REMEDIATION REPORT Townsend 16 Inch Pipeline Release Lea County, New Mexico

1RP-4312

LAI Project No. 15-0143-01

January 12, 2017

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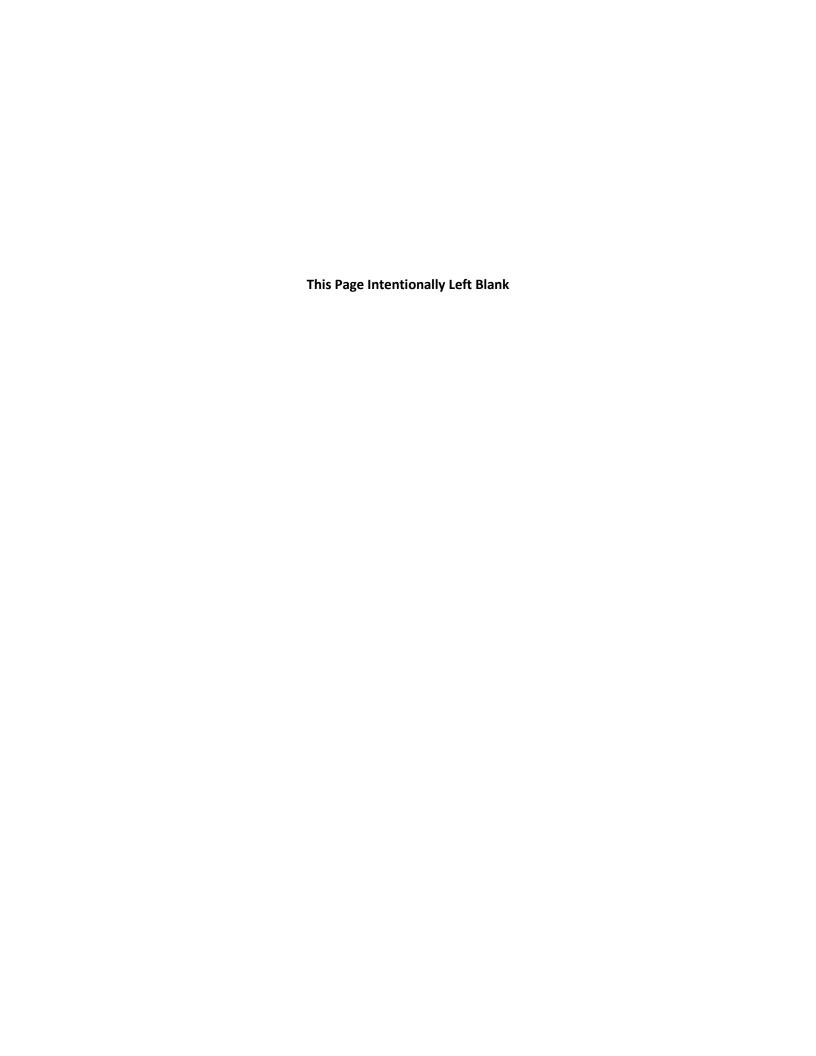
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<u>Introduction</u>

This final remediation report is prepared on behalf of Targa Midstream Services, LLC (Targa), a wholly owned subsidiary of Targa Resources Corp., for a natural gas liquid (NGL) release from the Townsend 16-inch pipeline (Site) in Unit M (SW/4, SW/4), Section 3, Township 16 South, Range 35 East, in Lea County, New Mexico. The Site is located about four (4) miles west of Lovington, New Mexico. The release occurred on July 2015 due to corrosion of an underground 16-inch steel line. Between 5 and 10 barrels (bbl) of natural gas liquid (NGL) was released with 0 bbl recovered. The NGL release covered an area measuring about 1,025 square feet. Initial remediation was performed between September 19 and October 30, 2015, with additional remediation performed between April 26, 2016 and May 10, 2016. The geodetic position is 33°32'04.816" North and 103°05'32.604" West. Figure 1 presents a topographic map showing the site location. Figure 2 presents an aerial map and approximate release location.

Setting

The surface elevation is about 4,003 feet above mean sea level (MSL) and the topography is nearly level with a regional slope to the southeast. No surface water features are present within one mile of the Site. The soils are designated as "Kimbrough-Lea complex, 0 to 3 percent slopes", consisting of gravelly and loamy deposits derived from reworking moderately fine textured eolian sediments of the Blackwater Draw (Pleistocene) formation. The soils have a gravelly loam surface layer over a heavier loam subsoil or indurated caliche that extends to depths greater than about 6 to 26 inches below ground surface (bgs). Groundwater occurs at about 68 feet bgs according to depth to groundwater that was measured in a fresh water well located about 2.5 miles north of the Site in Unit F (SE/4, NW/4), Section 5, Township 9 South, Range 38 East (L03881).

Remediation Action Levels

Remediation action levels (RRAL) were calculated for total benzene, ethyl benzene, toluene, and xylenes (BTEX) and total petroleum hydrocarbons (TPH) based on the following criteria established by the New Mexico Oil Conservation Division (OCD) in "Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993":

| Criteria | Result | Score |
|--------------------------------|-----------------------|-------|
| Depth-to-Groundwater | 68 feet | 10 |
| Wellhead Protection Area | No | 0 |
| Distance to Surface Water Body | >1000 Horizontal Feet | 0 |

The following RRAL apply to the release for ranking score: 10

Benzene 10 milligrams per kilogram (mg/Kg)

BTEX 50 mg/KgTPH 1,000 mg/Kg

In addition, the screening criterion for chloride of 250 mg/Kg based on guidance applies to the remediation activities.

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Investigation Activities (July-August 2015)

On July 16, 2015, personnel from Larson & Associates, Inc. (LAI) met with Targa representative, Ralph England, to document the release and collect soil samples. Surface soil samples were collected from four hand auger borings (HA-1 through HA-4) located east, north, and west of the original excavation for the repair of the pipeline. The locations of the borings are depicted on Figure 3. Soil sample HA-5 was collected from the bottom of the excavation at approximately 4 feet bgs. Four (4) samples (S-1 through S-1) were also collected from the excavation sidewalls at about 2 feet bgs. The samples were analyzed in the field for the presence of headspace vapors with a calibrated photoionization detector (PID). Soil samples were submitted to Trace Analysis, Inc. (Trace) in Midland and Lubbock, Texas for laboratory analyses of BTEX by Method 8021B, TPH by Method 8015D and chloride by Method E300.

On August 3, 2015, Scarborough Drilling, Inc. (SDI) under supervision from LAI drilled five (5) borings (SB-1 through SB-5. Borings SB-1, SB-2, SB-3 and SB-4 were drilled to about 10 feet bgs east, north, west, and south of the excavation, respectively. Boring SB-5 was drilled to about 25 feet bgs in the bottom of the excavation and south of the pipeline. Soil samples were collected from borings SB-1 through SB-4 at 5 and 10 feet bgs. Samples were collected from boring SB-5 at 10, 15, 20 and 25 feet bgs. The samples were sent to the laboratory and analyzed for TPH (EPA SW-846 Method 8015D) and chloride EPA Method E300). Table 1 presents the investigation sample analytical data summary. Figure 3 presents the investigation sample locations.

Initial Remediation Activities (September-October 2015)

Initial remediation was performed between September 19 and October 30, 2015. Watson Construction Inc. (Watson) under supervision from LAI excavated soil to a maximum depth of about 24 feet bgs. Confirmation samples were collected from the excavation sidewalls and bottom and reported concentrations of TPH below the RRAL (1,000 mg/Kg) and chloride below the OCD delineation requirement of 250 mg/Kg. The excavation measured about 30 feet wide by 60 feet long and about 24 feet deep. LAI personnel collected confirmation soil samples the bottom and sidewalls of the excavation as remediation progressed to confirm that soil exceeding the RRAL for was removed for disposal. Confirmation soil samples were analyzed for TPH by EPA SW-486 Method 8015D and chloride by Method E300. The final confirmation samples reported TPH below the RRAL and chloride below the OCD delineation criteria of 250 mg/Kg. The soil was stockpiled on location until disposal was arranged. Based on the investigation soil sample analysis the chloride concentration was below the waste acceptance criteria for chloride for the soil to be disposed at Jay Dan Landfarm (NM-01-0045). Between September 16, 2015 and October 30, 2015, approximately 2,100 cubic yards of soil was hauled by Carranza Trucking, Rios Trucking, Senior and Son Trucking to Jay Dan Landfarm, LLC located northwest of Lovington, New Mexico. Targa was unable to retrieve waste manifests from Jay Dan Landfarm, LLC, an amended report will be sent to OCD if waste manifests are received. On April 19, 2016, LAI, on behalf of Targa, forwarded a remediation report entitled "Remediation Summary, December 15, 2015" to the OCD in Hobbs and Santa Fe, New Mexico. Appendix A presents the waste manifests.

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Additional Remediation Activities (April 2016)

On February 9, 2016, after completing the initial remediation, the landowner, Dan Fields, through a third party, collected soil samples at two (2) locations from the excavation. The samples were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico and were analyzed for TPH by Method 418.1. The laboratory reported TPH at 44,000 mg/Kg in sample T-1-4 and 49,000 mg/Kg in sample T-2-18. Dan Fields made contact directly with the Santa Fe and Hobbs district OCD offices to report the newly observed hydrocarbon staining at the following locations:

- south wall near the east end of the excavation between 18 and 20 feet bgs;
- near the northeast corner of the excavation at about 15 feet bgs; and
- the west wall directly below the pipeline at about four (4) feet bgs.

The OCD confirmed the staining and required further remediation of the newly found contamination.

Between May 6 and May 11, 2016, Gandy Corporation (Gandy) under LAI supervision used a trackhoe to excavate the additional hydrocarbon-impacted soil at the locations observed by the landowner. Soil was not excavated directly beneath the pipeline on the west side of the excavation until the main excavation was backfilled to support the pipe and provide safe working conditions. Gandy excavated approximately 60 cubic yards of additional soil d disposed at the Gandy-Marley Landfill located west of Tatum, New Mexico, between May 6 and 11, 2016. Regulatory communication with the OCD is presented in Appendix B. Appendix C presents the waste manifests for the additional soil disposal.

On May 13, 2016 LAI personnel accompanied OCD District 1 representative, Jaime Keyes, and Todd Roberson with Trinity Oilfield Services, LLC (Trinity) representing the landowner, to spilt soil samples from the additional excavation areas. All parties agreed upon soil sample locations and LAI and Trinity personnel collected spilt samples. LAI samples were delivered to Trace, in Midland and Lubbock, Texas, and were analyzed by EPA SW-846 Method 8015D for TPH and chloride by Method E300. All samples reported TPH below the method reporting limit (RL) except from the west wall beneath the pipeline at 4 feet bgs (6,198 mg/Kg). Chloride was below the OCD delineation limit of 250 mg/Kg. The additional remediation soil samples analytical data summary is presented in Table 3. Table 4 presents the Trinity confirmation sample analytical data summary. Figure 4 presents a drawing showing locations for the additional remediation soil samples. Appendix D presents laboratory reports for the additional remediation soil samples.

Between September 15 and 19, 2016, Gandy backfilled the excavation to the bottom of the pipeline to allow safe access. On September 19 and 20, 2016, Gandy excavated approximately 120 cubic yards of soil from beneath the pipeline on the west side of the excavation. Soil was excavated to a maximum depth of approximately 15 feet bgs and disposed at the Gandy-Marley Landfill. On September 30, 2016 LAI, personnel accompanied Todd Roberson with Trinity, and representing the landowner, to collect additional confirmation soil samples from the west sidewall and bottom of the west excavation. LAI samples were analyzed by Trace, located in Midland and Lubbock, Texas, by EPA SW-846 Method 8015D for TPH and chloride by Method E300. Neither Targa nor LAI representatives received laboratory results for spilt samples collected by Trinity on behalf of the landowner. Table 3 presents the LAI additional remediation soil sample analytical data summary. Table 4 presents the Trinity confirmation sample analytical data summary. Figure 5 presents the additional remediation confirmation soil sample

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locations. Appendix D presents the laboratory reports. Appendix E presents photographic documentation.

In referring to Table 3 and Table 4, laboratory results for samples collected from both LAI and Trinity confirmed that remaining TPH in sidewall and bottom samples is below the RRAL. The collected confirmation soil samples that were split between LAI and Trinity on May 13, 2016 indicate similar concentrations for BTEX and TPH.

Conclusions

The laboratory results of soil samples collected from the bottom and sidewalls of the excavation confirm that the RRAL of 50 mg/Kg for BTEX and 1,000 mg/Kg for TPH has been achieved. Chloride was less than 250 mg/Kg in all samples from the excavation. Based on the information presented herein, no additional investigation or remediation is required at this time. Targa requests no further action for the release and final closure approval. Appendix F presents the initial and final C-141 forms.

Table 1
Investigation Soil Sample Analytical Data Summary
Targa Midstream Services, LLC, Townsend 16" Pipeline Release
Lea County, New Mexico

| Sample | Depth | Collection | PID | Benzene | BTEX | DRO | GRO | TPH | Chloride |
|-----------|--------|------------|-------|---------|---------|---------|---------|---------|----------|
| | (Feet) | Date | (ppm) | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) |
| OCD RRAL: | | | | 10 | 50 | | | 1,000 | |
| HA-1 | 0.5 | 07/16/2015 | 4 | | | 589 | <4.0 | 589 | <25.0 |
| SB-1 | 5 | 08/03/2015 | 393 | | | 8,570 | 2,810 | 11,380 | |
| | 10 | 08/03/2015 | 323 | | | 5,900 | 1,870 | 7,770 | |
| | | | | | | | | | |
| HA-2 | 0.5 | 07/16/2015 | 71 | | | 8,680 | 31.6 | 8,711.6 | <25.0 |
| | | | | | | | | | |
| HA-3 | 0.5 | 07/16/2015 | 412 | 6.82 | 366 | 14,700 | 4,460 | 19,160 | <25.0 |
| SB-2 | 5 | 08/03/2015 | 317 | | | 2,870 | 847 | 3,717 | |
| | 10 | 08/03/2015 | 22.8 | | | <50.0 | <4.00 | <54.0 | |
| | | | | | | | | | |
| HA-4 | 0.5 | 07/16/2015 | 236 | 0.503 | 34.4 | 6,930 | 619 | 7,549 | 28 |
| SB-3 | 5 | 08/03/2015 | 7.9 | | | <50.0 | <4.00 | <54.0 | |
| | 10 | 08/03/2015 | 4.4 | | | <50.0 | <4.00 | <54.0 | |
| | | | | | | | | | |
| SB-4 | 0 | 08/03/2015 | 20.3 | | | 253 | <8.00 | 253 | <20.0 |
| | 5 | 08/03/2015 | 543 | | | 2,430 | 546 | 2,976 | <20.0 |
| | 10 | 08/03/2015 | 11.5 | | | <50.0 | <4.00 | <54.0 | <20.0 |
| | | | | | | | | | |
| HA-5 | 4 | 07/16/2015 | 307 | 60.6 | 698.6 | 21,600 | 7,320 | 28,920 | 2,370 |
| SB-5 | 10 | 08/03/2015 | 54 | | | 104 | <4.00 | 104 | 488 |
| | 15 | 08/03/2015 | 52 | | | 56.6 | <4.00 | 56.6 | <20.0 |
| | 20 | 08/03/2015 | 7.9 | | | <50.0 | <4.00 | <54.0 | 299 |
| | 25 | 08/03/2015 | 6.1 | | | <50.0 | <4.00 | <54.0 | 498 |

Table 1
Soil Investigation Analytical Data Summary
Targa Midstream Services, LLC, Townsend 16" Pipeline Release
Lea County, New Mexico

| | Sidewall Samples | | | | | | | | |
|-----|------------------|------------|-----|------|-------|--------|-------|--------|-----|
| S-1 | 2 | 07/16/2015 | 243 | 5.51 | 199.3 | 26,900 | 3,940 | 30,840 | 936 |
| S-2 | 2 | 07/16/2015 | 312 | 12.3 | 334.9 | 31,000 | 4,700 | 35,700 | 572 |
| S-3 | 2 | 07/16/2015 | 204 | 8.18 | 186.9 | 35,800 | 3,440 | 32,240 | 403 |
| S-4 | 2 | 07/16/2015 | 371 | 21 | 578 | 23,500 | 8,380 | 31,880 | 488 |
| | | | | | | | | | |

Notes: Laboratory analysis performed by Trace Analysis, Inc., Midland and Lubbock, Texas.

