



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
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Tax I.D. 62-0814289

Est. 1970

Dave Nicholson
Linn Energy - Denver, CO
1999 Broadway, Suite 3700
Denver, CO 80202

Report Summary

Wednesday June 03, 2015

Report Number: L767456

Samples Received: 05/27/15

Client Project:

Description: Pit and Landfarm Soil Sampling

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:

Mark W. Beasley , 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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REPORT OF ANALYSIS

Dave Nicholson
 Linn Energy - Denver, CO
 1999 Broadway, Suite 3700
 Denver, CO 80202

June 03, 2015

Date Received : May 27, 2015
 Description : Pit and Landfarm Soil Sampling
 Sample ID : K-15 SPILL SPOILS
 Collected By : DK Nicholson
 Collection Date : 05/23/15 13:05

ESC Sample # : L767456-01
 Site ID :
 Project # :

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|--|--------|------------|----------|-------------|----------|------|
| Chromium, Hexavalent | BDL | 2.0 | mg/kg | 3060A/7196A | 06/01/15 | 1 |
| ORP | -2.0 | | mV | 2580 B-2011 | 05/29/15 | 1 |
| pH | 7.1 | 0.10 | su | 9045D | 06/01/15 | 1 |
| Sodium Adsorption Ratio | 8.4 | | | Calc. | 06/01/15 | 1 |
| Specific Conductance | 570 | | umhos/cm | 9050AMod | 05/29/15 | 1 |
| Mercury | 0.029 | 0.020 | mg/kg | 7471A | 05/29/15 | 1 |
| Arsenic | 3.7 | 2.0 | mg/kg | 6010B | 06/01/15 | 1 |
| Barium | 440 | 0.50 | mg/kg | 6010B | 06/01/15 | 1 |
| Boron | BDL | 10. | mg/kg | 6010B | 06/01/15 | 1 |
| Cadmium | BDL | 0.50 | mg/kg | 6010B | 06/01/15 | 1 |
| Chromium | 38. | 1.0 | mg/kg | 6010B | 06/01/15 | 1 |
| Copper | 15. | 2.0 | mg/kg | 6010B | 06/01/15 | 1 |
| Lead | 14. | 0.50 | mg/kg | 6010B | 06/01/15 | 1 |
| Nickel | 20. | 2.0 | mg/kg | 6010B | 06/01/15 | 1 |
| Selenium | BDL | 2.0 | mg/kg | 6010B | 06/01/15 | 1 |
| Silver | BDL | 1.0 | mg/kg | 6010B | 06/01/15 | 1 |
| Zinc | 46. | 5.0 | mg/kg | 6010B | 06/01/15 | 1 |
| TPH (GC/FID) Low Fraction | 2.1 | 0.50 | mg/kg | 8015D/GRO | 06/02/15 | 5 |
| Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID) | 99.7 | | % Rec. | 8015D/GRO | 06/02/15 | 1 |
| Benzene | BDL | 0.0050 | mg/kg | 8260B | 06/01/15 | 5 |
| Toluene | BDL | 0.025 | mg/kg | 8260B | 06/01/15 | 5 |
| Ethylbenzene | BDL | 0.0050 | mg/kg | 8260B | 06/01/15 | 5 |
| Total Xylenes | BDL | 0.015 | mg/kg | 8260B | 06/01/15 | 5 |
| Surrogate Recovery | | | | | | |
| Toluene-d8 | 102. | | % Rec. | 8260B | 06/01/15 | 1 |
| Dibromofluoromethane | 91.1 | | % Rec. | 8260B | 06/01/15 | 1 |
| a,a,a-Trifluorotoluene | 103. | | % Rec. | 8260B | 06/01/15 | 1 |
| 4-Bromofluorobenzene | 103. | | % Rec. | 8260B | 06/01/15 | 1 |
| Diesel and Oil Ranges | | | | | | |
| C10-C28 Diesel Range | 680 | 50. | mg/kg | 8015 | 06/02/15 | 12.5 |
| C28-C40 Oil Range | 57. | 50. | mg/kg | 8015 | 06/02/15 | 12.5 |
| Surrogate Recovery | | | | | | |
| o-Terphenyl | 60.4 | | % Rec. | 8015 | 06/02/15 | 12.5 |

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 L767456-01 (PH) - 7.1 at 20.9c



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June 03, 2015

Date Received : May 27, 2015
 Description : Pit and Landfarm Soil Sampling
 Sample ID : K-15 SPILL SPOILS
 Collected By : DK Nicholson
 Collection Date : 05/23/15 13:05

ESC Sample # : L767456-01

Site ID :

Project # :

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|-----------------------------------|--------|------------|--------|-----------|----------|------|
| Polynuclear Aromatic Hydrocarbons | | | | | | |
| Anthracene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Acenaphthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Acenaphthylene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Benzo(a)anthracene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Benzo(a)pyrene | 0.0091 | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Benzo(b)fluoranthene | 0.016 | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Benzo(g,h,i)perylene | 0.012 | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Benzo(k)fluoranthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Chrysene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Dibenz(a,h)anthracene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Fluoranthene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Fluorene | BDL | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Indeno(1,2,3-cd)pyrene | 0.0083 | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Naphthalene | BDL | 0.020 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Phenanthrene | 0.0081 | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Pyrene | 0.0066 | 0.0060 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| 1-Methylnaphthalene | BDL | 0.020 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| 2-Methylnaphthalene | BDL | 0.020 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| 2-Chloronaphthalene | BDL | 0.020 | mg/kg | 8270C-SIM | 05/31/15 | 1 |
| Surrogate Recovery | | | | | | |
| p-Terphenyl-d14 | 57.4 | | % Rec. | 8270C-SIM | 05/31/15 | 1 |
| Nitrobenzene-d5 | 67.2 | | % Rec. | 8270C-SIM | 05/31/15 | 1 |
| 2-Fluorobiphenyl | 58.4 | | % Rec. | 8270C-SIM | 05/31/15 | 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: 06/03/15 15:55 Printed: 06/03/15 16:18
 L767456-01 (PH) - 7.1 at 20.9c

