D GC/FID**Extract Method: **M3540****Workgroup:** WG405924

Analyst: itk

Extract Date: 06/30/16 16:14

Analysis Date: 07/07/16 21:20

| Compound | CAS | Result | QUAL | Dilution | XQ | Units | MDL | PQL |
|----------------------|---------|------------|------|----------|----|-------|-----|-----|
| TPH C10 to C28 | | 88 | | 66.7 | * | mg/Kg | 7 | 30 |
| Surrogate Recoveries | CAS | % Recovery | | Dilution | XQ | Units | LCL | UCL |
| OTP | 84-15-1 | 96.8 | | 66.7 | | % | 70 | 130 |

Report Header Explanations

| | |
|----------------|---|
| <i>Batch</i> | A distinct set of samples analyzed at a specific time |
| <i>Found</i> | Value of the QC Type of interest |
| <i>Limit</i> | Upper limit for RPD, in %. |
| <i>Lower</i> | Lower Recovery Limit, in % (except for LCSS, mg/Kg) |
| <i>LCL</i> | Lower Control Limit |
| <i>MDL</i> | Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #4) Allows for instrument and annual fluctuations. |
| <i>PCN/SCN</i> | A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis |
| <i>PQL</i> | Practical Quantitation Limit. Synonymous with the EPA term "minimum level". |
| <i>QC</i> | True Value of the Control Sample or the amount added to the Spike |
| <i>Rec</i> | Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg) |
| <i>RPD</i> | Relative Percent Difference, calculation used for Duplicate QC Types |
| <i>Upper</i> | Upper Recovery Limit, in % (except for LCSS, mg/Kg) |
| <i>UCL</i> | Upper Control Limit |
| <i>Sample</i> | Value of the Sample of interest |

QC Sample Types

| | | | |
|-------------|-----------------------------------|---------------|---------------------------------------|
| <i>SURR</i> | Surrogate | <i>LFM</i> | Laboratory Fortified Matrix |
| <i>INTS</i> | Internal Standard | <i>LFMD</i> | Laboratory Fortified Matrix Duplicate |
| <i>DUP</i> | Sample Duplicate | <i>LRB</i> | Laboratory Reagent Blank |
| <i>LCSS</i> | Laboratory Control Sample - Soil | <i>MS/MSD</i> | Matrix Spike/Matrix Spike Duplicate |
| <i>LCSW</i> | Laboratory Control Sample - Water | <i>PBS</i> | Prep Blank - Soil |
| <i>LFB</i> | Laboratory Fortified Blank | <i>PBW</i> | Prep Blank - Water |

QC Sample Type Explanations

| | |
|-------------------------|---|
| Blanks | Verifies that there is no or minimal contamination in the prep method or calibration procedure. |
| Control Samples | Verifies the accuracy of the method, including the prep procedure. |
| Duplicates | Verifies the precision of the instrument and/or method. |
| Spikes/Fortified Matrix | Determines sample matrix interferences, if any. |

ACZ Qualifiers (Qual)

| | |
|---|---|
| B | Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity. |
| O | Analyte concentration is estimated due to result exceeding calibration range. |
| H | Analysis exceeded method hold time. pH is a field test with an immediate hold time. |
| J | Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity. |
| L | Target analyte response was below the laboratory defined negative threshold. |
| U | The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. |

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.
- (3) EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Excluding Oil & Grease, solid & biological matrices for organic analyses are reported on a wet weight basis.
- (3) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (4) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

<http://www.acz.com/public/extquallist.pdf>

Gadeco, LLC

ACZ Project ID: **L31367**

BTEX/Gasoline Range Organics (C6-C10)

M8021B/8015D GC/PID/FID

WG405770

| AS | Sample ID: L31367-10AS | | | PCN/SCN: B160705-1-CCV | | | Analyzed: 07/05/16 22:46 | | | |
|---------------------------------|------------------------|--------|-------|------------------------|------|-------|--------------------------|-----|-------|------|
| Compound | QC | Sample | Found | Units | Rec | Lower | Upper | RPD | Limit | Qual |
| BENZENE | 50 | U | 34.8 | ug/Kg | 70.0 | 70 | 130 | | | |
| ETHYLBENZENE | 50 | U | 27.4 | ug/Kg | 55.0 | 70 | 130 | | | M2 |
| M P XYLENE | 100 | U | 63.1 | ug/Kg | 63.0 | 70 | 130 | | | M2 |
| O XYLENE | 50 | U | 37.4 | ug/Kg | 75.0 | 70 | 130 | | | |
| TOLUENE | 50 | U | 25.9 | ug/Kg | 52.0 | 70 | 130 | | | M2 |
| TVH C6 TO C10 | .5 | U | .304 | mg/Kg | 61.0 | 70 | 130 | | | M2 |
| BROMOFLUOROBENZENE (surr) | | | | % | 85.8 | 70 | 130 | | | |
| BROMOFLUOROBENZENE (TVH) (surr) | | | | % | 84.7 | 70 | 130 | | | |