BTEX performed by EPA SW-846 method 8021B

TPH (GRO and DRO) performed by EPA SW-846 method 8015M

Chloride performed by method E300.0

Depth in feet below ground surface (bgs)

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

Table 2
Initial Remediation: Soil Confirmation Analytical Data Summary
Targa Midstream Services, LLC, Townsend 16" Pipeline Release
Lea County, New Mexico

| | | | | IVEW IVIENICO | | | | | | |
|---------------------|--------|------------|-----------|---------------|---------|---------|----------|--|--|--|
| Location | Depth | Collection | | DRO | GRO | TPH | Chloride | | | |
| | (Feet) | Date | Status | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) | | | |
| OCD RRAL: | | | | 1,000 | | | | | | |
| Bottom | 15 | 9/21/2015 | Excavated | 3,120 | 3,921 | 7,040 | | | | |
| (North of Pipeline) | 18 | 10/13/2015 | Excavated | 4,640 | 4,640 | 9,280 | <25.0 | | | |
| | 20 | 10/13/2015 | Excavated | 8,300 | 5,240 | 13,540 | <25.0 | | | |
| | 22 | 10/13/2015 | Excavated | 1,050 | 668 | 1,718 | <25.0 | | | |
| | 23 | 10/26/2015 | In-Situ | <50.0 | <4.00 | <54.0 | <25.0 | | | |
| | 24 | 10/13/2015 | In-Situ | 281 | 201 | 482 | <25.0 | | | |
| | 26 | 10/13/2015 | In-Situ | 578 | 86.6 | 664.6 | <25.0 | | | |
| | | | | | | | | | | |
| Bottom | 15 | 9/23/2015 | Excavated | 3,220 | 1,420 | 4,640 | | | | |
| (South of Pipeline) | 18 | 10/15/2015 | Excavated | 2,450 | 5,770 | 8,220 | | | | |
| | 20 | 10/15/2015 | Excavated | 1,850 | 1,400 | 3,250 | | | | |
| | 21 | 10/22/2015 | In-Situ | 171 | <4.0 | 171 | | | | |
| | 22 | 10/15/2015 | In-Situ | 69 | 11.9 | 80.9 | 183 | | | |
| | 24 | 10/15/2015 | In-Situ | <50.0 | <4.00 | <54.0 | | | | |
| | | | | | | | | | | |
| North Side | 12 | 9/21/2015 | In-Situ | <50.0 | <4.00 | <54.0 | | | | |
| | 23 | 10/26/2015 | In-Situ | <50.0 | <4.00 | <54.0 | <25.0 | | | |
| | | | | | | | | | | |
| South Side | 9 | 9/21/2015 | In-Situ | <50.0 | <4.00 | <54.0 | | | | |
| | 21 | 10/23/2015 | In-Situ | <50.0 | <4.00 | <54.0 | <25.0 | | | |
| | | | | | | | | | | |
| East Side | 12 | 9/21/2015 | In-Situ | <50.0 | <4.00 | <54.0 | | | | |
| | 23 | 10/22/2015 | In-Situ | <50.0 | <4.00 | <54.0 | 110 | | | |
| | | | | | | | | | | |
| West Side | 12 | 9/21/2015 | Excavated | 12,500 | 5,350 | 17,850 | | | | |
| (north of P/L) | 15 | 10/15/2015 | In-Situ | 242 | 77.3 | 319.3 | | | | |
| | 18 | 10/15/2015 | In-Situ | <50.0 | <4.0 | <54.0 | <25.0 | | | |
| | 21 | 10/30/2015 | In-Situ | <50.0 | <4.0 | <54.0 | <25.0 | | | |
| | | | | | | | | | | |
| West Side | 6 | 9/21/2015 | In-Situ | 106 | <4.0 | 106 | | | | |
| (under P/L) | 12 | 9/21/2015 | In-Situ | <50.0 | <4.0 | <54.0 | <25.0 | | | |

Initial Remediation: Soil Confirmation Analytical Data Summary Targa Midstream Services, LLC, Townsend 16" Pipeline Release

Lea County, New Mexico

| West Side | 12 | 9/21/2015 | In-Situ | <50.0 | <4.0 | <54.0 | <25.0 |
|----------------|----|------------|---------|-------|------|-------|-------|
| (south of P/L) | 15 | 10/15/2015 | In-Situ | <50.0 | <4.0 | <54.0 | <25.0 |
| | 18 | 10/15/2015 | In-Situ | <50.0 | <4.0 | <54.0 | <25.0 |
| | 21 | 10/22/2015 | In-Situ | <50.0 | <4.0 | <54.0 | 112 |
| | | | | | | | |

Notes: Laboratory analysis performed by Trace Analysis, Inc., Midland and Lubbock, Texas.

TPH (GRO and DRO) performed by EPA SW-846 method 8015M

Chloride performed by method E300.0

Depth in feet below ground surface (bgs)

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

Table 3

Additional Remediation: Soil Confirmation Sample Analytical Data Summary
Targa Midstream Services, LLC, Townsend 16" Pipeline Release
Lea County, New Mexico

| Location | Depth | Collection | | DRO | GRO | ORO | TPH | Chloride |
|-----------------|-------------|------------|---------|---------|---------|---------|---------|----------|
| | (Feet) | Date | Status | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) |
| OCD RRAL: | RRAL: 1,000 | | | | | | | |
| North Wall West | 4 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| (SP-1) | 8 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 10 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | 97.9 |
| | 14 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 18 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | 25.5 |
| | | | | | | | | |
| North Wall East | 4 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | 89.9 |
| (SP-2) | 8 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | 32.5 |
| | 10 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | 36.6 |
| | 14 | 5/13/2016 | In Situ | 320 | <4.00 | <50.0 | 320 | 31.1 |
| | 18 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | | | | | | | | |
| East Wall | 4 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| (SP-3) | 8 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 10 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 14 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 18 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | | | | | | | | |
| South Wall East | 4 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| (SP-4) | 8 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 10 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 14 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 18 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | 25 |
| | | | | | | | | |
| South Wall West | 4 | 5/13/2016 | In Situ | 69.8 | <4.00 | <50.0 | 69.8 | 25 |
| (SP-5) | 8 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 10 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 14 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | 124 |
| | 18 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | 120 |

Table 3

Additional Remediation: Soil Confirmation Sample Analytical Data Summary
Targa Midstream Services, LLC, Townsend 16" Pipeline Release
Lea County, New Mexico

| West Wall | 4 | 5/13/2016 | Excavated | 4,870 | 248 | 1,080 | 6,198 | <25.0 |
|--------------------------|----|-----------|-----------|-------|-------|-------|-------|-------|
| (SP-6) | 8 | 5/13/2016 | Excavated | <50.0 | <4.00 | <50.0 | <50.0 | 25.9 |
| | 10 | 5/13/2016 | Excavated | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 14 | 5/13/2016 | Excavated | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | 18 | 5/13/2016 | Excavated | <50.0 | <4.00 | <50.0 | <50.0 | 89.5 |
| SP-1 S P/L Bottom | 10 | 9/30/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| SP-2 S P/L Wall | 5 | 9/30/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| SP-3 N P/L Wall | 5 | 9/30/2016 | In Situ | 162 | <4.00 | <50.0 | <50.0 | <25.0 |
| SP-4 N P/L Bottom | 15 | 9/30/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | <25.0 |
| | | | | | | | | |
| Bottom | 24 | 5/13/2016 | In Situ | <50.0 | <4.00 | <50.0 | <50.0 | 57.5 |
| (SP-7) | | | | | | | | |

Notes: Laboratory analysis performed by Trace Analysis, Inc., Midland and Lubbock, Texas.

TPH (GRO, DRO, and ORO) performed by EPA SW-846 method 8015M

Chloride performed by method E300.0

Depth in feet below ground surface (bgs)

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

Table 4
Trinity Oilfield Services Remediation: Soil Confirmation Sample Analytical Data Summary
Targa Midstream Services, LLC, Townsend 16" Pipeline Release
Lea County, New Mexico

| Location | Depth | Collection | | BTEX | DRO | GRO | ORO | TPH | Chloride |
|-------------|--------|------------|---------|---------|---------|---------|---------|---------|----------|
| | (Feet) | Date | Status | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) |
| OCD RRAL: | | | | | | | | 1,000 | |
| SP-1 | 4 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| (NW Wall) | 8 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | 48 |
| | 10 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | 16.0 |
| | 14 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | 18 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | | | | | | | | | |
| SP-2 | 4 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | 112 |
| (NE Wall) | 8 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | 10 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | 14 | 5/13/2016 | In Situ | <0.3 | 269 | <10.0 | 70.4 | 339.4 | 16.0 |
| | 18 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.1 | <16.0 |
| | | | | | | | | | |
| SP-3 | 4 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| (East Wall) | 8 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | 10 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | 14 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | 18 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | | | | | | | | | |
| SP-4 | 4 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| (SE Wall) | 8 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | 16.0 |
| | 10 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | 16.0 |
| | 14 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | 18 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | | | | | | | | | |
| SP-5 | 4 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| (SW Wall) | 8 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | 10 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | 14 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | 128 |
| | 18 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | 128 |

Trinity Oilfield Services Remediation: Soil Confirmation Sample Analytical Data Summary Targa Midstream Services, LLC, Townsend 16" Pipeline Release

Lea County, New Mexico

| SP-6 | 4 | 5/13/2016 | Excavated | 14.9 | 3,570 | 136 | 556 | 4,262 | <16.0 |
|-------------|----|-----------|-----------|-------|-------|-------|-------|-------|-------|
| (West Wall) | 8 | 5/13/2016 | Excavated | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | 16 |
| | 10 | 5/13/2016 | Excavated | < 0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | 14 | 5/13/2016 | Excavated | < 0.3 | <10.0 | <10.0 | <10.0 | <10.0 | <16.0 |
| | 18 | 5/13/2016 | Excavated | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | 128 |
| SP-7 | 24 | 5/13/2016 | In Situ | <0.3 | <10.0 | <10.0 | <10.0 | <10.0 | 64 |
| (Bottom) | | | | | | | | | |

Notes: Laboratory analysis performed by Trace Analysis, Inc., Midland and Lubbock, Texas.

TPH (GRO and DRO) performed by EPA SW-846 method 8015M

Chloride performed by SM4500Cl-B titration method

Depth in feet below ground surface (bgs)