Attachment A
List of Analytes with QC Qualifiers

| Sample Number | Work Group | Sample Type | Analyte | Run ID | Qualifier |
|---------------|------------|-------------|-------------------|----------|-----------|
| L767456-02 | WG792964 | SAMP | Paint Filter Test | R3041008 | T4 |

Attachment B
Explanation of QC Qualifier Codes

| Qualifier | Meaning |
|-----------|---|
| T4 | (ESC) - Additional method/sample information: QNS - Quantity Not Sufficient |

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.



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| Analyte | Result | Laboratory Blank | | Limit | Batch | Date Analyzed |
|-------------------------------|--------|------------------|-------|----------|----------|----------------|
| | | Units | % Rec | | | |
| Mercury | < .02 | mg/kg | | | WG791985 | 05/29/15 09:37 |
| Specific Conductance | 1.10 | umhos/cm | | | WG792011 | 05/29/15 13:57 |
| 1-Methylnaphthalene | < .02 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| 2-Chloronaphthalene | < .02 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| 2-Methylnaphthalene | < .02 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Acenaphthene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Acenaphthylene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Anthracene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Benzo(a)anthracene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Benzo(a)pyrene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Benzo(b)fluoranthene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Benzo(g,h,i)perylene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Benzo(k)fluoranthene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Chrysene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Dibenz(a,h)anthracene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Fluoranthene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Fluorene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Indeno(1,2,3-cd)pyrene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Naphthalene | < .02 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Phenanthrene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| Pyrene | < .006 | mg/kg | | | WG792060 | 05/31/15 02:28 |
| 2-Fluorobiphenyl | | % Rec. | 53.30 | 40.6-122 | WG792060 | 05/31/15 02:28 |
| Nitrobenzene-d5 | | % Rec. | 58.30 | 22.1-146 | WG792060 | 05/31/15 02:28 |
| p-Terphenyl-d14 | | % Rec. | 52.80 | 32.2-131 | WG792060 | 05/31/15 02:28 |
| Reactive Sulf.(SW846 7.3.4.1) | < 25 | mg/kg | | | WG792352 | 05/30/15 13:08 |
| Benzene | < .001 | mg/kg | | | WG791168 | 06/01/15 11:54 |
| Ethylbenzene | < .001 | mg/kg | | | WG791168 | 06/01/15 11:54 |
| Toluene | < .005 | mg/kg | | | WG791168 | 06/01/15 11:54 |
| Total Xylenes | < .003 | mg/kg | | | WG791168 | 06/01/15 11:54 |
| 4-Bromofluorobenzene | | % Rec. | 106.0 | 69.7-129 | WG791168 | 06/01/15 11:54 |
| Dibromofluoromethane | | % Rec. | 89.00 | 76.3-123 | WG791168 | 06/01/15 11:54 |
| Toluene-d8 | | % Rec. | 103.0 | 88.7-115 | WG791168 | 06/01/15 11:54 |
| a,a,a-Trifluorotoluene | | % Rec. | 102.0 | 87.2-117 | WG791168 | 06/01/15 11:54 |
| Chromium,Hexavalent | < 2 | mg/kg | | | WG792360 | 06/01/15 15:00 |
| TPH (GC/FID) High Fraction | < 4 | mg/kg | | | WG792114 | 06/01/15 12:44 |
| o-Terphenyl | | % Rec. | 95.90 | 50-150 | WG792114 | 06/01/15 12:44 |
| TPH (GC/FID) Low Fraction | < .1 | mg/kg | | | WG792217 | 06/01/15 16:37 |
| a,a,a-Trifluorotoluene(FID) | | % Rec. | 99.00 | 59-128 | WG792217 | 06/01/15 16:37 |
| Mercury | < .01 | mg/l | | | WG792730 | 06/01/15 20:00 |
| Arsenic | < .45 | mg/l | | | WG792742 | 06/02/15 03:09 |
| Barium | < 1.35 | mg/l | | | WG792742 | 06/02/15 03:09 |

* 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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| Analyte | Result | Laboratory Blank | | Limit | Batch | Date Analyzed |
|-----------------------------|--------|------------------|-------|--------|----------|----------------|
| | | Units | % Rec | | | |
| Cadmium | < .45 | mg/l | | | WG792742 | 06/02/15 03:09 |
| Chromium | < .45 | mg/l | | | WG792742 | 06/02/15 03:09 |
| Lead | < .45 | mg/l | | | WG792742 | 06/02/15 03:09 |
| Selenium | < .45 | mg/l | | | WG792742 | 06/02/15 03:09 |
| Silver | < .45 | mg/l | | | WG792742 | 06/02/15 03:09 |
| Arsenic | < 2 | mg/kg | | | WG791901 | 06/01/15 16:43 |
| Barium | < .5 | mg/kg | | | WG791901 | 06/01/15 16:43 |
| Boron | < 10 | mg/kg | | | WG791901 | 06/01/15 16:43 |
| Cadmium | < .5 | mg/kg | | | WG791901 | 06/01/15 16:43 |
| Chromium | < 1 | mg/kg | | | WG791901 | 06/01/15 16:43 |
| Copper | < 2 | mg/kg | | | WG791901 | 06/01/15 16:43 |
| Lead | < .5 | mg/kg | | | WG791901 | 06/01/15 16:43 |
| Nickel | < 2 | mg/kg | | | WG791901 | 06/01/15 16:43 |
| Selenium | < 2 | mg/kg | | | WG791901 | 06/01/15 16:43 |
| Silver | < 1 | mg/kg | | | WG791901 | 06/01/15 16:43 |
| Zinc | < 5 | mg/kg | | | WG791901 | 06/01/15 16:43 |
| C10-C28 Diesel Range | < 4 | mg/kg | | | WG792699 | 06/02/15 00:20 |
| C28-C40 Oil Range | < 4 | mg/kg | | | WG792699 | 06/02/15 00:20 |
| o-Terphenyl | | % Rec. | 105.0 | 50-150 | WG792699 | 06/02/15 00:20 |
| Reactive CN (SW846 7.3.3.2) | < .125 | mg/kg | | | WG792353 | 06/02/15 10:29 |
| TPH (GC/FID) Low Fraction | < .1 | mg/kg | | | WG792878 | 06/02/15 13:34 |
| a,a,a-Trifluorotoluene(FID) | | % Rec. | 101.0 | 59-128 | WG792878 | 06/02/15 13:34 |