| ASD | Sample ID: L31367-10ASD | | | PCN/SCN: B160705-1-CCV | | | Analyzed: 07/05/16 23:16 | | | |
|---------------------------------|-------------------------|--------|-------|------------------------|------|-------|--------------------------|-----|-------|------|
| Compound | QC | Sample | Found | Units | Rec | Lower | Upper | RPD | Limit | Qual |
| BENZENE | 50 | U | 33.6 | ug/Kg | 67.0 | 70 | 130 | 4 | 20 | M2 |
| ETHYLBENZENE | 50 | U | 27.4 | ug/Kg | 55.0 | 70 | 130 | 0 | 20 | M2 |
| M P XYLENE | 100 | U | 62.4 | ug/Kg | 62.0 | 70 | 130 | 1 | 20 | M2 |
| O XYLENE | 50 | U | 36.7 | ug/Kg | 73.0 | 70 | 130 | 2 | 20 | |
| TOLUENE | 50 | U | 25.5 | ug/Kg | 51.0 | 70 | 130 | 2 | 20 | M2 |
| TVH C6 TO C10 | .5 | U | .303 | mg/Kg | 61.0 | 70 | 130 | 0 | 20 | M2 |
| BROMOFLUOROBENZENE (surr) | | | | % | 89.0 | 70 | 130 | | | |
| BROMOFLUOROBENZENE (TVH) (surr) | | | | % | 87.9 | 70 | 130 | | | |

| LCSS | Sample ID: WG405770LCSS | | | PCN/SCN: B160705-2-ICV | | | Analyzed: 07/05/16 12:45 | | | |
|---------------------------------|-------------------------|--------|-------|------------------------|-------|-------|--------------------------|-----|-------|------|
| Compound | QC | Sample | Found | Units | Rec | Lower | Upper | RPD | Limit | Qual |
| BENZENE | 25.1 | | 24.2 | ug/Kg | 96.0 | 70 | 130 | | | |
| ETHYLBENZENE | 25 | | 24.5 | ug/Kg | 98.0 | 70 | 130 | | | |
| M P XYLENE | 50.4 | | 51 | ug/Kg | 101.0 | 70 | 130 | | | |
| O XYLENE | 50.3 | | 49 | ug/Kg | 98.0 | 70 | 130 | | | |
| TOLUENE | 75.3 | | 72 | ug/Kg | 96.0 | 70 | 130 | | | |
| TVH C6 TO C10 | .5 | | .414 | mg/Kg | 92.0 | 70 | 130 | | | |
| BROMOFLUOROBENZENE (surr) | | | | % | 97.7 | 70 | 130 | | | |
| BROMOFLUOROBENZENE (TVH) (surr) | | | | % | 98.3 | 70 | 130 | | | |

| LCSSD | Sample ID: WG405770LCSSD | | | PCN/SCN: B160705-2-ICV | | | Analyzed: 07/05/16 13:36 | | | |
|---------------------------------|--------------------------|--------|-------|------------------------|------|-------|--------------------------|-----|-------|------|
| Compound | QC | Sample | Found | Units | Rec | Lower | Upper | RPD | Limit | Qual |
| BENZENE | 25.1 | | 24 | ug/Kg | 96.0 | 70 | 130 | 1 | 20 | |
| ETHYLBENZENE | 25 | | 24.1 | ug/Kg | 96.0 | 70 | 130 | 2 | 20 | |
| M P XYLENE | 50.4 | | 50 | ug/Kg | 99.0 | 70 | 130 | 2 | 20 | |
| O XYLENE | 50.3 | | 48.6 | ug/Kg | 97.0 | 70 | 130 | 1 | 20 | |
| TOLUENE | 75.3 | | 71.3 | ug/Kg | 95.0 | 70 | 130 | 1 | 20 | |
| TVH C6 TO C10 | .5 | | .414 | mg/Kg | 92.0 | 70 | 130 | 0 | 20 | |
| BROMOFLUOROBENZENE (surr) | | | | % | 97.4 | 70 | 130 | | | |
| BROMOFLUOROBENZENE (TVH) (surr) | | | | % | 98.2 | 70 | 130 | | | |