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

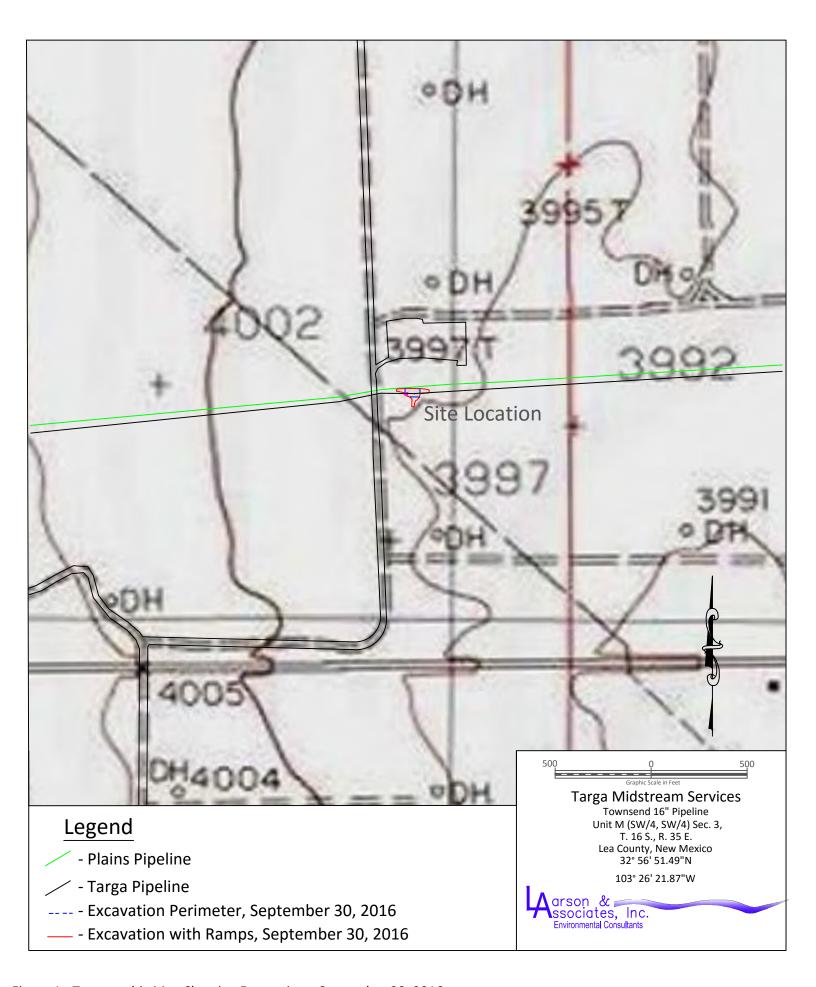


Figure 1- Topographic Map Showing Excavations, September 30, 2016

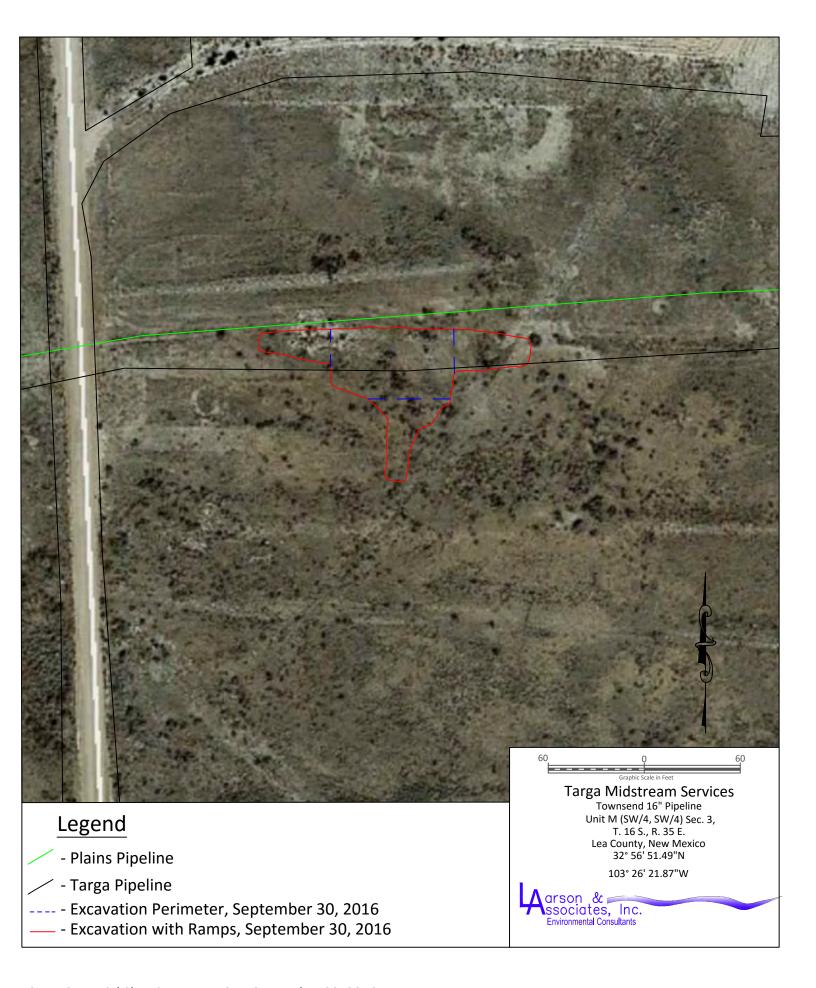


Figure 2- Aerial Showing Excavation, September 30, 2016

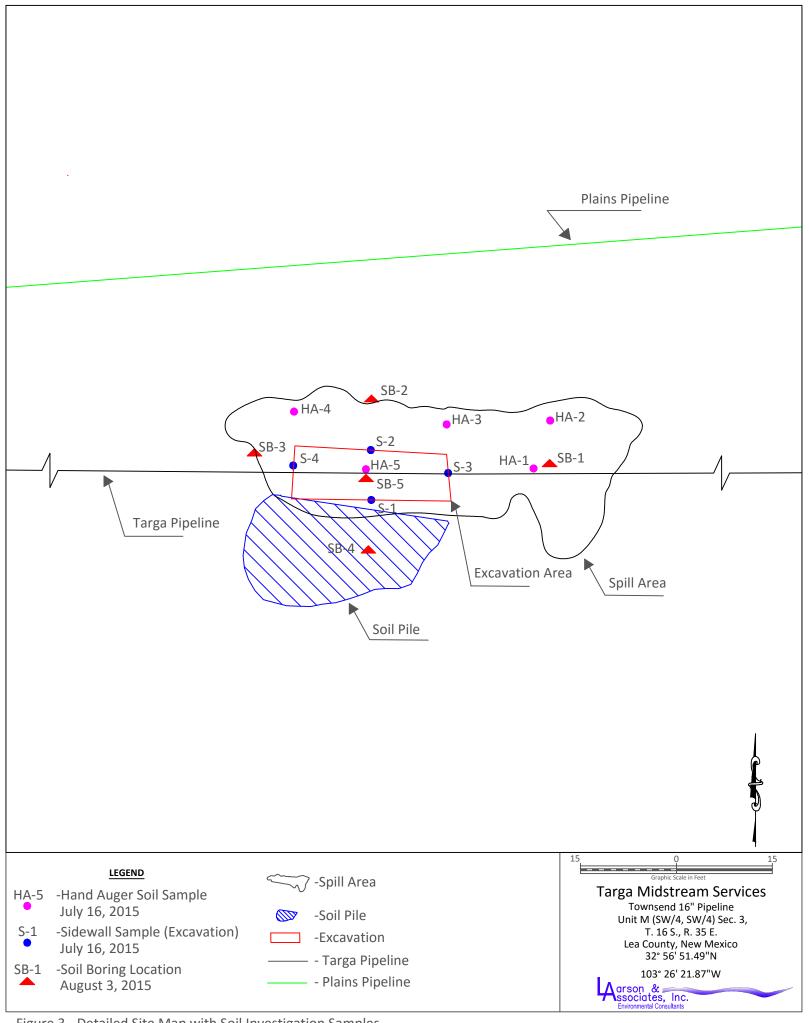


Figure 3 - Detailed Site Map with Soil Investigation Samples

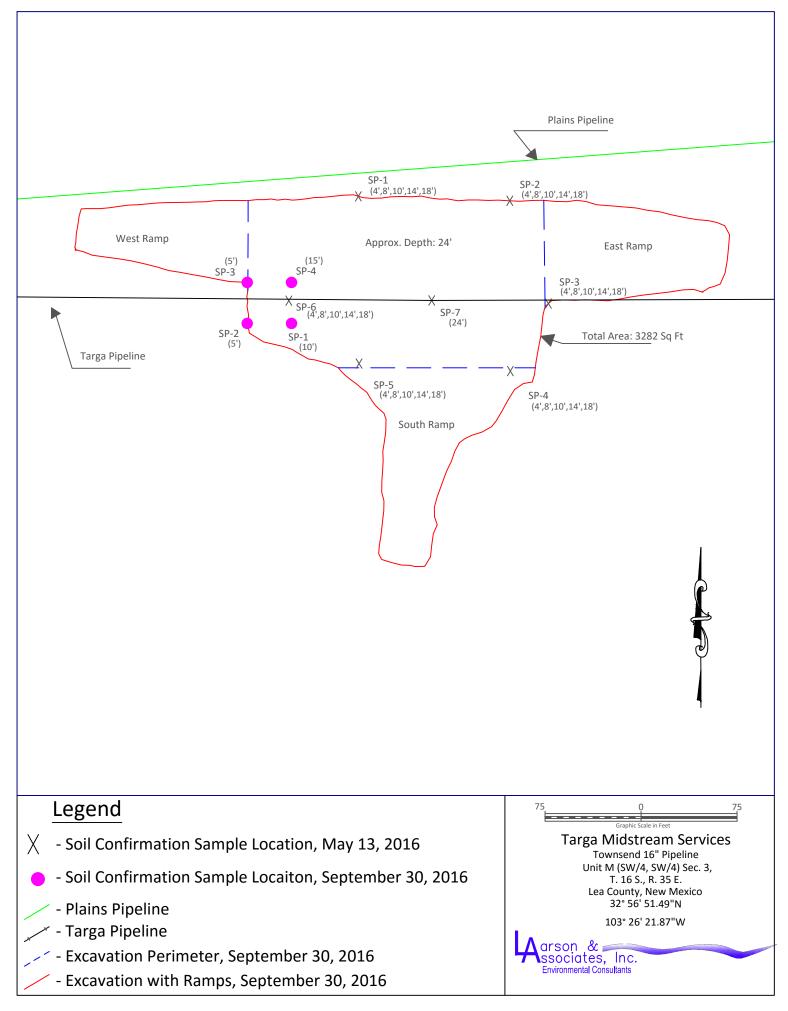
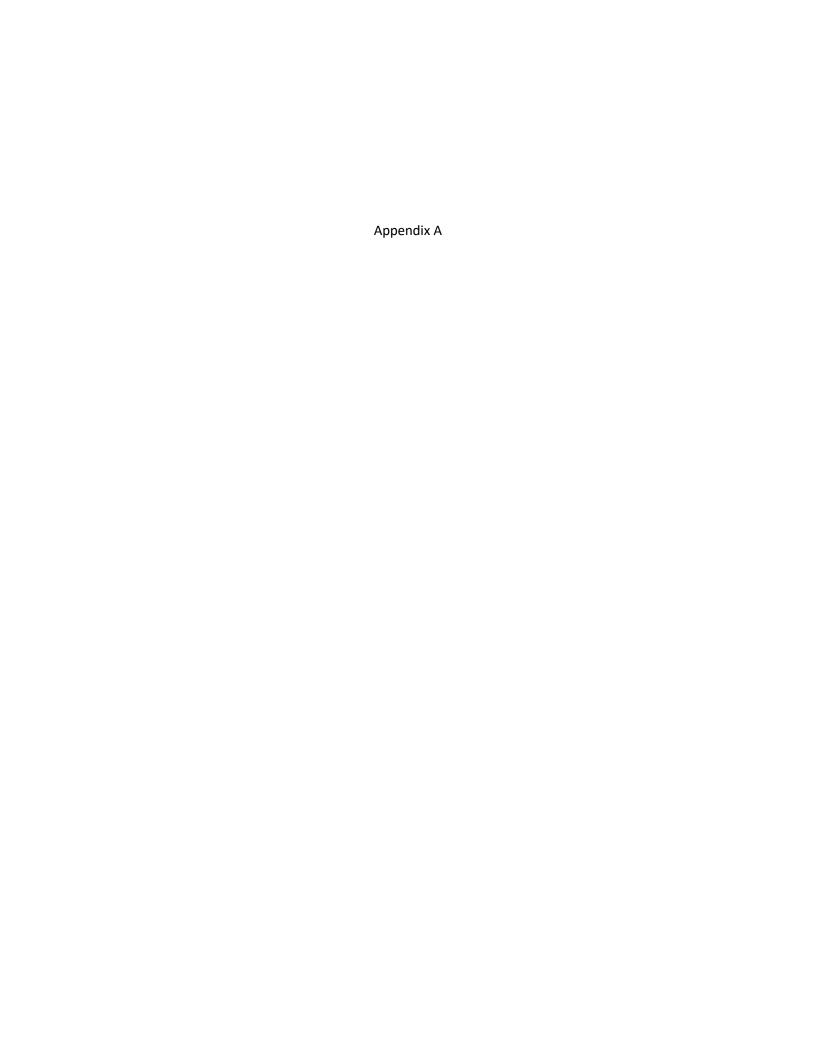


Figure 4 - Detailed Site Map with Soil Confirmation Samples



GANDY•MARLEY, INC. P.O. Box 1658 Roswell, NM 88202

(575) 347-0434 Fax (575) 347-0435

No.32278

| LEASE OPERATOR/SHIPPER/COMPANY: TARGA MIDSTREAM |
|---|
| LEASE NAME: TOWNSEND - DAN FIELDS |
| TRANSPORTER COMPANY: 9 AND TIME: 10 35 AMPM |
| DATE: 05-// -/6 VEHICLE NO.: 346 DRIVER NO.: |
| CHARGE TO: |
| TYPE OF MATERIAL |
| OCD |
| [] Other Material: [] Contaminated soil [] C-117 No.: |
| Description: CL |
| COMPANY CONTACT: |
| VOLUME OF MATERIAL []: YARDS <u>ス</u> o : CELL# <u>レデ</u> :[] |
| AS A CONDITION TO GANDY-MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HEREWITH IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. §6901, et seq., THE NM HEALTH AND SAF. CODE, §361.001, et seq. AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED CONTAMINATED SOILS AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY. ALSO AS A CONDITION TO GANDY-MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO GANDY-MARLEY, INC.'S FACILITY FOR DISPOSAL. |
| THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident. DRIVER: |
| FACILITY REPRESENTATIVE: 9 To Close |
| White - GMI Canary - Shipper Blink - GMI Gold - Transporter |

GANDY•MARLEY, INC. P.O. Box 1658 Roswell, NM 88202

(575) 347-0434 Fax (575) 347-0435

No.32282

q_{M_inc.}

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST (PLEASE PRINT)

| Com | pany Man Contact Information |
|------|------------------------------|
| lame | |

| Vinc. | | | - | Na | me |
|--|--|------------------------------------|--|---|--|
| | Nº 00832 | GENERA | TOR | Pho | one No |
| Operator No | | GENERIA | Location of Or | rigin 🚗 | ו מ |
| Operators Nome 781 | BGA MIDSTR | 25 - 4 | Lease/Well | rigin TOUNSEND | PIELD LEAK |
| Aridrese ADDREA | MODERONAGE | EHM! | Name & No | | |
| ridaredsrpreserio | TO DE DOMESTOS | <u> </u> | | | |
| City State 7in | | | API No | | |
| Phone No. | | | Rig Name & No | 0, | |
| THORE NO. | - | | AFE/PO No | | |
| TRUCK T | IME STAMP | DISPOSAL FA | | | |
| | DUT: | | <u>19</u> 72 | | VING AREA |
| 330/ 3/ 8/ 8/ 4/3 | | | | Name/No. LAND | FILL |
| | nmercial Landfarm (NM-711-1 | -0020) | Phone No. | | |
| Address | | <u> </u> | mane and an exercise mane and exercise decimal and exercise the exercise of th | | 100 100 100 100 100 100 100 100 100 100 |
| | Taken? (Circle One) YES | NO | If YES, was rea | ading > 50 micro roentgens? | (Circle One) YES NO |
| Pass the Paint Filte | er Test? (Circle One) YES | NO | | - | , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| Transporter's Name | ANDY CORP | TRANSPOR | 2000 | | |
| Address | | | | | |
| , luci 200 | | | Print Name | | |
| Phone No | | | | | |
| I hereby certify that the above i | named material/s) was/ware nic | rod up at the Consents to 1 | Truck No | | the disposal facility listed below. |
| ercan production in a superconduction of the contract of the c | materially mastifere pier | eu up at the Generator's sit | | | 1 \ 3 |
| SHIPMENT DATE | DRIVER'S SIGNATUI | <u></u> | 09-21- | DATE X KING | the sanches |
| Exempt | | | | | |
| Oil Based Muds | E&P Waste/Service Identifica | | volume next to | | oic yards) |
| Oil Based Cuttings | | ABLE WATERS er (Non-Injectable) | | INJECTABLE WATERS Washout Water (Injectable) | £ |
| Water Based Muds | Completion F | luid/Flowback (Non-Injectable |) ===== | Completion Fluid/Flowback | (Injectable) |
| Water Based Cuttings Produced Formation Solids | Produced Wa | ter (Non-Injectable) | - | Produced Water (Injectable | <u></u> |
| fank Bottoms | - Canoning Lin | e Water/Waste (Non-Injectable | 17 (0) (1) | Gathering Line Water/Wast | |
| E&P Contaminated Soil | | it (Exempt Waste) | | OTHER EXEMPT WASTES (Types and generation proc | ess of the waste) |
| Gas Plant Waste | | | | | |
| WASTE GENERATION PROCESS | | ☐ Completion | | duction | Gathering Lines |
| /All non-ex | Non-Exen | npt E&P Waste/Service Id | lentification and | i Amount | |
| In Transaction | tempt E&P waste must be analyzed | and be below the threshold I | lmits for toxicity (TC | LP), Ignition, corrosiveness, and | reactivity.) |
| | | | | om Non-Exempt Waste List on ba | ack |
| QUANTITY: | B - Barrels | L - Liqu | ild | <u> </u> | E - Each |
| nereby certify that according to lescribed waste load is (Check the | the Resource Conservation and Re | scovery Act (RCRA) and the | US Environmental P | rotection Agency's July 1988 re | guiatory determination, the above |
| RCRA EXEMPT: | Oil field wastes generated from | oil and gas exploration and r | | | xempt waste. (Gandy Marley, Inc. |
| | accepts certifications on a per n | nonth only basis.) | Noducion operation | is and are not mixed with hon-e | xempt waste. (Gandy Marley, Inc. |
| RCRA NON-EXEMPT: | Oil field waste which is non-haz | ardous that does not exceed | the minimum stand | dards for waste hazardous by ch | aracteristics established in RCRA |
| | demonstrating the waste as non | | | | aracteristics established in RCRA ded. The following documentation |
| MSDS Info | | RCRA Hazardous Wa | | | ide Description Below) |
| | | | | Cities (Files) | de Description Below) |
| EMERGENCY NON-OILFIELD: | : Emergency non-hazardous, non- ous waste determination and a | -oilfield waste that has been o | ordered by the Depa | artment of Public Safety. (The ord | er documentation of non-hazard |
| | ous waste determination and a c | lescription of the waste must | accompany this for | m.) | ar, documentation of hon-hazard- |
| (PRINT) AUTHORIZED AG | ENTS SIGNATURE | | | | |
| (I-UIM) ADTHORIZED AGI | IN 15 SIGNATURE | DATE | | SIG | NATURE |
| Feet | Inches | TANK BOTTO | <u>oms</u> | | |
| | Inches | | DI C Deceber | | |
| nd Gauge | | | Free Water | | BS&W (%) |
| Received | | | Total Received | | |
| nereby certify that the above load | material has been (circle one) | ACCEPTED DENIED | | | |
| L. TOLTO | | 21-16 | If denied, why? | 100 W W W W W W W W W W W W W W W W W W | |
| NAME (PRINT) | DATE | | OFFI | | SIGNATURE |
| | | AN | 1111 | Ang | SKINALLIHE |