| Analyte | Units | Result | Duplicate | | RPD | Limit | Ref Samp | Batch |
|-------------------------------|----------|--------|-----------|--|-------|-------|------------|----------|
| | | | Duplicate | | | | | |
| Specific Conductance | umhos/cm | 7200 | 7200 | | 0.554 | 20 | L767365-01 | WG792011 |
| ORP | mV | 80.0 | 79.0 | | 1.26 | 20 | L766944-01 | WG792289 |
| ORP | mV | 19.0 | 19.0 | | 0.0 | 20 | L767744-03 | WG792289 |
| Reactive Sulf.(SW846 7.3.4.1) | mg/kg | 0.0 | 0.0 | | 0.0 | 20 | L767333-01 | WG792352 |
| Chromium,Hexavalent | mg/kg | 0.0 | 0.0 | | 0.0 | 20 | L767945-10 | WG792360 |
| pH | su | 9.60 | 9.60 | | 0.416 | 1 | L767403-01 | WG792357 |
| pH | su | 8.60 | 8.70 | | 1.16* | 1 | L767966-06 | WG792357 |
| Reactive CN (SW846 7.3.3.2) | mg/kg | 0.0 | 0.0 | | 0.0 | 20 | L767333-01 | WG792353 |
| Ignitability | Deg. F | 0.00 | 0.00 | | 0.00 | 10 | L768167-01 | WG792780 |
| Paint Filter Test | % | 0.0 | 0.0 | | 0.0 | 20 | L768167-01 | WG792964 |

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| Analyte | Units | Duplicate | | RPD | Limit | Ref Samp | Batch |
|-------------|-------|-----------|-----------|-----|-------|------------|----------|
| | | Result | Duplicate | | | | |
| Corrosivity | | 0.0 | 0.0 | 0.0 | 10 | L768101-11 | WG792950 |

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|-------------------------------|----------|---------------------------|--------|-------|------------|----------|
| | | Known Val | Result | | | |
| Mercury | mg/kg | .3 | 0.264 | 88.0 | 80-120 | WG791985 |
| Specific Conductance | umhos/cm | 534 | 550. | 103. | 85-115 | WG792011 |
| ORP | mV | 100 | 101. | 101. | 90-110 | WG792289 |
| 1-Methylnaphthalene | mg/kg | .08 | 0.0510 | 63.8 | 50.6-122 | WG792060 |
| 2-Chloronaphthalene | mg/kg | .08 | 0.0467 | 58.3 | 53.9-121 | WG792060 |
| 2-Methylnaphthalene | mg/kg | .08 | 0.0483 | 60.4 | 50.4-120 | WG792060 |
| Acenaphthene | mg/kg | .08 | 0.0464 | 58.0 | 52.4-120 | WG792060 |
| Acenaphthylene | mg/kg | .08 | 0.0484 | 60.5 | 49.6-120 | WG792060 |
| Anthracene | mg/kg | .08 | 0.0491 | 61.4 | 50.3-130 | WG792060 |
| Benzo(a)anthracene | mg/kg | .08 | 0.0512 | 64.0 | 46.7-125 | WG792060 |
| Benzo(a)pyrene | mg/kg | .08 | 0.0487 | 60.8 | 42.3-119 | WG792060 |
| Benzo(b)fluoranthene | mg/kg | .08 | 0.0504 | 63.0 | 43.6-124 | WG792060 |
| Benzo(g,h,i)perylene | mg/kg | .08 | 0.0494 | 61.8 | 45.1-132 | WG792060 |
| Benzo(k)fluoranthene | mg/kg | .08 | 0.0474 | 59.2 | 46.1-131 | WG792060 |
| Chrysene | mg/kg | .08 | 0.0485 | 60.7 | 49.5-131 | WG792060 |
| Dibenz(a,h)anthracene | mg/kg | .08 | 0.0503 | 62.9 | 44.8-133 | WG792060 |
| Fluoranthene | mg/kg | .08 | 0.0478 | 59.8 | 49.3-128 | WG792060 |
| Fluorene | mg/kg | .08 | 0.0468 | 58.5 | 50.6-121 | WG792060 |
| Indeno(1,2,3-cd)pyrene | mg/kg | .08 | 0.0513 | 64.1 | 46.1-135 | WG792060 |
| Naphthalene | mg/kg | .08 | 0.0458 | 57.2 | 49.6-115 | WG792060 |
| Phenanthrene | mg/kg | .08 | 0.0463 | 57.8 | 48.8-121 | WG792060 |
| Pyrene | mg/kg | .08 | 0.0558 | 69.7 | 44.7-130 | WG792060 |
| 2-Fluorobiphenyl | | | | 57.00 | 40.6-122 | WG792060 |
| Nitrobenzene-d5 | | | | 61.60 | 22.1-146 | WG792060 |
| p-Terphenyl-d14 | | | | 56.80 | 32.2-131 | WG792060 |
| Reactive Sulf.(SW846 7.3.4.1) | mg/kg | 100 | 74.6 | 74.6 | 70-130 | WG792352 |
| Benzene | mg/kg | .025 | 0.0233 | 93.1 | 72.6-120 | WG791168 |
| Ethylbenzene | mg/kg | .025 | 0.0273 | 109. | 78.6-124 | WG791168 |
| Toluene | mg/kg | .025 | 0.0255 | 102. | 76.7-116 | WG791168 |
| Total Xylenes | mg/kg | .075 | 0.0813 | 108. | 78.1-123 | WG791168 |
| 4-Bromofluorobenzene | | | | 100.0 | 69.7-129 | WG791168 |
| Dibromofluoromethane | | | | 90.00 | 76.3-123 | WG791168 |
| Toluene-d8 | | | | 103.0 | 88.7-115 | WG791168 |
| a,a,a-Trifluorotoluene | | | | 100.0 | 87.2-117 | WG791168 |
| Chromium,Hexavalent | mg/kg | 59.8 | 59.8 | 100. | 80-120 | WG792360 |
| pH | su | 7.84 | 7.86 | 100. | 98.3-101.7 | WG792357 |
| TPH (GC/FID) High Fraction | mg/kg | 60 | 58.1 | 96.8 | 50-150 | WG792114 |