Gadeco, LLC

ACZ Project ID: **L31367**

| PBS | | Sample ID: WG405770PBS | | | | | | Analyzed: 07/05/16 14:06 | | | |
|---------------------------------|----|-------------------------------|-------|-------|------|-------|-------|---------------------------------|-------|------|--|
| Compound | QC | Sample | Found | Units | Rec | Lower | Upper | RPD | Limit | Qual | |
| BENZENE | | | U | ug/Kg | | -1 | 1 | | | | |
| ETHYLBENZENE | | | U | ug/Kg | | -1 | 1 | | | | |
| M P XYLENE | | | U | ug/Kg | | -2 | 2 | | | | |
| O XYLENE | | | U | ug/Kg | | -1 | 1 | | | | |
| TOLUENE | | | U | ug/Kg | | -1 | 1 | | | | |
| TVH C6 TO C10 | | | U | mg/Kg | | -.05 | .05 | | | | |
| BROMOFLUOROBENZENE (surr) | | | | % | 91.8 | 70 | 130 | | | | |
| BROMOFLUOROBENZENE (TVH) (surr) | | | | % | 91.0 | 70 | 130 | | | | |

Gadeco, LLC

ACZ Project ID: **L31367**

Diesel Range Organics (C10-C28)

M8015D GC/FID

WG405924

| DUP | | Sample ID: L31369-04DUP | | | | Analyzed: 07/07/16 23:36 | | | | | |
|----------------|----|--------------------------------|-------|-------|------|---------------------------------|-------|-----|-------|------|--|
| Compound | QC | Sample | Found | Units | Rec | Lower | Upper | RPD | Limit | Qual | |
| TPH C10 TO C28 | | 13 | U | mg/Kg | | | | 200 | 20 | RA | |
| OTP (surr) | | | | % | 90.8 | 70 | 130 | | | | |

| MS | | Sample ID: L31369-04MS | | PCN/SCN: OPTPH160509-2 | | | Analyzed: 07/08/16 0:04 | | | |
|----------------|--------|-------------------------------|-------|-------------------------------|------|-------|--------------------------------|-----|-------|------|
| Compound | QC | Sample | Found | Units | Rec | Lower | Upper | RPD | Limit | Qual |
| TPH C10 TO C28 | 2502.7 | 13 | 166.1 | mg/Kg | 92.0 | 70 | 130 | | | |
| OTP (surr) | | | | % | 95.5 | 70 | 130 | | | |

| LCSS | | Sample ID: WG405571LCSS | | PCN/SCN: OPTPH160509-2 | | | Analyzed: 07/07/16 15:24 | | | |
|----------------|--------|--------------------------------|-------|-------------------------------|-------|-------|---------------------------------|-----|-------|------|
| Compound | QC | Sample | Found | Units | Rec | Lower | Upper | RPD | Limit | Qual |
| TPH C10 TO C28 | 2502.7 | | 84 | mg/Kg | 101.0 | 70 | 130 | | | |
| OTP (surr) | | | | % | 101.1 | 70 | 130 | | | |

| LCSSD | | Sample ID: WG405571LCSSD | | PCN/SCN: OPTPH160509-2 | | | Analyzed: 07/07/16 15:51 | | | |
|----------------|--------|---------------------------------|-------|-------------------------------|-------|-------|---------------------------------|-----|-------|------|
| Compound | QC | Sample | Found | Units | Rec | Lower | Upper | RPD | Limit | Qual |
| TPH C10 TO C28 | 2502.7 | | 83.5 | mg/Kg | 100.0 | 70 | 130 | 1 | 20 | |
| OTP (surr) | | | | % | 99.6 | 70 | 130 | | | |

| PBS | | Sample ID: WG405571PBS | | | | Analyzed: 07/07/16 14:57 | | | | |
|----------------|----|-------------------------------|-------|-------|------|---------------------------------|-------|-----|-------|------|
| Compound | QC | Sample | Found | Units | Rec | Lower | Upper | RPD | Limit | Qual |
| TPH C10 TO C28 | | | U | mg/Kg | | -20 | 20 | | | |
| OTP (surr) | | | | % | 90.0 | 70 | 130 | | | |