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

| Company Man Contact Informat Name Phone No | ion |
|---|---------|
| END FIELD LEAK | |
| | _ |
| | |
| | _ |
| RECEIVING AREA | |
| | _ |
| tgens? (Circle One) YES No |) |
| | _ |
| | _ |
| ident to the disposal facility listed below | v. - |
| s or cubic yards) | |
| ERS jectable) Flowback (Injectable) njectable) ter/Waste (Injectable) VASTES tion process of the waste) | - |
| ☐ Gathering Lines | - |
| ess, and reactivity.) | |
| E - Each | |
| 1988 regulatory determination, the above |) |
| th non-exempt waste. (Gandy Mariey, inc. | |
| us by characteristics established in RCRA as amended. The following documentation | |
| ner (Provide Description Below) | |
| (The order, documentation of non-hazard- | |
| SIGNATURE | |
| | |

| Operator No | GM inc | | (PLEASE PRI | NT) | NII 201 | | n Contact Informat |
|--|--|--|---|---|--|---|--|
| Coperator No. County County Coperator No. Ref Rame & No. Ref | 4V inc. | Nº 00799 | CENEDAT | .00 | | | |
| Coperators Name | - | 00,00 | GENERAL | | rin - | | 32 W S |
| Name & No. Cluy, State, Zip Rig Name & No. Rig Name & No. APPINO. TRUCK TIME STAMP DISPOSAL FACILITY RECEIVING AREA Namo/No. L-AND FILL Site Name / Permit No. Commarcial Landfarm (NM-711-1-0220) Phone No. Address Phone No. Address Phone No. Pass the Paint Filter Teat? (Circle One) YES NO If YES, was reading > 50 micro roentgena? (Circle One) YES NO If YES, was reading > 50 micro roentgena? (Circle One) YES NO If YES, was reading > 50 micro roentgena? (Circle One) YES NO THANSPORTER Transporter's Name G-GNUY C.O.P Differ's Name Phone No. Thanks Port Truck No3 5 3 Truck N | | PCO ALINETTATO | | Lease/Well | JOUNSEN | DFIELD | LEAK |
| County API No. | | | | Name & No | | | |
| AFI No | Address | | | County | | | |
| Pijorio No. APEPPO No. | 0%, 01, 1 | | | | | | |
| TRUCK TIME STAMP IN: 9:55 9M OUT: Site Name / Parmit No. Commercial Landferm (NM-711-1-0020) Phone No. NORM Readings Tation? (Circle One) YES NO Pass the Paint Filter Text? (Circle One) YES NO TRANSPORTER Transporter's Name G-9ND C 9 P Transporter' | City, State, Zip | | | Rig Name & No. | · | | |
| TRUCK TIME STAMP IN: | Prione No | | o | AFE/PO No | · · · · · · · · · · · · · · · · · · · | | |
| IN: 91: 65 RM OUT: | TRUCK | TIME STAMP | DISPOSAL FA | | | | 2 98 25 |
| Site Name / Permit No. Commercial Landfarm (NM-711-1-0020) NORM Readings Taken? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (Circle One) YES NO Pass the Paint Filter Test? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (Circle One) YES NO TRANSPORTER Transporter's Name | (1) | | | | REC | CEIVING AREA | A |
| Address NORM Readings Taken? (Circle One) YES NO Pass the Paint Filter Test? (Circle One) YES NO TRANSPORTER Transporter's Name | 14: 1. 33 HIO | .001: |] | | Name/No. LAN | IDFILL | |
| NORM Readings Taken? (Circle One) YES NO Pass the Paint Filter Test? (Circle One) YES NO TRANSPORTER Transporter's Name C-6NO C 0 RP | Site Name / Permit No. Co | ommercial Landfarm (NM-711- | 1-0020) | Phone No. | | | 2 22 |
| Pass the Paint Filter Test? (Circle One) YES NO TRANSPORTER Transporter's Name Print Name Insulation Insulati | Address | | | 1 110110 110 | | | |
| Transporter's Name | | | NO | | ling > 50 micro roentger | ns? (Circle One) | YES N |
| Print Name Phone No. Truck No. 353 It hereby certify that the above named material(s) was/wore picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below DRIVER'S SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE DRIVER'S SIGNATURE DRIVER'S SIGNATURE SIGNATURE SIGNATURE SIGNATURE DRIVER'S SIGNATURE SIGNATURE SIGNATURE SIGNATURE DRIVER'S SIGNATURE SI | C | 0.10 1 = 400 | TRANSPOR | <u>TER</u> | | | |
| Print Name Phone No. Truck | | | | Driver's Name _ | | | <u> </u> |
| Phone No | Address | | | | | | |
| Truck No | | | | Phone No | 78 48 | | |
| SHIPMENT DATE DRIVER'S SIGNATURE Exempt E&P Waste/Service Identification and Amount (Place volume next to waste type in barrels or cubic yards) Ull Based Muds OII Based Muds OCOmpletion Fluid/Flowback (Non-Injectable) Washout Water (Non-Injectable) Washout Water (Non-Injectable) Washout Water (Injectable) Washout Water (Injectable) Water Based Outlings Produced Water (Non-Injectable) Produced Water (Injectable) Produced Water (Injectable) Gathering Line Water/Waste (Injectable) Produced Water (Injectable) Gathering Line Water/Waste (Injectable) Tuck Washout (Exempt Waste) Gathering Line Water/Waste (Injectable) WASTE GENERATION PROCESS: □ Drilling □ Completion OP Produced Injectable | Phone No | | | Terrala Ma | L 2 | | |
| SHIPMENT DATE DRIVER'S SIGNATURE Exempt E&P Waste/Service Identification and Amount (Place volume next to waste type in barrels or cubic yards) Ull Based Muds OII Based Muds OCOmpletion Fluid/Flowback (Non-Injectable) Washout Water (Non-Injectable) Washout Water (Non-Injectable) Washout Water (Injectable) Washout Water (Injectable) Water Based Outlings Produced Water (Non-Injectable) Produced Water (Injectable) Produced Water (Injectable) Gathering Line Water/Waste (Injectable) Produced Water (Injectable) Gathering Line Water/Waste (Injectable) Tuck Washout (Exempt Waste) Gathering Line Water/Waste (Injectable) WASTE GENERATION PROCESS: □ Drilling □ Completion OP Produced Injectable | i nereby certify that the abov | e named material(s) was/were pid | cked up at the Generator's site | listed above and | delivered without inciden | nt to the disposal fa | acility listed belov |
| Exempt E&P Waste/Service Identification and Amount (Place volume next to waste type in barrels or cubic yards) Oil Based Muds Oil Based Muds Washout Water (Non-Injectable) Washout Water (Non-Injectable) Washout Water (Injectable) Washout Water (Injectable) Washout Water (Injectable) Washout Water (Injectable) Water Based Cuttings Produced Water (Injectable) Bathering Line Water/Waste (Injectable) Bathering Line Water/Waste (Injectable) Washout Water Water (Injectable) Bathering Line Water/Waste (Injectable) Bathering Line Water/Waste (Injectable) Bathering Line Water/Waste (Injectable) Bathering Line Water/Waste (Injectable) Bathering Line Water/Waster (Injectable) Bathering Line Water/Waster (Injectable) Bathering Line Water/Waster (Injectable) Bash Waster (Injectable) | SHIPMENT DATE | DRIVER'S SIGNATU | JRE | 09-20- | 16 X | DRIVER'S SIGNAT | T |
| Oil Based Muds NON-INJECTABLE WATERS Washout Water (Rin-Injectable) Completion Fluid/Flowback (Non-Injectable) Produced Water (Rin-Injectable) Produced Formation Solids Gathering Line Water/Waster (Rin-Injectable) Gathering Line Water/Waster (Rin-Injectable) Taruck Washout (Exempt Waster) OTHER EXEMPT WASTES Produced Water (Rin-Injectable) Production Qathering Lines Qa | Exemp | ot E&P Waste/Service Identific | cation and Amount (Place v | olume next to w | aste type in barrels or | r cubic vards) | J., |
| Non-Exempt E&P Waste /Service Identification and Amount (All non-exempt E&P waste must be analyzed and be below the threshold limits for toxicity (TCLP), ignition, corrosiveness, and reactivity.) Non-Exempt Other: Please select from Non-Exempt Waste List on back QUANTITY: B - Barrels L - Liquid Y - Yards E - Each | Oll Based Cuttings Water Based Muds Water Based Cuttings Produced Formation Solids Tank Bottoms E&P Contaminated Soil | Washout Washou | ater (Non-Injectable) Fluid/Flowback (Non-Injectable) /ater (Non-Injectable) ne Water/Waste (Non-Injectable) JSE ONLY | | Washout Water (Injects Completion Fluid/Flow Produced Water (Inject Gathering Line Water/N OTHER EXEMPT WAS | able) /back (injectable) table) Waste (injectable) ITES | |
| Non-Exempt E&P Waste/Service Identification and Amount (All non-exempt E&P waste must be analyzed and be below the threshold limits for toxicity (TCLP), ignition, corrosiveness, and reactivity.) Non-Exempt Other: "Please select from Non-Exempt Waste List on back QUANTITY: B - Barrels L - Liquid P - Y - Yards E - Each hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification) RCRA EXEMPT: Oil field waste speciated from oil and gas exploration and production operations and are not mixed with non-exempt waste. (Gandy Mariey, inc accepts certifications on a per month only basis.) RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided.) MSDS Information RCRA Hazardous Waste Analysis Other (Provide Description Below) EMERGENCY NON-OILFIELD: Emergency non-hazardous, non-oilfield waste that has been ordered by the Department of Public Safety. (The order, documentation of non-hazardous waste determination and a description of the waste must accompany this form.) (FRINT) AUTHORIZED AGENTS SIGNATURE TANK BOTTOMS Feet Inches BS&W/BBLS Received | WASTE GENERATION PROCE | SS: D Drilling | □ Completion | ∏ Produ | uotion | | |
| Non-Exempt Other: B - Barrels L - Liquid COUNTITY: Please select from Non-Exempt Waste List on back E - Each Accept Selectification and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification) Countity in the sate of the properties of the proportion of the waste exploration and production operations and are not mixed with non-exempt waste. (Gandy Marley, inc accepts certifications on a per month only basis.) COII field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided.) Cother (Provide Description Below) Cother (Provide Description Below) Cother (Provide Description Below) Cother (Provide Description of non-hazardous waste determination and a description of the waste must accompany this form.) Cother (Provide Description of non-hazardous waste determination and a description of the waste must accompany this form.) Cother (Provide Description of non-hazardous waste determination and a description of the waste must accompany this form.) Cother (Provide Description of non-hazardous waste determination and a description of the waste must accompany this form.) | | Non-Exe | mpt E&P Waste/Service Ide | entification and / | Amount | 200-2 | es |
| DUANTITY: B - Barrels L - Liquid RCRA Library Lib | | | | | | oc | |
| hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification) RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. (Gandy Marley, Inc accepts certifications on a per month only basis.) RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided.) MSDS Information RCRA Hazardous Waste Analysis Other (Provide Description Below) E E Each RCRA EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous Waste Analysis RCRA Hazardous Waste Analysis Other (Provide Description Below) E E Each RCRA EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA features as provided.) RCRA Hazardous Waste Analysis Other (Provide Description Below) E E Each RCRA EXEMPT: Oil field waste which is non-hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation of RCRA features as provided.) RCRA Hazardous Waste Analysis Other (Provide Description Below) Different Provide Description Below) TANK BOTTOMS RESEMPT: RCRA HAZARDOUS AGENTS SIGNATURE DATE SIGNATURE TANK BOTTOMS BS&W/BBLS Received Free Water Free Water | | | | r lease select flui | _3 | | 7 20 16 |
| accepts certifications on a per month only basis.) RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided.) MSDS Information RCRA Hazardous Waste Analysis Other (Provide Description Below) EMERGENCY NON-OILFIELD: Emergency non-hazardous, non-oilfield waste that has been ordered by the Department of Public Safety. (The order, documentation of non-hazardous waste determination and a description of the waste must accompany this form.) (PRINT) AUTHORIZED AGENTS SIGNATURE DATE SIGNATURE TANK BOTTOMS BS&W/BBLS Received BS&W/BBLS Received BS&W/96) Free Water | hereby certify that according t described waste load is (Check | to the Resource Conservation and the appropriate classification) | Recovery Act (RCRA) and the U | S Environmental Pro | | EE R regulatory determ | - Each nination, the above |
| regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided.) MSDS Information RCRA Hazardous Waste Analysis Other (Provide Description Below) EMERGENCY NON-OILFIELD: Emergency non-hazardous, non-oilfield waste that has been ordered by the Department of Public Safety. (The order, documentation of non-hazardous waste determination and a description of the waste must accompany this form.) (PRINT) AUTHORIZED AGENTS SIGNATURE DATE SIGNATURE TANK BOTTOMS Inches BS&W/BBLS Received BS&W (%) BS&W (%) Inches Free Water Free Water Inches | RCRA EXEMPT: | Oil field wastes generated from accepts certifications on a per | n oil and gas exploration and promonth only basis.) | oduction operations | and are not mixed with n | on-exempt waste. (| Gandy Marley, Inc. |
| MSDS Information RCRA Hazardous Waste Analysis Other (Provide Description Below) EMERGENCY NON-OILFIELD: Emergency non-hazardous, non-oilfield waste that has been ordered by the Department of Public Safety. (The order, documentation of non-hazardous waste determination and a description of the waste must accompany this form.) (PRINT) AUTHORIZED AGENTS SIGNATURE DATE SIGNATURE TANK BOTTOMS Inches BS&W/BBLS Received | RCRA NON-EXEMPT: | Oil field waste which is non-ha regulations, 40 CFR 261,21-26 demonstrating the waste as no | azardous that does not exceed to 1.24, or listed hazardous waste a on-hazardous is attached. (Check | he minimum standa is defined by 40 CFF | rds for waste hazardous b 3, part 261, subpart D, as a | by characteristics es mended. The follow | tablished in RCRA ing documentation |
| (PRINT) AUTHORIZED AGENTS SIGNATURE DATE SIGNATURE | ☐ MSDS In | | | | Department of the Control of the Con | Provide Description | Below) |
| TANK BOTTOMS | 3 EMERGENCY NON-OILFIEI | LD: Emergency non-hazardous, no ous waste determination and a | n-oilfield waste that has been or description of the waste must a | dered by the Depart ccompany this form | ment of Public Safety. (The | e order, documentat | ion of non-hazard- |
| TANK BOTTOMS Feet Inches | (PRINT) AUTHORIZED A | AGENTS SIGNATURE | DATE | | | SIGNATURE | - |
| Feet Inches 1st Gauge | | | TANK BOTTO | MS | | | |
| Ind Gauge Free Water Free Water | | munu | s | • | | | |
| Free Water | 1st Gauge | | BS&W/BB | LS Received | | BS&W (%) _ | <u> </u> |
| Talal Decatacid | Received | | | Free Water | | | |
| | hereby certify that the above los | ad material has been (circle one): | ACCEPTED DENIED | If denied, why?_ | • | | |