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Est. 1970

June 03, 2015

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|-----------------------------|--------|---------------------------|--------|-------|------------|----------|
| | | Known Val | Result | | | |
| o-Terphenyl | | | | 92.10 | 50-150 | |
| TPH (GC/FID) Low Fraction | mg/kg | 5.5 | 4.86 | 88.3 | 63.5-137 | WG792217 |
| a,a,a-Trifluorotoluene(FID) | | | | 99.30 | 59-128 | WG792217 |
| Mercury | mg/l | .03 | 0.0295 | 98.0 | 80-120 | WG792730 |
| Arsenic | mg/l | 9 | 9.86 | 110. | 80-120 | WG792742 |
| Barium | mg/l | 9 | 10.2 | 113. | 80-120 | WG792742 |
| Cadmium | mg/l | 9 | 9.84 | 109. | 80-120 | WG792742 |
| Chromium | mg/l | 9 | 10.2 | 113. | 80-120 | WG792742 |
| Lead | mg/l | 9 | 9.85 | 109. | 80-120 | WG792742 |
| Selenium | mg/l | 9 | 9.88 | 110. | 80-120 | WG792742 |
| Silver | mg/l | 9 | 9.74 | 108. | 80-120 | WG792742 |
| Arsenic | mg/kg | 100 | 107. | 107. | 80-120 | WG791901 |
| Barium | mg/kg | 100 | 109. | 109. | 80-120 | WG791901 |
| Boron | mg/kg | 100 | 106. | 106. | 80-120 | WG791901 |
| Cadmium | mg/kg | 100 | 109. | 109. | 80-120 | WG791901 |
| Chromium | mg/kg | 100 | 109. | 109. | 80-120 | WG791901 |
| Copper | mg/kg | 100 | 105. | 105. | 80-120 | WG791901 |
| Lead | mg/kg | 100 | 108. | 108. | 80-120 | WG791901 |
| Nickel | mg/kg | 100 | 106. | 106. | 80-120 | WG791901 |
| Selenium | mg/kg | 100 | 110. | 110. | 80-120 | WG791901 |
| Silver | mg/kg | 100 | 108. | 108. | 80-120 | WG791901 |
| Zinc | mg/kg | 100 | 106. | 106. | 80-120 | WG791901 |
| C10-C28 Diesel Range | mg/kg | 60 | 49.5 | 82.6 | 50-100 | WG792699 |
| o-Terphenyl | | | | 112.0 | 50-150 | WG792699 |
| Reactive CN (SW846 7.3.3.2) | mg/kg | .1 | 0.102 | 102. | 50-150 | WG792353 |
| Ignitability | Deg. F | 82 | 83.0 | 101. | 93-107 | WG792780 |
| TPH (GC/FID) Low Fraction | mg/kg | 5.5 | 5.79 | 105. | 63.5-137 | WG792878 |
| a,a,a-Trifluorotoluene(FID) | | | | 98.90 | 59-128 | WG792878 |
| Corrosivity | | 7.84 | 7.80 | 99.5 | 98.3-101.7 | WG792950 |

| Analyte | Units | Laboratory Control Sample Duplicate | | | Limit | RPD | Limit | Batch |
|----------------------|--------|-------------------------------------|--------|------|----------|-------|-------|----------|
| | | Result | Ref | %Rec | | | | |
| Mercury | mg/kg | 0.279 | 0.264 | 93.0 | 80-120 | 5.00 | 20 | WG791985 |
| Specific Conductance | umhos/ | 550. | 550. | 103. | 85-115 | 0.0 | 20 | WG792011 |
| ORP | mV | 102. | 101. | 102. | 90-110 | 0.985 | 20 | WG792289 |
| 1-Methylnaphthalene | mg/kg | 0.0481 | 0.0510 | 60.0 | 50.6-122 | 5.96 | 20 | WG792060 |

* Performance of this Analyte is outside of established criteria.
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YOUR LAB OF CHOICE

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Quality Assurance Report
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Tax I.D. 62-0814289