ACZ Project ID: **L31367**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION | |
|-------------------------|---------------|-------------------------|-------------------------|--|---|--|
| L31367-01 | WG405770 | Benzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. | |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. | |
| | | Ethylbenzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. | |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. | |
| | | m p Xylene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. | |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. | |
| | | o Xylene | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. | |
| | | | Toluene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | M8021B/8015D GC/PID/FID | | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. | |
| | | TVH C6 to C10 | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. | |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. | |
| | | WG405924 | TPH C10 to C28 | M8015D GC/FID | D1 | Sample required dilution due to matrix. |
| | M8015D GC/FID | | | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). | |
| | L31367-02 | WG405770 | Benzene | M8021B/8015D GC/PID/FID | DD | Sample required dilution due to matrix color or odor. |
| | | | | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | | Ethylbenzene | M8021B/8015D GC/PID/FID | DD | Sample required dilution due to matrix color or odor. |
| | | | | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| M8021B/8015D GC/PID/FID | | | | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. | |
| m p Xylene | | | M8021B/8015D GC/PID/FID | DD | Sample required dilution due to matrix color or odor. | |
| | | | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. | |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. | |
| o Xylene | | | M8021B/8015D GC/PID/FID | DD | Sample required dilution due to matrix color or odor. | |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. | |
| | | | Toluene | M8021B/8015D GC/PID/FID | DD | Sample required dilution due to matrix color or odor. |
| M8021B/8015D GC/PID/FID | | M2 | | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. | | |
| M8021B/8015D GC/PID/FID | | ZM | | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. | | |
| TVH C6 to C10 | | M8021B/8015D GC/PID/FID | DD | Sample required dilution due to matrix color or odor. | | |
| | | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. | | |

ACZ Project ID: **L31367**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|-----------------|-------------------------|------|---|
| | WG405924 | *All Compounds* | M8015D GC/FID | D2 | Sample required dilution. Target analyte exceeded calibration range. |
| | | TPH C10 to C28 | M8015D GC/FID | D1 | Sample required dilution due to matrix. |
| | | | M8015D GC/FID | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| L31367-03 | WG405770 | Benzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Ethylbenzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | m p Xylene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | o Xylene | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Toluene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | TVH C6 to C10 | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | WG405924 | TPH C10 to C28 | M8015D GC/FID | D1 | Sample required dilution due to matrix. |
| | | | M8015D GC/FID | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| L31367-04 | WG405770 | Benzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Ethylbenzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | m p Xylene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | o Xylene | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Toluene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | TVH C6 to C10 | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ |

ACZ Project ID: **L31367**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|----------------|-------------------------|------|---|
| | WG405924 | TPH C10 to C28 | M8015D GC/FID | D1 | does not have a closed-system purge and trap as described in method 5035. |
| | | | M8015D GC/FID | RA | Sample required dilution due to matrix. |
| | | | | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| L31367-05 | WG405770 | Benzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Ethylbenzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | m p Xylene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | o Xylene | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Toluene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | TVH C6 to C10 | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | WG405924 | TPH C10 to C28 | M8015D GC/FID | D1 | Sample required dilution due to matrix. |
| | | | M8015D GC/FID | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| L31367-06 | WG405770 | Benzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Ethylbenzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | m p Xylene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | o Xylene | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Toluene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | TVH C6 to C10 | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |

ACZ Project ID: **L31367**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|----------------|-------------------------|------|---|
| | WG405924 | TPH C10 to C28 | M8015D GC/FID | D1 | does not have a closed-system purge and trap as described in method 5035. Sample required dilution due to matrix. |
| | | | M8015D GC/FID | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| L31367-07 | WG405770 | Benzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Ethylbenzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | m p Xylene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | o Xylene | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Toluene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | TVH C6 to C10 | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | WG405924 | TPH C10 to C28 | M8015D GC/FID | D1 | Sample required dilution due to matrix. |
| | | | M8015D GC/FID | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| L31367-08 | WG405770 | Benzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Ethylbenzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | m p Xylene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | o Xylene | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Toluene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | TVH C6 to C10 | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ |

ACZ Project ID: **L31367**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|----------------|-------------------------|------|---|
| | WG405924 | TPH C10 to C28 | M8015D GC/FID | D1 | does not have a closed-system purge and trap as described in method 5035. Sample required dilution due to matrix. |
| | | | M8015D GC/FID | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| L31367-09 | WG405770 | Benzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Ethylbenzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | m p Xylene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | o Xylene | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Toluene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | TVH C6 to C10 | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | WG405924 | TPH C10 to C28 | M8015D GC/FID | D1 | Sample required dilution due to matrix. |
| | | | M8015D GC/FID | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| L31367-10 | WG405770 | Benzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Ethylbenzene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | m p Xylene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | o Xylene | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | Toluene | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035. |
| | | TVH C6 to C10 | M8021B/8015D GC/PID/FID | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M8021B/8015D GC/PID/FID | ZM | Data is estimated because result is below 200 ug/Kg; ACZ |

ACZ Project ID: **L31367**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|--------|----------|----------------|---------------|------|---|
| | WG405924 | TPH C10 to C28 | M8015D GC/FID | | does not have a closed-system purge and trap as described in method 5035. |
| | | | M8015D GC/FID | D1 | Sample required dilution due to matrix. |
| | | | | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |

Gadeco, LLC

ACZ Project ID: **L31367**

No certification qualifiers associated with this analysis

Gadeco, LLC

ACZ Project ID: L31367
 Date Received: 06/30/2016 12:52
 Received By: ddp
 Date Printed: 6/30/2016

Receipt Verification

| | YES | NO | NA |
|---|-----|----|----|
| 1) Is a foreign soil permit included for applicable samples? | | | X |
| 2) Is the Chain of Custody form or other directive shipping papers present? | X | | |
| 3) Does this project require special handling procedures such as CLP protocol? | | | X |
| 4) Are any samples NRC licensable material? | | | X |
| 5) If samples are received past hold time, proceed with requested short hold time analyses? | X | | |
| 6) Is the Chain of Custody form complete and accurate? | X | | |
| 7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples? A change was made in the Copy of Report to: and Analyses Requested section prior to ACZ custody. | X | | |

Samples/Containers

| | YES | NO | NA |
|---|-----|----|----|
| 8) Are all containers intact and with no leaks? | X | | |
| 9) Are all labels on containers and are they intact and legible? | X | | |
| 10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time? | X | | |
| 11) For preserved bottle types, was the pH checked and within limits? ¹ | | | X |
| 12) Is there sufficient sample volume to perform all requested work? | X | | |
| 13) Is the custody seal intact on all containers? | | | X |
| 14) Are samples that require zero headspace acceptable? | | | X |
| 15) Are all sample containers appropriate for analytical requirements? | X | | |
| 16) Is there an Hg-1631 trip blank present? | | | X |
| 17) Is there a VOA trip blank present? | | X | |
| 18) Were all samples received within hold time? | X | | |

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

| Cooler Id | Temp (°C) | Temp Criteria (°C) | Rad (µR/Hr) | Custody Seal Intact? |
|-----------|-----------|--------------------|-------------|----------------------|
| 4305 | 2.4 | <=6.0 | 14 | Yes |

Was ice present in the shipment container(s)?
 Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Gadeco, LLC

ACZ Project ID: L31367
Date Received: 06/30/2016 12:52
Received By: ddp
Date Printed: 6/30/2016

¹ The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na₂S₂O₃ preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).



Laboratories, Inc.

031367

CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Richard Miller
Company: Gadeeco LLC
E-mail: r.miller@grynberg.com

Address: 3600 S. Yosemite St 800
Denver CO 80237
Telephone: 303-850-7490

Copy of Report to:

Name: Carl Colby
Company: Wild West Oilfield

E-mail: wildwestexcavating@gmail.com
Telephone: 303-850-970-326-5776

Invoice to:

Name: Richard Miller
Company: Gadeeco
E-mail: r.miller@grynberg.com

Address: 3600 S Yosemite St 800
Denver CO 80237
Telephone: 303-850-7490

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO []

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [] No []

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Carl Sampler's Site Information State CO Zip code 81625 Time Zone MT

*Sampler's Signature: [Signature] I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Table with columns: Quote #, PO#, Reporting state, Check box, SAMPLE IDENTIFICATION, DATE:TIME, Matrix, # of Containers, and analysis results (TPH, BTX).

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

Table with columns: RELINQUISHED BY, DATE:TIME, RECEIVED BY, DATE:TIME. Includes signatures of Carl Colby and Richard Miller.

31367 Chain of Custody