DATE

NAME (PRINT)

TITLE

SIGNATURE

q_{M_inc.}

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST (PLEASE PRINT)

| | Company Man Con | tact Information |
|----|-----------------|------------------|
| la | ne | |
| | | |

| TVL inc. | | | | IN | rame |
|---|--|------------------------------------|----------------------|--|--|
| TV inc. | Nº 0080 0 | GENERAT | ΩP | P | hone No |
| Operator No | 28 (Acta Sand-) Acta 3228/03 | GENERAL | | rigin | <u> </u> |
| | RGA MIDSTRE | | Lease/Well | JOWN ZEND | FIELD LEAK |
| | | | Name & No | | 2 |
| Address | | | | | |
| | | | | | |
| City, State, Zip | | | | | |
| Phone No | | | | | |
| | | | | | |
| TRUCK T | IME STAMP | DISPOSAL FAC | CILITY | DECE | IVING AREA |
| IN: 9:57 AM |)LIT- | | | i | CONTROL CONTRO |
| | | | | Name/No. LAN | DFILL |
| Site Name / Permit No. Com | nmercial Landfarm (NM-711-1 | -0020) | Phone No. | | |
| Address | | | | | |
| | Taken? (Circle One) YES er Test? (Circle One) YES | NO NO | | ading > 50 micro roentgens | ? (Circle One) YES NO |
| - · · · · · · · · · · · · · · · · · · · | 2115 / 12 - 20 | <u>TRANSPOR</u> | <u>rer</u> | | |
| Transporter's Name | | | Driver's Name . | | |
| Address | | | | | |
| | | <u> </u> | Phone No. | | |
| Phone No | | | Toursals NI- | 2/1/ | |
| I hereby certify that the above I | named material(s) was/were pici | ked up at the Generator's site | listed above and | d delivered without incident t | o the disposal facility listed below. |
| | | | 000 | n 11 | o tue disposal facility listed below. |
| SHIPMENT DATE | DRIVER'S SIGNATUR | RE . | DELIVERY | 0-16 × 6 | uso force |
| Exempt | E&P Waste/Service Identifica | ation and Amount (Place v | olumo portio | DAIC D | PHIVER'S SIGNATURE |
| Oil Based Muds | NON IN FOR | and Amount (Flace v | oiume next to | | ubic yards) |
| Oil Based Cuttings | | ABLE WATERS er (Non-Injectable) | | INJECTABLE WATERS | |
| Water Based Muds | Completion F | luid/Flowback (Non-Injectable) | | Washout Water (Injectable Completion Fluid/Flowba | e) |
| Water Based Cuttings Produced Formation Solids | | ter (Non-Injectable) | | Produced Water (Injectab | ick (injectable) ble) |
| Tank Bottoms | | e Water/Waste (Non-Injectable) | 1 | Gathering Line Water/Wa | ste (Injectable) |
| E&P Contaminated Soil | INTERNAL US Truck Washou | it (Exempt Waste) | | OTHER EXEMPT WASTE | |
| Gas Plant Waste | | i (Excilipt Higgs) | | (Types and generation pro | ocess of the waste) |
| WASTE GENERATION PROCESS | 3: 🗆 Drilling | ☐ Completion | □ Pro | eduction (| ☐ Gathering Lines |
| | Non-Exen | npt E&P Waste/Service Ide | | | a damening Lines |
| (All non-ex | cempt E&P waste must be analyzed | and be below the threshold lim | its for toxicity (TO | i Amount CLP), ignition, corrosiveness, ar | id reactivity) |
| | | | | | |
| QUANTITY: | B - Barreis | L - Liquid | | rom Non-Exempt Waste List on | |
| hereby certify that according to | | L - Liquid | | | E - Each |
| described waste load is (Check the | e appropriate classification) | ecovery Act (RCHA) and the US | Environmental F | Protection Agency's July 1988 | regulatory determination, the above |
| RCRA EXEMPT: | Oll field wastes generated from | oll and gas exploration and pro | duction operation | ins and are not mived with non | -exempt waste. (Gandy Marley, Inc. |
| | accepts certifications on a per n | nonth only basis.) | | up and the that thised willt liall- | -exempt waste. (Gandy Mariey, Inc. |
| ☐ RCRA NON-EXEMPT: | Oil field waste which is non-haz | ardous that does not exceed the | e minimum stand | dards for waste hazardous by o | characteristics established in RCRA |
| | demonstrating the waste as non | | | | characteristics established in RCRA anded. The following documentation |
| ☐ MSDS Info | | RCRA Hazardous Was | | 157 | |
| | | — HOUST HAZAIDOUS WAS | e Analysis | U Other (Pro | ovide Description Below) |
| EMERGENCY NON-OILFIELD | : Emergency non-hazardous non | -ollfield waste that her been e | lawad booth a Bo | | rder, documentation of non-hazard- |
| | ous waste determination and a c | description of the waste must ac | company this for | artment of Public Safety. (The or m.) | rder, documentation of non-hazard- |
| 7 <u>18 28 1881</u> | | | | • | |
| (PRINT) AUTHORIZED AGI | ENTS SIGNATURE | DATE | | <u>s</u> | IGNATURE |
| | | TANK BOTTO | Me | 0. | idivilone. |
| Feet | Inches | | <u>IVI O</u> | | |
| 1st Gauge | | BS&W/BB | LS Received | | BS&W (%) |
| nd Gauge | | | Free Water | | |
| TIDOOIYAU | | To | tal Received | | |
| hereby certify that the above load | material has been (circle one): | ACCEPTED DENIED | If denied, why? | 9 | |
| J. TOLTON | | 20-16 | | | |
| NAME (PRINT) | DATE | A | | <u> </u> | 9 70-400 |
| · · · · · · · · · · · · · · · · · · | DAIE | • 9 | TITL | .⊏ | SIGNATURE |

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST (PLEASE PRINT)

| | Compar | y Man Co | ntact Inforn | nation |
|-----|--------|----------|--------------|--------|
| lar | ne | | 45 (89) | 24 |

| M_inc | | | | (PLEASE PHII | 11) | | Name | | 75 - 1891 - 10 |
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| Operators Name TA | | D STREE | 7.64 | - | | Origin Town | | | |
| Address | | | | = | | | | | |
| | 10 to to to | | | = | | | | | |
| City, State, Zip | | | | | API No | | · | | |
| Phone No. | | | | | Rig Name & N | lo, | | | |
| | | 0 10 10 10 101 | | | | | | | |
| 1,000 1,000,000,000,000,000 | TIME STAMP | 1 | DISP | OSAL FAC | CILITY | | RECEIVI | NG AREA | |
| IN: 11:11 AM | OUT: | | | | | Name/No. | | 100100000000000000000000000000000000000 | |
| Site Name / Permit No. Co. | | • | .0020) | | | | | | _ |
| Address | | 2011 (1410) 2 1 (-1 | 0020) | _ | Phone No | | | · · · · · · · · · · · · · · · · · · · | |
| NORM Readings | Taken? (Circle C | ne) YES | NO | - 0 | if YES, was re | ading > 50 micro | roontaone? (C | Shala On N | |
| Pass the Paint Fil | ter Test? (Circle | One) YES | NO | | | ading > 30 micro | roenigens? (C | ircie One) | YES NO |
| | | | TR | ANSPORT | ER | | | | |
| Transporter's Name | and co | <u> </u> | | - | Driver's Name | | | | |
| Address | | | | - | Print Name | | | | |
| Ph N | | | | - | Phone No | | | | (7) To (8) |
| Phone No | named metarial | (a) (| | | Tournelle No. | EA | | | |
| I hereby certify that the above | nameu materiai(| s) wasiwere pick | ed up at the Ge | enerator's site | listed above an | d delivered withou | t incident to th | e dispesal faci | ility listed below. |
| SHIPMENT DATE | DR | IVER'S SIGNATUR | F | - | 09-20 | DATE | × yot | 2000 | |
| Exemp | | | | unt (Place v | DELIVERY | waste type in ba | C DRIV | ER'S SIGNATUI | RE |
| Oil Based Muds | | NON-INJECTA | | ruin (Flace V | лите пехт то | | | c yards) | |
| Oil Based Cuttings | | Washout Water | r (Non-Injectable | e) | | INJECTABLE Washout Wat | <u>WATERS</u> er (Injectable) | 20 | |
| Water Based Muds Water Based Cuttings | · | Completion Flo | uid/Flowback (N | lon-injectable) | | Completion F | luid/Flowback (| njectable) | |
| Produced Formation Solids | | | er (Non-Injectab Water/Waste (N | | | Produced Wa | iter (injectable) e Water/Waste (| 9-7 | - |
| Tank Bottoms E&P Contaminated Soil | | INTERNAL US | E ONLY | | | OTHER EXEN | IPT WASTES | | |
| Gas Plant Waste | | Truck Washout | t (Exempt Waste |) | | (Types and ge | eneration proces | s of the waste) | |
| WASTE GENERATION PROCES | SS: Drilling | | □ Comple | tion | При | oduction | | | |
| | | Non-Exem | ot E&P Waste | /Seniice Ido | ntification on | d America | | athering Lines | |
| (All non-e | xempt E&P waste | must be analyzed | and be below th | he threshold lim | its for toxicity (T | u Amount CLP), ignition, corro | siveness, and re | activity.) | |
| Non-Exempt Other: | | | | | | rom Non-Exempt W | | | |
| QUANTITY: | - | _ B - Barreis | | L - Liquid | | مر Y- Yards | | е . | Each |
| I hereby certify that according to described waste load is (Check t | the Resource Co | nservation and Re | covery Act (RCI | RA) and the US | Environmental | Protection Agency's | July 1988 regu | latory determin | ation, the above |
| RCRA EXEMPT: | But a premium contraction | Section 4 Section 2 | | | | ons and are not mix | | | |
| | accepts certific | cations on a per m | onth only basis. |) | duction operatio | ons and are not mixi | ed with non-exe | mpt waste. (Ga | indy Marley, Inc. |
| RCRA NON-EXEMPT: | Oil field waste | which is non-haza | ardous that does | s not exceed th | e minimum stan | dards for waste haz | ardous by char | acteristics esta | blished in BCRA |
| | demonstrating | the waste as non- | 44, or listed naza hazardous is att | ardous waste as tached. (Check | defined by 40 C the appropriate i | idards for waste haz FR, part 261, subpa items as provided.) | rt D, as amende | d. The following | documentation |
| ☐ MSDS Inf | | | | lazardous Wast | | _ | Other (Provide | Description Re | aloud |
| | | | | | | | | 650 GO | eseptes of C os |
| ☐ EMERGENCY NON-OILFIELI | D: Emergency nor | n-hazardous, non- | olifield waste the | at has been ord | ered by the Dep | artment of Public Sa | afety. (The order, | documentation | of non-hazard- |
| | ous maste dete | ermination and a de | escription of the | waste must ac | company this fo | rm.) | | | |
| (PRINT) AUTHORIZED AC | SENTS SIGNATUR | E | | DATE | | | | A | |
| | | | ΤΔΝΙ | K BOTTO | V/IC | | SIGN | ATURE | |
| Feet | | Inches | <u>.17444</u> | <u>C BOTTO</u> | <u>VIO</u> | | | | |
| 1st Gauge | | | | BS&W/BBI | S Received | | В | S&W (%) | |
| Ind Gauge | | | | | Free Water | | <u> </u> | 50 NS.072 | |
| | | . 10 | | 10 | | | | | |
| hereby certify that the above load | · · | 320 | ACCEPTED | DENIED | | ? | | | |
| | <u>'\</u> | The second secon | 0-16 | | | 164 | | Tottor | L |
| (LUMI) | | DATE | | | TITI | . E | / | SIGNATURE | 89 |

q_{M_inc.}

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST (PLEASE PRINT)

| | Company Man Contact Information | 1 |
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| | No. of the second | • |