Est. 1970

June 03, 2015

| Analyte | Units | Laboratory Control Sample Duplicate | | | Limit | RPD | Limit | Batch |
|-------------------------------|-------|-------------------------------------|--------|-------|------------|-------|-------|----------|
| | | Result | Ref | %Rec | | | | |
| 2-Chloronaphthalene | mg/kg | 0.0446 | 0.0467 | 56.0 | 53.9-121 | 4.54 | 20 | WG792060 |
| 2-Methylnaphthalene | mg/kg | 0.0453 | 0.0483 | 56.0 | 50.4-120 | 6.50 | 20 | WG792060 |
| Acenaphthene | mg/kg | 0.0442 | 0.0464 | 55.0 | 52.4-120 | 4.97 | 20 | WG792060 |
| Acenaphthylene | mg/kg | 0.0465 | 0.0484 | 58.0 | 49.6-120 | 4.05 | 20 | WG792060 |
| Anthracene | mg/kg | 0.0475 | 0.0491 | 59.0 | 50.3-130 | 3.32 | 20 | WG792060 |
| Benzo(a)anthracene | mg/kg | 0.0488 | 0.0512 | 61.0 | 46.7-125 | 4.83 | 20 | WG792060 |
| Benzo(a)pyrene | mg/kg | 0.0460 | 0.0487 | 58.0 | 42.3-119 | 5.61 | 20 | WG792060 |
| Benzo(b)fluoranthene | mg/kg | 0.0462 | 0.0504 | 58.0 | 43.6-124 | 8.68 | 20 | WG792060 |
| Benzo(g,h,i)perylene | mg/kg | 0.0468 | 0.0494 | 58.0 | 45.1-132 | 5.45 | 20 | WG792060 |
| Benzo(k)fluoranthene | mg/kg | 0.0477 | 0.0474 | 60.0 | 46.1-131 | 0.620 | 20 | WG792060 |
| Chrysene | mg/kg | 0.0470 | 0.0485 | 59.0 | 49.5-131 | 3.19 | 20 | WG792060 |
| Dibenz(a,h)anthracene | mg/kg | 0.0477 | 0.0503 | 60.0 | 44.8-133 | 5.24 | 20 | WG792060 |
| Fluoranthene | mg/kg | 0.0459 | 0.0478 | 57.0 | 49.3-128 | 4.15 | 20 | WG792060 |
| Fluorene | mg/kg | 0.0448 | 0.0468 | 56.0 | 50.6-121 | 4.33 | 20 | WG792060 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.0486 | 0.0513 | 61.0 | 46.1-135 | 5.47 | 20 | WG792060 |
| Naphthalene | mg/kg | 0.0432 | 0.0458 | 54.0 | 49.6-115 | 5.77 | 20 | WG792060 |
| Phenanthrene | mg/kg | 0.0443 | 0.0463 | 55.0 | 48.8-121 | 4.26 | 20 | WG792060 |
| Pyrene | mg/kg | 0.0535 | 0.0558 | 67.0 | 44.7-130 | 4.13 | 20 | WG792060 |
| 2-Fluorobiphenyl | | | | 55.80 | 40.6-122 | | | WG792060 |
| Nitrobenzene-d5 | | | | 60.40 | 22.1-146 | | | WG792060 |
| p-Terphenyl-d14 | | | | 54.30 | 32.2-131 | | | WG792060 |
| Reactive Sulf.(SW846 7.3.4.1) | mg/kg | 74.6 | 74.6 | 75.0 | 70-130 | 0.0 | 20 | WG792352 |
| Benzene | mg/kg | 0.0225 | 0.0233 | 90.0 | 72.6-120 | 3.60 | 20 | WG791168 |
| Ethylbenzene | mg/kg | 0.0268 | 0.0273 | 107. | 78.6-124 | 1.60 | 20 | WG791168 |
| Toluene | mg/kg | 0.0252 | 0.0255 | 101. | 76.7-116 | 1.12 | 20 | WG791168 |
| Total Xylenes | mg/kg | 0.0778 | 0.0813 | 104. | 78.1-123 | 4.46 | 20 | WG791168 |
| 4-Bromofluorobenzene | | | | 101.0 | 69.7-129 | | | WG791168 |
| Dibromofluoromethane | | | | 90.40 | 76.3-123 | | | WG791168 |
| Toluene-d8 | | | | 104.0 | 88.7-115 | | | WG791168 |
| a,a,a-Trifluorotoluene | | | | 104.0 | 87.2-117 | | | WG791168 |
| Chromium,Hexavalent | mg/kg | 59.8 | 59.8 | 100. | 80-120 | 0.0 | 20 | WG792360 |
| pH | su | 7.87 | 7.86 | 100. | 98.3-101.7 | 0.127 | 20 | WG792357 |
| TPH (GC/FID) High Fraction | mg/kg | 59.0 | 58.1 | 98.0 | 50-150 | 1.66 | 20 | WG792114 |
| o-Terphenyl | | | | 94.80 | 50-150 | | | WG792114 |
| TPH (GC/FID) Low Fraction | mg/kg | 5.39 | 4.86 | 98.0 | 63.5-137 | 10.4 | 20 | WG792217 |
| a,a,a-Trifluorotoluene(FID) | | | | 98.20 | 59-128 | | | WG792217 |
| Mercury | mg/l | 0.0304 | 0.0295 | 101. | 80-120 | 3.00 | 20 | WG792730 |
| Arsenic | mg/l | 9.92 | 9.86 | 110. | 80-120 | 1.00 | 20 | WG792742 |
| Barium | mg/l | 10.1 | 10.2 | 112. | 80-120 | 1.00 | 20 | WG792742 |
| Cadmium | mg/l | 9.79 | 9.84 | 109. | 80-120 | 1.00 | 20 | WG792742 |
| Chromium | mg/l | 10.3 | 10.2 | 114. | 80-120 | 0.0 | 20 | WG792742 |
| Lead | mg/l | 9.91 | 9.85 | 110. | 80-120 | 1.00 | 20 | WG792742 |
| Selenium | mg/l | 10.0 | 9.88 | 111. | 80-120 | 1.00 | 20 | WG792742 |

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Tax I.D. 62-0814289

Est. 1970

June 03, 2015

| Analyte | Units | Laboratory Control Sample Duplicate | | | Limit | RPD | Limit | Batch |
|-----------------------------|--------|-------------------------------------|-------|-------|------------|-------|-------|----------|
| | | Result | Ref | %Rec | | | | |
| Silver | mg/l | 9.72 | 9.74 | 108. | 80-120 | 0.0 | 20 | WG792742 |
| Arsenic | mg/kg | 103. | 107. | 103. | 80-120 | 4.00 | 20 | WG791901 |
| Barium | mg/kg | 106. | 109. | 106. | 80-120 | 4.00 | 20 | WG791901 |
| Boron | mg/kg | 102. | 106. | 102. | 80-120 | 4.00 | 20 | WG791901 |
| Cadmium | mg/kg | 105. | 109. | 105. | 80-120 | 3.00 | 20 | WG791901 |
| Chromium | mg/kg | 105. | 109. | 105. | 80-120 | 4.00 | 20 | WG791901 |
| Copper | mg/kg | 102. | 105. | 102. | 80-120 | 3.00 | 20 | WG791901 |
| Lead | mg/kg | 105. | 108. | 104. | 80-120 | 3.00 | 20 | WG791901 |
| Nickel | mg/kg | 102. | 106. | 102. | 80-120 | 4.00 | 20 | WG791901 |
| Selenium | mg/kg | 105. | 110. | 105. | 80-120 | 4.00 | 20 | WG791901 |
| Silver | mg/kg | 104. | 108. | 104. | 80-120 | 4.00 | 20 | WG791901 |
| Zinc | mg/kg | 103. | 106. | 103. | 80-120 | 3.00 | 20 | WG791901 |
| C10-C28 Diesel Range | mg/kg | 50.4 | 49.5 | 84.0 | 50-100 | 1.64 | 20 | WG792699 |
| o-Terphenyl | | | | 116.0 | 50-150 | | | WG792699 |
| Reactive CN (SW846 7.3.3.2) | mg/kg | 0.100 | 0.102 | 100. | 50-150 | 1.98 | 20 | WG792353 |
| Ignitability | Deg. F | 83.0 | 83.0 | 101. | 93-107 | 0.00 | 20 | WG792780 |
| TPH (GC/FID) Low Fraction | mg/kg | 6.15 | 5.79 | 112. | 63.5-137 | 5.97 | 20 | WG792878 |
| a,a,a-Trifluorotoluene(FID) | | | | 98.90 | 59-128 | | | WG792878 |
| Corrosivity | | 7.79 | 7.80 | 99.0 | 98.3-101.7 | 0.128 | 10 | WG792950 |

| Analyte | Units | Matrix Spike | | | % Rec | Limit | Ref Samp | Batch |
|----------------------------|-------|--------------|-----------|------|-------|----------|------------|----------|
| | | MS Res | Ref Res | TV | | | | |
| Mercury | mg/kg | 0.336 | 0.0114 | .3 | 110. | 75-125 | L767562-01 | WG791985 |
| Chromium,Hexavalent | mg/kg | 18.6 | 0.0 | 20 | 93.0 | 75-125 | L767945-10 | WG792360 |
| TPH (GC/FID) High Fraction | mg/kg | 150. | 76.8 | 60 | 120. | 50-150 | L767365-01 | WG792114 |
| o-Terphenyl | | | | | 51.80 | 50-150 | | WG792114 |
| Mercury | mg/l | 0.0268 | -0.000569 | .03 | 89.0 | 75-125 | L767326-01 | WG792730 |
| Mercury | mg/l | 0.0294 | -0.000783 | .03 | 98.0 | 75-125 | L767416-01 | WG792730 |
| Benzene | mg/kg | 0.112 | 0.0137 | .025 | 79.0 | 47.8-131 | L766872-01 | WG791168 |
| Ethylbenzene | mg/kg | 0.199 | 0.152 | .025 | 38.0* | 44.8-135 | L766872-01 | WG791168 |
| Toluene | mg/kg | 0.162 | 0.0985 | .025 | 51.0 | 47.8-127 | L766872-01 | WG791168 |
| Total Xylenes | mg/kg | 0.668 | 0.548 | .075 | 32.0* | 42.7-135 | L766872-01 | WG791168 |
| 4-Bromofluorobenzene | | | | | 99.30 | 69.7-129 | | WG791168 |
| Dibromofluoromethane | | | | | 90.60 | 76.3-123 | | WG791168 |
| Toluene-d8 | | | | | 99.60 | 88.7-115 | | WG791168 |
| a,a,a-Trifluorotoluene | | | | | 99.80 | 87.2-117 | | WG791168 |