| YVL inc. | 310 | | | Nai | me |
|---|--|---|---|---|---|
| | Nº 00823 | <u>GENER</u> | ATOR | Pho | one No |
| Operator No | 2 | | | igin 📆 | £ ' |
| Operators Name The | GA MIDSTRE | | Lease/Well | - 10 MNZEN | FIELD LEAK |
| | | | Name & No | | |
| Address | | | County | | |
| | | | | | |
| City, State, Zip | | | Rig Name & No | 0, | |
| Phone No | | | AFE/PO No | | |
| | IME STAMP | DISPOSAL F | | | |
| 0.1 | | EIG. COME ! | AUILIT I | RECEI | /ING AREA |
| IN: <u>2:17 PM</u> C |)UT: | | | Name/No. LAND | FILL |
| Site Name / Permit No. Com | mercial Landfarm (NM-711-1 | ~0020) | Dhone Ne | | |
| Address | | | Priorie No | | |
| | aken? (Circle One) YES er Test? (Circle One) YES | NO NO | If YES, was rea | ading > 50 micro roentgens? | (Circle One) YES NO |
| | 120 | TRANSPO | RTFR | | |
| Transporter's Name G | andy CORP | | | | |
| | | | | | |
| | | | | | |
| Phone No. | | | Truck No3 | <u> </u> | |
| I hereby certify that the above I | named material(s) was/were pic | ked up at the Generator's s | Iruck No one evode beter | d delivered without incident to | the disposal facility listed below. |
| | | | N= | | the disposal facility listed below. |
| SHIPMENT DATE | DRIVER'S SIGNATU | RE | DELIVERY | DATE DR | IVER'S SIGNATURE |
| Exempt | E&P Waste/Service Identific | ation and Amount (Plac | | | IVER'S SIGNATURE |
| Oil Based Muds | | ABLE WATERS | o voidine next to | | oic yards) |
| Oil Based Cuttings | | ter (Non-Injectable) | | <u>INJECTABLE WATERS</u> Washout Water (Injectable) | |
| Water Based Muds Water Based Cuttings | Completion F | luid/Flowback (Non-Injectab | le) | Completion Fluid/Flowback | k (Injectable) |
| Produced Formation Solids | | ater (Non-injectable) ie Water/Waste (Non-Injectab | | Produced Water (Injectable | |
| Tank Bottoms | INTERNALU | | ole) | Gathering Line Water/Wast OTHER EXEMPT WASTES | e (Injectable) |
| E&P Contaminated Soil | Truck Washo | ut (Exempt Waste) | | (Types and generation prod | ess of the waste) |
| Gas Plant Waste WASTE GENERATION PROCESS | - 16 Parille | | | | |
| WAS IE GENERATION PROCESS | | ☐ Completion | | | Gathering Lines |
| (All non-ex | Non-Exen empt E&P waste must be analyze | npt E&P Waste/Service | Identification and | Amount | |
| Non-Evennt Others | With Tall Waste Most De Bridly 20 | a and be below the threshold | | | |
| QUANTITY: | B - Barrels | | | om Non-Exempt Waste List on be | ack |
| | _ | L - Liq | | 20 Y - Yards | E - Each |
| described waste load is (Check the | ine Resource Conservation and F appropriate classification) | lecovery Act (RCRA) and the | US Environmental P | rotection Agency's July 1988 re | gulatory determination, the above |
| ☐ RCRA EXEMPT: | Oil field wastes generated from accepts certifications on a per r | oil and gas exploration and | production operation | ns and are not mixed with non-e | xempt waste. (Gandy Mariey, Inc. |
| RCRA NON-EXEMPT: | Oil field waste which is non-ha | zardous that does not excee | d the minimum stand | dards for waste hazardous by ch | aracteristics established in RCRA ded. The following documentation |
| | and the state of t | n-hazardous is attached. (Che | eck the appropriate it | ems as provided.) | ded. The following documentation |
| ☐ MSDS Info | rmation | ☐ RCRA Hazardous V | Vaste Analysis | ☐ Other (Prov | ide Description Below) |
| 3 EMERGENCY NON-OILFIELD | : Emergency non-hazardous, nor | -ollfield waste that has been | ordered by the Depa | artment of Public Safety. (The ord | er, documentation of non-hazard- |
| | ous waste determination and a | description of the waste mus | t accompany this for | m.) | - |
| (PRINT) AUTHORIZED AG | ENTS SIGNATURE | DATE | *************************************** | SIG | NATURE |
| Feet | Inches | TANK BOTT | <u>OMS</u> | , | |
| 1st Gauge | <u> </u> | BS&W/ | BBLS Received | · | BS&W (%) |
| nd Gauge | | | Free Water | | DOG 14 (70) |
| HOUGIVEU | | | Total Received | | |
| hereby certify that the above load | material has been (circle one): | ACCEPTED DENIED | If denied, why? | ? | |
| d. TOLTOI | N09-20 | -16 | 6 FF1 c | 5) E | Total |
| NAME (PRINT) | DATI | | TITL | | SIGNATURE |
| | | | | 14 C | |



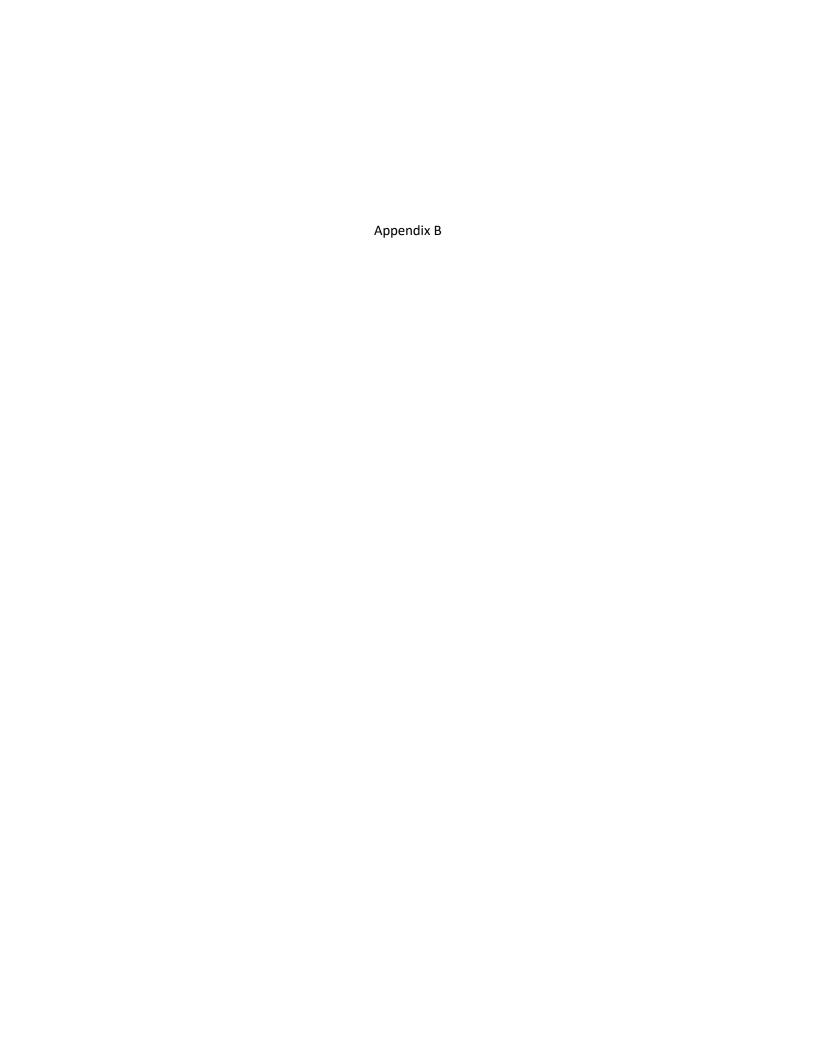
NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

| | Company Man Contact Information |
|-----|---------------------------------|
| Nar | ne |

| W inc. | | | | (PLEASE PRIN | 1) | | Nai | ne | |
|---|----------------|--|--|--|--------------------------------------|--|--|--|------------------------------------|
| I V L MIO. | Νō | 00824 | Ĩ | GENERATO |)D | | | one No | |
| Operator No | | | <u>.</u> | | | Origin | 12 <u>2</u> 0 | ٠ سو ؞ | ¥ |
| Operators Name TA | | MIDSTRE | EQ.M | | | | WN SEN | | |
| Address | | | | | | | A | | |
| | | | <u> </u> | | | | <u> </u> | | |
| City, State, Zip | | | | _ | API No | | | | |
| Phone No | | | | | | | | | |
| | | | | | | | | | |
| TRUCK | TIME STA | AMP | <u>DISF</u> | POSAL FAC | ILITY | | RECEIV | /ING AREA | 300 |
| IN: 2:19 PM | OUT: | | | | | Namo/N | o. LANI | • | |
| Site Name / Permit No. Co | | | 1 0000) | | der Derikk kommun | 200 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - | | | |
| Address | Millioroidi E | -directiff (1414)-7 11- | 1-0020) | | hone No | | | | |
| | Taken? (Ci | rcle One) YES | NO | _ | f VES was re | adina > E0 mi | ove vesstave - C | /OL 1 O 1 | |
| Pass the Paint F | | | NO | • | i i LO, was ie | aumy > 50 m | cro roentgens? | (Circle One) | YES NO |
| | | | <u>T</u> F | RANSPORT | ER | | | | |
| Transporter's Name | | | | [|)river's Name | | | | |
| Address | | | | | | | - | | |
| | | | <u> </u> | _, F | | | | | |
| Phone No. | | | | - | Truck No | 2 EQ | | | |
| I hereby certify that the above | e namea ma | teriai(s) was/were pic | ked up at the G | ienerator's site li | | | | | ility listed below. |
| SHIPMENT DATE | | DRIVER'S SIGNATU | IDE | | 09-2 | 0-16 | XXX DA | Way) | <u> </u> |
| | ot E&P Was | | 88 80 | ount (Dinns us | | | | | RE |
| Oil Based Muds | | te/Service Identific | TABLE WATERS | | iume next to | | | bic yards) | |
| Oil Based Cuttings | | Washout Wa | ter (Non-Injectat | ole) | | | <u> BLE WATERS</u> : Water (Injectable) | | |
| Water Based Muds Water Based Cuttings | | Completion | Fluid/Flowback (| Non-Injectable) | | | ion Fluid/Flowbac | | |
| Produced Formation Solids | | | ater (Non-Injecta ne Water/Waste (| | 7 - | Produce: | d Water (Injectable |) | |
| Tank Bottoms | 33 - 32 | | | (Non-injectable) | | | g Line Water/Wast EXEMPT WASTES | e (Injectable) | |
| E&P Contaminated Soil Gas Plant Waste | _/_ | Truck Washo | ut (Exempt Wast | te) | | (Types ar | nd generation prod | ess of the waste) | |
| GAS FIAIT WASTE WASTE GENERATION PROCE | SS. A Delli | <u> </u> | П O I | L | · | | | | |
| | G D/IIII | | Compl | | | oduction | | Gathering Lines | į. |
| (All non- | exempt E&P | waste must be analyze | inpt E&P wast | te/Service Ider the threshold limit | itification an ts for toxicity (1 | id Amount (CLP), ignition, c | corrosiveness and | reactivity) | |
| Non-Exempt Other: | | | | | | | pt Waste List on b | | |
| QUANTITY: | | B - Barrels | | L - Liquid | 1 10036 36160() | 20 Y-Y | | | |
| hereby certify that according t described waste load is (Check | to the Resour | ce Conservation and I | the state of the s | | Environmental | Protection Age | arus novis July 1088 ro | E = | Each |
| | 1000 | | | | | | | | |
| ☐ RCRA EXEMPT: | accepts | wastes generated fron certifications on a per | n oll and gas exp month only basis | oloration and proces.) | luction operation | ons and are not | mixed with non-e | xempt waste. (G | andy Marley, Inc. |
| RCRA NON-EXEMPT: | Oil field | waste which is non-ha | zardous that do | es not exceed the | a minimum eta: | ndarde for weet | s hazardayın hıy ak | | |
| | | ons, 40 CFR 261.21-26 trating the waste as no | | | | | | aractenstics esta ded. The followin | blished in RCRA g documentation |
| ☐ MSDS In | formation | name and made as no | ii iiazaiaous is a | Hazardous Waste | ne appropriate | items as provide | ea.) | | |
| _ ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | morniumo;; | | G NORA | nazardous waste | Analysis | | Other (Prov. | ide Description B | elow) |
| EMERGENCY NON-OILFIEL | .D: Emerger | icy noπ-hazardous, no | n-oilfield waste ti | hat has been orde | ered by the Der | artment of Rubi | lo Cofoty (The and | | |
| | ous was | te determination and a | description of th | e waste must acc | ompany this fo | orm.) | ic datety. (The Ord | ei, documentatio | n or non-nazard- |
| (PRINT) AUTHORIZED A | CENTO CION | LATING | | | | | <u> </u> | | |
| (FAINT) AUTHORIZED A | IGEN IS SIGN | NATURE | | DATE | | | SIG | NATURE | |
| Feet | | Inche | | K BOTTON | <u>/IS</u> | | | | |
| 1st Gauge | | | | BS&W/RRI | S Received | | | DOOLE WY | |
| nd Gauge | | | | | Free Water | | | D3&VV (%) | |
| Received | | - | | Tota | al Received | - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 | | | |
| hereby certify that the above loa | ad material ha | as been (circle one): | ACCEPTED | DENIED | If denied, who | v? | | | |
| 2. TOLTO | | 100 | 20-16 | na mana a musica di sa | | १८ ६ | | 7-0+ | |
| NAME (PRINT) | | DAT | | • | | | \longrightarrow | SIGNATURE | |

TITLE

SIGNATURE





Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

February 17, 2016
Patrick McMahon
Dan Fields
311 N First
Lovington, NM 88260
TEL: (505) 396-5303

FAX

RE: Targa-Fields

OrderNo.: 1602530

Dear Patrick McMahon:

Hall Environmental Analysis Laboratory received 2 sample(s) on 2/11/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1602530

Date Reported: 2/17/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Dan Fields

Client Sample ID: T-1-4

Collection Date: 2/9/2016 2:20:00 PM

Project: Targa-Fields Lab ID: 1602530-001

Matrix: SOIL

Received Date: 2/11/2016 9:30:00 AM

| Analyses | Result | PQL Qu | al Units | DF Date Analyzed | Batch | | |
|----------------------------|--------|--------|----------|------------------|-------------|--|--|
| EPA METHOD 418.1: TPH | | | | Ar | nalyst: TOM | | |
| Petroleum Hydrocarbons, TR | 44000 | 1900 | mg/Kg | 100 2/17/2016 | 23750 | | |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1602530

Date Reported: 2/17/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Dan Fields

Project: Targa-Fields

Client Sample ID: T-2-18

Collection Date: 2/9/2016 2:30:00 PM

Lab ID: 1602530-002

Matrix: SOIL

Received Date: 2/11/2016 9:30:00 AM

| Analyses | Result | PQL Qu | al Units | DF Date Analyzed | Batch |
|----------------------------|--------|--------|----------|------------------|-------------|
| EPA METHOD 418.1: TPH | | | | Α | nalyst: TOM |
| Petroleum Hydrocarbons, TR | 49000 | 1900 | mg/Kg | 100 2/17/2016 | 23750 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 3
- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602530 17-Feb-16

Client:

Dan Fields

Project:

Targa-Fields

| Sample ID | MB-23750 |
|-------------|----------|
| 14275 17 27 | |

SampType: MBLK

TestCode: EPA Method 418.1: TPH

TestCode: EPA Method 418.1: TPH

Client ID:

Batch ID: 23750

RunNo: 32201

Prep Date: 2/16/2016

Analysis Date: 2/17/2016

PQL

20

20

SeqNo: 984360

Units: mg/Kg

Analyte

Result

SPK value SPK Ref Val %REC LowLimit

HighLimit

RPDLImit %RPD

Qual

Petroleum Hydrocarbons, TR Sample ID LCS-23750

SampType: LCS

RunNo: 32201

Client ID: LCSS Prep Date: 2/16/2016

Batch ID: 23750 Analysis Date: 2/17/2016

SeqNo: 984361

106

Units: mg/Kg

127

%RPD

Analyte Petroleum Hydrocarbons, TR Result POL

110

Result

110

SPK value SPK Ref Val %REC

HighLimit LowLimit

RPDLimit Qual

Sample ID LCSD-23750

SampType: LCSD Batch ID: 23750

TestCode: EPA Method 418.1: TPH RunNo: 32201

83.4

Units: mg/Kg

Prep Date: 2/16/2016

Client ID: LCSS02

Analysis Date: 2/17/2016 PQL

SeqNo: 984362 SPK value SPK Ref Val %REC

HighLimit

%RPD **RPDLImit** Qual

100.0

83.4

127

Page 3 of 3

Petroleum Hydrocarbons, TR

20

100.0

108

1.20

20

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Analyte detected below quantitation limits