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| Analyte | Units | MS Res | Matrix Spike | | % Rec | Limit | Ref Samp | Batch |
|-----------------------------|-------|--------|--------------|-----|-------|----------|------------|----------|
| | | | Ref Res | TV | | | | |
| Arsenic | mg/l | 10.0 | 0.0214 | 9 | 110. | 75-125 | L767231-01 | WG792742 |
| Barium | mg/l | 9.92 | 0.0219 | 9 | 110. | 75-125 | L767231-01 | WG792742 |
| Cadmium | mg/l | 9.80 | -0.00165 | 9 | 110. | 75-125 | L767231-01 | WG792742 |
| Chromium | mg/l | 10.2 | 0.0199 | 9 | 110. | 75-125 | L767231-01 | WG792742 |
| Lead | mg/l | 9.90 | 0.00841 | 9 | 110. | 75-125 | L767231-01 | WG792742 |
| Selenium | mg/l | 10.1 | 0.0694 | 9 | 110. | 75-125 | L767231-01 | WG792742 |
| Silver | mg/l | 9.74 | -0.00896 | 9 | 110. | 75-125 | L767231-01 | WG792742 |
| Arsenic | mg/l | 9.87 | 0.00830 | 9 | 110. | 75-125 | L767326-01 | WG792742 |
| Barium | mg/l | 10.1 | 0.115 | 9 | 110. | 75-125 | L767326-01 | WG792742 |
| Cadmium | mg/l | 9.71 | -0.00469 | 9 | 110. | 75-125 | L767326-01 | WG792742 |
| Chromium | mg/l | 10.2 | -0.00111 | 9 | 110. | 75-125 | L767326-01 | WG792742 |
| Lead | mg/l | 9.81 | -0.00713 | 9 | 110. | 75-125 | L767326-01 | WG792742 |
| Selenium | mg/l | 9.85 | 0.00779 | 9 | 110. | 75-125 | L767326-01 | WG792742 |
| Silver | mg/l | 9.62 | -0.0115 | 9 | 110. | 75-125 | L767326-01 | WG792742 |
| Arsenic | mg/kg | 103. | 1.78 | 100 | 100. | 75-125 | L767423-10 | WG791901 |
| Barium | mg/kg | 109. | 6.40 | 100 | 100. | 75-125 | L767423-10 | WG791901 |
| Boron | mg/kg | 102. | 1.15 | 100 | 100. | 75-125 | L767423-10 | WG791901 |
| Cadmium | mg/kg | 104. | -0.0246 | 100 | 100. | 75-125 | L767423-10 | WG791901 |
| Chromium | mg/kg | 118. | 54.8 | 100 | 63.0* | 75-125 | L767423-10 | WG791901 |
| Copper | mg/kg | 115. | 23.6 | 100 | 92.0 | 75-125 | L767423-10 | WG791901 |
| Lead | mg/kg | 145. | 54.7 | 100 | 91.0 | 75-125 | L767423-10 | WG791901 |
| Nickel | mg/kg | 126. | 37.4 | 100 | 88.0 | 75-125 | L767423-10 | WG791901 |
| Selenium | mg/kg | 106. | -0.0881 | 100 | 110. | 75-125 | L767423-10 | WG791901 |
| Silver | mg/kg | 102. | 0.0438 | 100 | 100. | 75-125 | L767423-10 | WG791901 |
| Zinc | mg/kg | 114. | 20.0 | 100 | 94.0 | 75-125 | L767423-10 | WG791901 |
| TPH (GC/FID) Low Fraction | mg/kg | 21.0 | 2.39 | 5.5 | 68.0 | 28.5-138 | L767693-05 | WG792217 |
| a,a,a-Trifluorotoluene(FID) | | | | | 96.40 | 59-128 | | WG792217 |
| TPH (GC/FID) Low Fraction | mg/kg | 23.9 | 0.0 | 5.5 | 87.0 | 28.5-138 | L768039-02 | WG792878 |
| a,a,a-Trifluorotoluene(FID) | | | | | 96.40 | 59-128 | | WG792878 |

| Analyte | Units | MSD | Matrix Spike Duplicate | | Limit | RPD | Limit | Ref Samp | Batch |
|----------------------------|-------|--------|------------------------|-------|----------|------|-------|------------|----------|
| | | | Ref | %Rec | | | | | |
| Mercury | mg/kg | 0.316 | 0.336 | 101. | 75-125 | 6.00 | 20 | L767562-01 | WG791985 |
| Chromium,Hexavalent | mg/kg | 18.6 | 18.6 | 93.0 | 75-125 | 0.0 | 20 | L767945-10 | WG792360 |
| TPH (GC/FID) High Fraction | mg/kg | 130. | 150. | 89.0 | 50-150 | 14.3 | 20 | L767365-01 | WG792114 |
| o-Terphenyl | | | | 58.60 | 50-150 | | | | WG792114 |
| Mercury | mg/l | 0.0256 | 0.0268 | 87.1 | 75-125 | 5.00 | 20 | L767326-01 | WG792730 |
| Mercury | mg/l | 0.0298 | 0.0294 | 102. | 75-125 | 2.00 | 20 | L767416-01 | WG792730 |
| Benzene | mg/kg | 0.103 | 0.112 | 71.3 | 47.8-131 | 8.53 | 22.8 | L766872-01 | WG791168 |
| Ethylbenzene | mg/kg | 0.172 | 0.199 | 16.2* | 44.8-135 | 14.5 | 26.9 | L766872-01 | WG791168 |
| Toluene | mg/kg | 0.146 | 0.162 | 37.7* | 47.8-127 | 10.7 | 24.3 | L766872-01 | WG791168 |
| Total Xylenes | mg/kg | 0.570 | 0.668 | 6.08* | 42.7-135 | 15.8 | 26.6 | L766872-01 | WG791168 |
| 4-Bromofluorobenzene | | | | 104.0 | 69.7-129 | | | | WG791168 |
| Dibromofluoromethane | | | | 90.30 | 76.3-123 | | | | WG791168 |