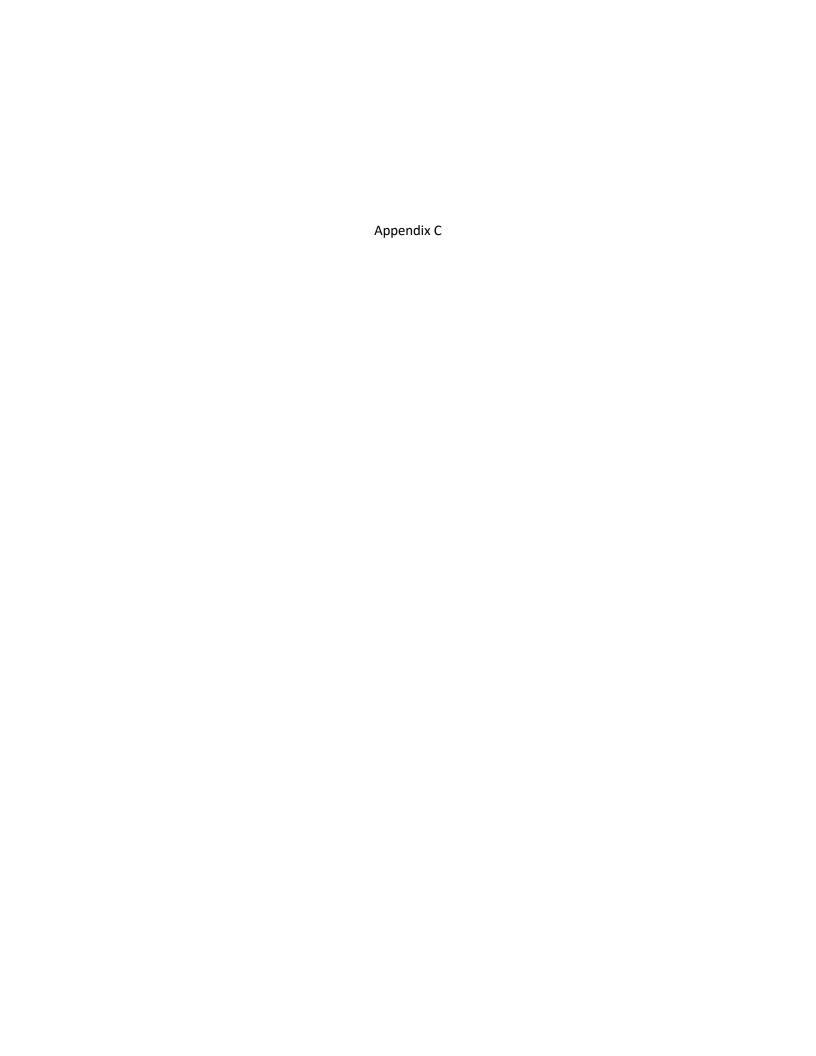
Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

| | 1 | | | | 1 |
|---|--|-----------|-------------|--------------------------------------|------------------|
| Received by/date: | oshilico | | | | |
| Logged By: Ashley Gallegos Completed By: Ashley Gallegos Reviewed By: Ashley Gallegos | 2/11/2016 9:30:00 AM 2/12/2016 9:48:55 AM | | A | | |
| Chain of Custody | - | | | | |
| 1. Custody seals intact on sample bottles | 7 | Yes 🗆 | No 🗆 | Not Present | |
| 2. Is Chain of Custody complete? | | Yes 🔽 | No 🗆 | Not Present | |
| 3. How was the sample delivered? | | Courier | | | |
| Log In | | | | | |
| 4. Was an attempt made to cool the sam | ples? | Yes 🔽 | No 🗆 | NA 🗆 | |
| 5. Were all samples received at a temper | ature of >0° C to 6.0°C | Yes 🗹 | No 🗆 | NA 🗆 | |
| 6. Sample(s) In proper container(s)? | | Yes 🔽 | No 🗆 | | |
| 7. Sufficient sample volume for Indicated | test(s)? | Yes 🗹 | No 🗆 | | |
| 8. Are samples (except VOA and ONG) pa | roperly preserved? | Yes 🔽 | No 🗆 | | |
| 9. Was preservative added to bottles? | | Yes 🗌 | No 🗹 | NA 🗆 | |
| 10. VOA vials have zero headspace? | | Yes 🗆 | No 🗆 | No VOA Vials | |
| 11, Were any sample containers received | broken? | Yes | No 🗹 | # of preserved | |
| 12. Does paperwork match bottle labels? (Note discrepancies on chain of custod) | y) | Yes 🗹 | No 🗆 | bottles checked for pH: (<2 or | >12 unless noted |
| 13. Are matrices correctly identified on Cha | in of Custody? | Yes 🗸 | No 🗆 | Adjusted? | |
| 14. Is it clear what analyses were requested | 17 | Yes 🗹 | No 🗆 | 20.1 | |
| Were all holding times able to be met? (If no, notify customer for authorization. |) | Yes 🗹 | No 🗆 | Checked by: | - |
| Special Handling (if applicable) | | | | | |
| 16, Was client notified of all discrepancies | with this order? | Yes 🗌 | No 🗆 | NA 🗹 | |
| Person Notified: By Whom: Regarding: Client Instructions: | Date ∫ Via: [|] eMail [| Phone Fax | ☐ In Person | |
| 17. Additional rémarks: 18. Cooler Information Cooler No Temp °C Condition | Seal Intact Seal No S | Seal Date | Signed By | | |

| Chain-of-Custody Record | | Turn-Around Time: Standard Rush Project Name: Targa Fields Project #: Targa Spill Project Manager: Patrick MMahan | | | | | | | L | IAI | 1 11 | | A FEE | TE | 0 | NI R | AFI | NT | AI | | | |
|---|---------------|---|--|--|-----------------------|---|------------------|-------------|-------------|-----------------------------|--------------------|--------------------|---------------------|---------------|-------------------------------|------------------------------|-------------|-----------------|----------|-----------|-----|----------------------|
| Aziride Mc Matran Aziride Mc Matran Aziride Mc Matran Aziride N. M. First Aziride N. M. 88260 | | | | | | | 92 | _ | | | | | | | | | | | | 1 | | |
| | | | | | | ANALYSIS LABORATORY www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 5-34 | | | | | | | 4107 | | | | | | |
| Phone #: 505 · 396 · 5303 | | | | | | | 10 | 1. 00 | 5-54 | J-00 | | _ | _ | _ | uest | _ | | | - | | | |
| | | | | | | | 3 | 6 | 7 | | | | | | | | | 7 | 7 | | | |
| mailor Fax#: hsncphm& lesso · Nel 2A/QC Package: 2 Standard □ Level 4 (Full Validation) | | | | | | TMB's (8021) | + TPH (Gas only) | O/MR | | | SIMS) | | PO4,SO | PCB's | | | | | | | | |
| Accred | | | | Sampler: EVO On Ice: Ø'Yes E No Sample Temperature 1:0 | | | MB's | H. | DR | _ | | 0.8 | | 0,2 | 082 | | | | | | | |
| 3 NEL | AP | □ Othe | r | | | | + | + | 30 | 18. | 4. | 827 | | N,EC | 8/8 | | 8 | | | | ᅵ | |
| J EDD | (Type) | | | | | | BE | BE | 9 | pd 4 | od 5 | 0 0 | stals | Ž, | ide | B | 9 | | | | 2 | |
| Date | Time | Matrix #Odi | Sample Request ID | Container Type and # | Preservative Type | HEAL | No. 953C | BTEX + MTBE | BTEX + MTBE | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH's (8310 or 8270 | RCRA 8 Metals | Anions (F,CI,NO3,NO2,PO4,SO4) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | 8270 (Semi-VOA) | | | | Air Bubbles (Y or N) |
| 49 | | | T-1-4 | 1-403 | Ice | - 0 | | | | | X | | | - | _ | | | - W | | | 717 | |
| 19 | 143D | | T-2-18 | 1-402 | 11 | | 22 | | | | X | | | | | | | | | | 1 | I |
| _ | | | | - | | | | | | | | | | | | | | | \dashv | + | + | + |
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| , | | | | - | | | | - | | | | | | | | | | | | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | 1 | \pm |
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| | - | - | | - | | - | | + | - | - | Н | - | | | - | | - | | \vdash | + | + | + |
| Date: | Time: | Relinquish | 1 1 | Received by: Date Time | | Re | mark | s: | | | | | | | | _ | | | | | | |
| P9 Date: | 5:98 Time: | Relinquish | ANI A | Received by: | 31- | 2 9 16 Date | Time | - | | | | | | | | | | | | | | |
| 19/16 | 1530 | 181 | 20/1 | Die. | What ! | 02/11/16 | 0930 | | | | | | | | | | | | | | | |
| | If necessary | , samples sub | mitted to Hall Environmental may be su | bcontracted to other | accredited laboratori | es. This serves a | s notice of th | is poss | ibility. | Any s | ub-con | tracte | d data | d lliw | e dea | dy not | ated o | n the a | nalytica | al repor | rt. | _ |



From: Keyes, Jamie, EMNRD
To: Michael Gant

Cc: McQuade, David; Mark Larson

Subject: RE: C141 for Targa Townsend 16 Inch Pipeline

Date: Monday, June 20, 2016 9:45:36 AM

Good morning,

The C-141 has been received and the RP # for this project is 4312.

Thank you,

Jamie

From: Michael Gant [mailto:mgant@laenvironmental.com]

Sent: Wednesday, June 15, 2016 9:33 AM

To: Keyes, Jamie, EMNRD

Cc: McQuade, David; Mark Larson

Subject: RE: C141 for Targa Townsend 16 Inch Pipeline

Jamie,

Attached are the Laboratory Reports from Trace Analysis. Please let me know if there is anything else that you require.

Thanks,

Michael Gant

Geologist 432-664-5357



From: Keyes, Jamie, EMNRD [mailto:Jamie.Keyes@state.nm.us]

Sent: Wednesday, June 15, 2016 10:12 AM

To: Michael Gant

Subject: RE: C141 for Targa Townsend 16 Inch Pipeline

Good morning,

Do you have the lab results from the recent sampling?

Thank you,

Jamie

From: Michael Gant [mailto:mgant@laenvironmental.com]

Sent: Wednesday, June 15, 2016 7:59 AM

To: Keyes, Jamie, EMNRD

Subject: C141 for Targa Townsend 16 Inch Pipeline

Mr. Keyes,

Attached is the C-141 associated with the Targa Townsend 16 Inch pipeline release on Dan Fields property just outside of Lovington, NM. Please let me know if you need anything else or if I am missing anything.

Thanks.

Michael Gant

Geologist 432-664-5357



--

This message has been scanned for viruses and dangerous content by <u>MailScanner</u>, and is believed to be clean.

--

This message has been scanned for viruses and dangerous content by **MailScanner**, and is believed to be clean.





July 15, 2015: Initial site investigation



July 15, 2015: Initial site investigation



July 15, 2015: Initial site investigation





August 3, 2015: Drilling SB-5 soil boring down to 25 feet bgs



September 16, 2015: Preliminary excavation at about 7 feet bgs



September 16, 2015: Preliminary excavation at about 7 feet bgs



September 18, 2015: Preliminary excavation at about 10 feet bgs



September 18, 2015: Preliminary excavation at about 10 feet bgs



September 21, 2015: Preliminary excavation at about 15 feet bgs



September 21, 2015: Preliminary excavation at about 15 feet bgs, showing staining on south wall



September 21, 2015: Preliminary excavation at about 15 feet bgs, showing staining on south wall



October 13, 2015: Preliminary excavation at about 18 feet bgs



October 13, 2015: Preliminary excavation at about 18 feet bgs, showing staining at bottom and west wall under pipeline



October 30, 2015: Excavation at about 22 feet bgs, facing east, looking at staining on boulder of south wall



October 30, 2015: Excavation at about 22 feet bgs, facing east, looking at staining on boulder of south wall



October 30, 2015: Excavation at about 22 feet bgs, facing northeast, looking at staining on NE corner at about 15 feet



October 30, 2015: Excavation at about 22 feet bgs, facing southeast, looking at staining



May 10, 2016: Excavation at about 24 feet bgs, showing remaining staining on west wall under pipeline



May 10, 2016: Excavation at about 24 feet bgs, showing south wall with stained boulder removed



May 20, 2016: Excavation at about 24 feet bgs, at west ramp and looking at east ramp



May 20, 2016: Excavation at about 24 feet bgs, looking at south ramp and reinforced supports



September 19, 2016: Looking at north wall and new clean caliche backfill



September 19, 2016: Looking at west wall staining at about 6 feet bgs before removal



September 19, 2016: Facing Southwest, looking at west wall staining at about 6 feet bgs before removal



September 19, 2016: Close up, looking at west wall staining at about 6 feet bgs before removal



September 19, 2016: Looking at north side of west wall staining at about 6 feet bgs before removal



September 19, 2016: Close up, looking at north side of west wall staining at about 6 feet bgs before removal



September 20, 2016: Facing South, beginning soil removal and western excavation extension



September 20, 2016: Facing West, beginning soil removal and western excavation extension



September 20, 2016: Facing Southwest, looking at west wall staining at about 6 feet bgs during soil removal



September 20, 2016: Facing Southwest, looking at west wall staining at about 6 feet bgs during soil removal



September 20, 2016: Facing South, looking at western extension of south wall at about 10 feet bgs during soil removal



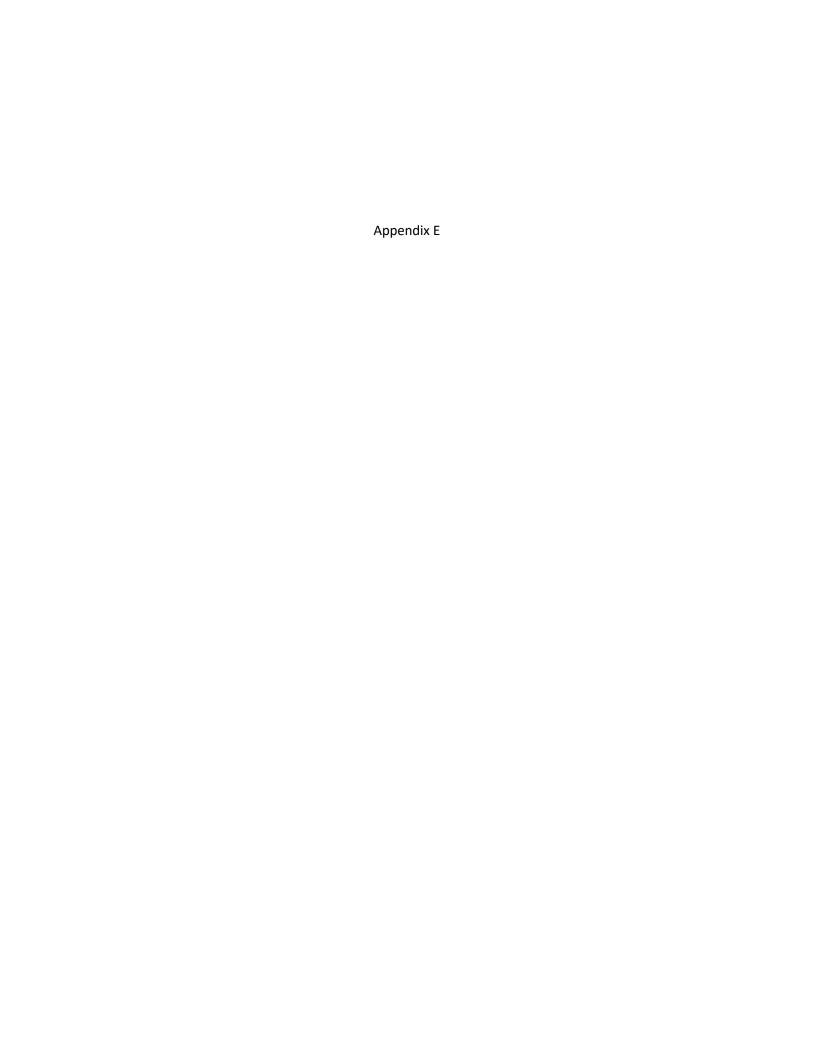
September 20, 2016: Facing West, looking at west wall at about 10 feet bgs during soil removal