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Est. 1970

June 03, 2015

| Analyte | Units | MSD | Matrix Spike Duplicate | | Limit | RPD | Limit | Ref Samp | Batch |
|-----------------------------|-------|------|------------------------|-------|----------|------|-------|------------|----------|
| | | | Ref | %Rec | | | | | |
| Toluene-d8 | | | | 102.0 | 88.7-115 | | | | |
| a,a,a-Trifluorotoluene | | | | 101.0 | 87.2-117 | | | | |
| Arsenic | mg/l | 9.89 | 10.0 | 110. | 75-125 | 1.00 | 20 | L767231-01 | WG792742 |
| Barium | mg/l | 9.91 | 9.92 | 110. | 75-125 | 0.0 | 20 | L767231-01 | WG792742 |
| Cadmium | mg/l | 9.76 | 9.80 | 108. | 75-125 | 0.0 | 20 | L767231-01 | WG792742 |
| Chromium | mg/l | 10.1 | 10.2 | 111. | 75-125 | 1.00 | 20 | L767231-01 | WG792742 |
| Lead | mg/l | 9.81 | 9.90 | 109. | 75-125 | 1.00 | 20 | L767231-01 | WG792742 |
| Selenium | mg/l | 9.96 | 10.1 | 110. | 75-125 | 2.00 | 20 | L767231-01 | WG792742 |
| Silver | mg/l | 9.72 | 9.74 | 108. | 75-125 | 0.0 | 20 | L767231-01 | WG792742 |
| Arsenic | mg/l | 10.1 | 9.87 | 112. | 75-125 | 2.00 | 20 | L767326-01 | WG792742 |
| Barium | mg/l | 10.2 | 10.1 | 112. | 75-125 | 1.00 | 20 | L767326-01 | WG792742 |
| Cadmium | mg/l | 9.81 | 9.71 | 109. | 75-125 | 1.00 | 20 | L767326-01 | WG792742 |
| Chromium | mg/l | 10.4 | 10.2 | 115. | 75-125 | 1.00 | 20 | L767326-01 | WG792742 |
| Lead | mg/l | 9.95 | 9.81 | 111. | 75-125 | 1.00 | 20 | L767326-01 | WG792742 |
| Selenium | mg/l | 10.0 | 9.85 | 111. | 75-125 | 2.00 | 20 | L767326-01 | WG792742 |
| Silver | mg/l | 9.69 | 9.62 | 108. | 75-125 | 1.00 | 20 | L767326-01 | WG792742 |
| Arsenic | mg/kg | 106. | 103. | 104. | 75-125 | 3.00 | 20 | L767423-10 | WG791901 |
| Barium | mg/kg | 111. | 109. | 105. | 75-125 | 2.00 | 20 | L767423-10 | WG791901 |
| Boron | mg/kg | 104. | 102. | 103. | 75-125 | 3.00 | 20 | L767423-10 | WG791901 |
| Cadmium | mg/kg | 106. | 104. | 106. | 75-125 | 2.00 | 20 | L767423-10 | WG791901 |
| Chromium | mg/kg | 118. | 118. | 63.2* | 75-125 | 0.0 | 20 | L767423-10 | WG791901 |
| Copper | mg/kg | 116. | 115. | 92.0 | 75-125 | 0.0 | 20 | L767423-10 | WG791901 |
| Lead | mg/kg | 157. | 145. | 102. | 75-125 | 8.00 | 20 | L767423-10 | WG791901 |
| Nickel | mg/kg | 125. | 126. | 87.6 | 75-125 | 0.0 | 20 | L767423-10 | WG791901 |
| Selenium | mg/kg | 108. | 106. | 108. | 75-125 | 2.00 | 20 | L767423-10 | WG791901 |
| Silver | mg/kg | 104. | 102. | 104. | 75-125 | 2.00 | 20 | L767423-10 | WG791901 |
| Zinc | mg/kg | 116. | 114. | 96.1 | 75-125 | 2.00 | 20 | L767423-10 | WG791901 |
| TPH (GC/FID) Low Fraction | mg/kg | 22.4 | 21.0 | 72.8 | 28.5-138 | 6.52 | 23.6 | L767693-05 | WG792217 |
| a,a,a-Trifluorotoluene(FID) | | | | 97.20 | 59-128 | | | | WG792217 |
| TPH (GC/FID) Low Fraction | mg/kg | 21.2 | 23.9 | 77.1 | 28.5-138 | 12.0 | 23.6 | L768039-02 | WG792878 |
| a,a,a-Trifluorotoluene(FID) | | | | 97.10 | 59-128 | | | | WG792878 |

Post Spike

Serial Dilution

* 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

Linn Energy - Denver, CO
Dave Nicholson
1999 Broadway, Suite 3700

Denver, CO 80202

Quality Assurance Report
Level II

L767456

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

June 03, 2015

Serial Dilution

Batch number /Run number / Sample number cross reference

WG791985: R3040100: L767456-01
WG792011: R3040171: L767456-01
WG792289: R3040178: L767456-01
WG792060: R3040413 R3040707: L767456-01
WG792352: R3040446: L767456-02
WG792473: R3040546: L767456-02
WG791168: R3040567: L767456-01 03
WG792114: R3040594: L767456-03
WG792360: R3040605: L767456-01
WG792357: R3040612: L767456-01
WG792217: R3040668: L767456-03
WG791903: R3040673: L767456-01
WG792730: R3040680: L767456-02
WG791901: R3040700 R3040965: L767456-01
WG792742: R3040711: L767456-02
WG792699: R3040729: L767456-01
WG792353: R3040773: L767456-02
WG792780: R3040897: L767456-02
WG792878: R3040905: L767456-01
WG792964: R3041008: L767456-02
WG792950: R3041062: L767456-02

* * 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.