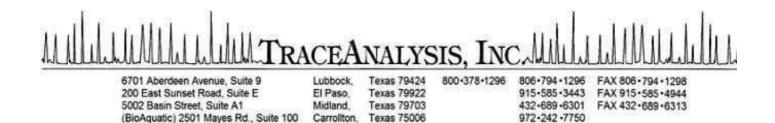


September 30, 2016: Facing West, looking at west wall excavation south of pipeline



September 30, 2016: Facing West, looking at west wall excavation north of pipeline





Certifications

E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Mark Larson Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM
Project Name: Pipeline Release
Project Number: 15-0143-01

Work Order: 15071669

Report Date: August 3, 2015

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | Time | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 398916 | HA-1, 0.5' | soil | 2015-07-12 | 10:35 | 2015-07-16 |
| 398917 | HA-2, 0.5 | soil | 2015-07-12 | 10:40 | 2015-07-16 |
| 398918 | HA-3, 0.5 | soil | 2015-07-12 | 10:42 | 2015-07-16 |
| 398919 | HA-4, 0.5 | soil | 2015-07-12 | 10:45 | 2015-07-16 |
| 398920 | HA-5, 4' | soil | 2015-07-12 | 10:48 | 2015-07-16 |
| 398921 | S-1, 2' | soil | 2015-07-12 | 10:55 | 2015-07-16 |
| 398922 | S-2, 2' | soil | 2015-07-12 | 10:58 | 2015-07-16 |
| 398923 | S-3, 2' | soil | 2015-07-12 | 11:00 | 2015-07-16 |
| 398924 | S-4, 2' | soil | 2015-07-12 | 11:05 | 2015-07-16 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 33 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

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Case Narrative

Samples for project Pipeline Release were received by TraceAnalysis, Inc. on 2015-07-16 and assigned to work order 15071669. Samples for work order 15071669 were received intact at a temperature of 5.8 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------------|------------|--------|-----------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| BTEX | S 8021B | 104236 | 2015-07-20 at 07:41 | 123263 | 2015-07-21 at 07:42 |
| Chloride (IC) | E 300.0 | 104511 | 2015-07-29 at 16:00 | 123592 | 2015-07-30 at 09:36 |
| Chloride (IC) | E 300.0 | 104554 | 2015-07-31 at 13:30 | 123638 | 2015-07-31 at $14:55$ |
| TPH DRO | S 8015 D | 104367 | 2015-07-24 at 08:15 | 123422 | 2015-07-24 at $15:36$ |
| TPH GRO | S 8015 D | 104236 | 2015-07-20 at $07:41$ | 123264 | 2015-07-21 at $07:47$ |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15071669 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: August 3, 2015 Work Order: 15071669 Page Number: 6 of 33 15-0143-01 Pipeline Release Lea Co, NM

Analytical Report

Sample: 398916 - HA-1, 0.5'

Laboratory: Midland

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035 QC Batch: 123263 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By: AK

| | | | RL | | | |
|--------------|------|------|---------------------|---------------------------|----------|--------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | U | 3 | < 0.0200 | m mg/Kg | 1 | 0.0200 |
| Toluene | U | 3 | < 0.0200 | m mg/Kg | 1 | 0.0200 |
| Ethylbenzene | U | 3 | < 0.0200 | mg/Kg | 1 | 0.0200 |
| Xylene | U | 3 | < 0.0200 | mg/Kg | 1 | 0.0200 |

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.70 | mg/Kg | 1 | 2.00 | 85 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.84 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |

Sample: 398916 - HA-1, 0.5'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RL Prep Batch: 104511 Sample Preparation: Prepared By: RL

| | | | RL | | | |
|-----------|------|-----------------------|--------|---------------------------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | Jb | 1,2,4 | <25.0 | mg/Kg | 1 | 25.0 |

Sample: 398916 - HA-1, 0.5'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK Prep Batch: 104367 Sample Preparation: 2015-07-24 Prepared By: AK

| | | | RL | | | |
|-----------|------|-----------------------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | Qr | 3 | 589 | mg/Kg | 1 | 50.0 |

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| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 116 | mg/Kg | 1 | 50.0 | 232 | 70 - 130 |

Sample: 398916 - HA-1, 0.5'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By: AK

| | | | RL | | | |
|-----------|------|------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | U | 3 | < 4.00 | mg/Kg | 1 | 4.00 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.90 | mg/Kg | 1 | 2.00 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.81 | mg/Kg | 1 | 2.00 | 90 | 70 - 130 |

Sample: 398917 - HA-2, 0.5'

Laboratory: Midland

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035 QC Batch: 123263 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By: AK

| | | | RL | | | |
|--------------|------|------|----------------------|---------------------------|----------|--------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | U | 3 | < 0.100 | m mg/Kg | 5 | 0.0200 |
| Toluene | | 3 | 0.322 | mg/Kg | 5 | 0.0200 |
| Ethylbenzene | | 3 | $\boldsymbol{0.297}$ | mg/Kg | 5 | 0.0200 |
| Xylene | | 3 | 1.14 | $\mathrm{mg/Kg}$ | 5 | 0.0200 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 9.10 | mg/Kg | 5 | 10.0 | 91 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 9.88 | mg/Kg | 5 | 10.0 | 99 | 70 - 130 |

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Sample: 398917 - HA-2, 0.5'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RLSample Preparation: Prep Batch: 104511 Prepared By: RL

Sample: 398917 - HA-2, 0.5'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: Analyzed By: AK123422 Date Analyzed: 2015 - 07 - 24Prep Batch: 104367 Sample Preparation: 2015-07-24 Prepared By: AK

 Parameter
 Flag
 Cert
 Result
 Units
 Dilution
 RL

 DRO
 Qr
 3
 8680
 mg/Kg
 5
 50.0

Spike Percent Recovery Surrogate Flag Cert Result Units Dilution Amount Recovery Limits 339 70 - 130 n-Tricosane mg/Kg 5 50.0 678

Sample: 398917 - HA-2, 0.5'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 10.0 | mg/Kg | 5 | 10.0 | 100 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 10.8 | mg/Kg | 5 | 10.0 | 108 | 70 - 130 |

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Sample: 398918 - HA-3, 0.5'

Laboratory: Midland

BTEXPrep Method: S 5035 Analysis: Analytical Method: S 8021BQC Batch: 123263 Date Analyzed: 2015-07-21 Analyzed By: Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By:

| | | | RL | | | |
|--------------|------|-----------------------|--------|---------------------------|----------|--------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | | 3 | 6.82 | m mg/Kg | 50 | 0.0200 |
| Toluene | | 3 | 77.2 | m mg/Kg | 50 | 0.0200 |
| Ethylbenzene | | 3 | 100 | mg/Kg | 50 | 0.0200 |
| Xylene | | 3 | 182 | mg/Kg | 50 | 0.0200 |

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| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 79.4 | mg/Kg | 50 | 100 | 79 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 114 | mg/Kg | 50 | 100 | 114 | 70 - 130 |

Sample: 398918 - HA-3, 0.5'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RLPrep Batch: 104511 Sample Preparation: Prepared By: RL

| | | | RL | | | |
|-----------|------|-----------------------|---------------------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | В | 1,2,4 | 26.0 | m mg/Kg | 1 | 25.0 |

Sample: 398918 - HA-3, 0.5'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK Prep Batch: 104367 Sample Preparation: 2015-07-24 Prepared By: AK

| | | | RL | | | |
|-----------|------|-----------------------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | Qr | 3 | 14700 | mg/Kg | 10 | 50.0 |

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 550 | mg/Kg | 10 | 50.0 | 1100 | 70 - 130 |

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Sample: 398918 - HA-3, 0.5'

Laboratory: Midland

 ≤ 5035 Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By: AK

| | | | | | | | Spike | Percent | Recovery |
|------------------------------|-------------------|-------------------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 93.1 | mg/Kg | 50 | 100 | 93 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{\mathrm{Qsr}}$ | | 155 | mg/Kg | 50 | 100 | 155 | 70 - 130 |

Sample: 398919 - HA-4, 0.5'

Laboratory: Midland

Analysis: **BTEX** Analytical Method: S_{8021B} Prep Method: S 5035 QC Batch: 123263 Date Analyzed: 2015 - 07 - 21Analyzed By: AK2015-07-20 Prep Batch: 104236 Sample Preparation: Prepared By: AK

RLFlag Parameter Cert Result Units Dilution RL0.5030.0200 Benzene mg/Kg 5 3 Toluene 5.51 mg/Kg5 0.0200 3 0.0200 Ethylbenzene 8.98 mg/Kg5 3 Xylene mg/Kg5 0.020019.4

| | | | | | | | Spike | Percent | Recovery |
|------------------------------|-------------------|-------------------|-----------------------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 7.80 | mg/Kg | 5 | 10.0 | 78 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{\mathrm{Qsr}}$ | | 14.0 | mg/Kg | 5 | 10.0 | 140 | 70 - 130 |

Sample: 398919 - HA-4, 0.5'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RLPrep Batch: 104511 Sample Preparation: Prepared By: RL

 $\overline{continued \dots}$

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sample 398919 continued ...

| | | | RL | | | |
|-----------|------|-------|---------------------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | В | 1,2,4 | 28.0 | mg/Kg | 1 | 25.0 |

Sample: 398919 - HA-4, 0.5'

Laboratory: Midland

Analysis: TPH DRO QC Batch: 123422Prep Batch: 104367

Analytical Method: S 8015 D Prep Method: N/A Date Analyzed: 2015 - 07 - 24Analyzed By: Sample Preparation: 2015-07-24 Prepared By:

AK

AK

S 5035

Prep Method:

RLParameter Flag Cert Result Units Dilution RL $\overline{\mathrm{DRO}}$ 6930 mg/Kg 50.0 $_{
m Qr}$ 3 5

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|--------------|----------|------------------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 257 | ${ m mg/Kg}$ | 5 | 50.0 | 514 | 70 - 130 |

Sample: 398919 - HA-4, 0.5'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D QC Batch: 123264 Date Analyzed: 2015-07-21 Prep Batch: 104236 Sample Preparation: 2015-07-20

Analyzed By: AKPrepared By: AKRL

Parameter Flag Cert Result Units Dilution RL \overline{GRO} 619 mg/Kg 4.00 3

| | | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|-------------------|-------------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 9.39 | mg/Kg | 5 | 10.0 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{ m Qsr}$ | | 21.2 | mg/Kg | 5 | 10.0 | 212 | 70 - 130 |

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Sample: 398920 - HA-5, 4'

Laboratory: Midland

BTEXPrep Method: S 5035 Analysis: Analytical Method: S 8021BQC Batch: 123263 Date Analyzed: 2015-07-21 Analyzed By: Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By:

| | | | RL | | | |
|--------------|------|-----------------------|---------------------|---------------------------|----------|--------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | | 3 | 60.6 | $\mathrm{mg/Kg}$ | 50 | 0.0200 |
| Toluene | | 3 | 212 | mg/Kg | 50 | 0.0200 |
| Ethylbenzene | | 3 | 160 | mg/Kg | 50 | 0.0200 |
| Xylene | | 3 | 266 | mg/Kg | 50 | 0.0200 |

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| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 81.8 | mg/Kg | 50 | 100 | 82 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 116 | mg/Kg | 50 | 100 | 116 | 70 - 130 |

Sample: 398920 - HA-5, 4'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RLPrep Batch: 104511 Sample Preparation: Prepared By: RL

| | | | RL | | | |
|-----------|-----------------------|-----------------------|--------|---------------------------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | В | 1,2,4 | 2370 | mg/Kg | 50 | 25.0 |

Sample: 398920 - HA-5, 4'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK Prep Batch: 104367 Sample Preparation: 2015-07-24 Prepared By: AK

| | | | RL | | | |
|-----------|------|-----------------------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | Qr | 3 | 21600 | mg/Kg | 20 | 50.0 |

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 570 | mg/Kg | 20 | 50.0 | 1140 | 70 - 130 |

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Sample: 398920 - HA-5, 4'

Laboratory: Midland

S 5035 Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By: AK

| | | | | | | | Spike | Percent | Recovery |
|------------------------------|-------------------|-------------------|------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 90.0 | mg/Kg | 50 | 100 | 90 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{\mathrm{Qsr}}$ | | 164 | mg/Kg | 50 | 100 | 164 | 70 - 130 |

Sample: 398921 - S-1, 2'

Laboratory: Midland

Analysis: **BTEX** Analytical Method: S 8021BPrep Method: S 5035 QC Batch: 123263 Date Analyzed: 2015 - 07 - 21Analyzed By: AK2015-07-20 Prep Batch: 104236 Sample Preparation: Prepared By: AK

RLFlag Parameter Cert Result Units Dilution RL5.5150 0.0200 Benzene mg/Kg 3 Toluene 38.0 mg/Kg50 0.0200 3 50 0.0200 Ethylbenzene 47.8 mg/Kg3 50 Xylene 108 mg/Kg0.0200

| | | | | | | $_{\mathrm{Spike}}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|---------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 85.3 | mg/Kg | 50 | 100 | 85 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 117 | mg/Kg | 50 | 100 | 117 | 70 - 130 |

Sample: 398921 - S-1, 2'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RLPrep Batch: 104511 Sample Preparation: Prepared By: RL

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sample 398921 continued ...

| | | | RL | | | |
|-----------|------|-------|---------------------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| | | | DI | | | |
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 1,2,4 | 936 | mg/Kg | 5 | 25.0 |

Sample: 398921 - S-1, 2'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK Prep Batch: 104367 Sample Preparation: 2015-07-24 Prepared By: AK

| | | | $\kappa_{ m L}$ | | | |
|-----------|------|------|-----------------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | Qr | 3 | 26900 | m mg/Kg | 20 | 50.0 |
| | | | | | | |

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 803 | mg/Kg | 20 | 50.0 | 1606 | 70 - 130 |

Sample: 398921 - S-1, 2'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AKPrep Batch: 104236 Sample Preparation: Prepared By: 2015-07-20 AK

| | | | RL | | | |
|-----------|------|------|---------------------|------------------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | | 3 | 3940 | $\mathrm{mg/Kg}$ | 50 | 4.00 |

| | | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|-------------------|-------------|-----------------------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 99.2 | mg/Kg | 50 | 100 | 99 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{ m Qsr}$ | | 164 | mg/Kg | 50 | 100 | 164 | 70 - 130 |

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Sample: 398922 - S-2, 2'

Laboratory: Midland

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035 QC Batch: 123263 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By: AK

| | | | RL | | | |
|--------------|------|------|---------------------|-------|----------|--------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | | 3 | 12.3 | mg/Kg | 50 | 0.0200 |
| Toluene | | 3 | 80.8 | mg/Kg | 50 | 0.0200 |
| Ethylbenzene | | 3 | 49.8 | mg/Kg | 50 | 0.0200 |
| Xylene | | 3 | $\boldsymbol{192}$ | mg/Kg | 50 | 0.0200 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 82.0 | mg/Kg | 50 | 100 | 82 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 116 | mg/Kg | 50 | 100 | 116 | 70 - 130 |

Sample: 398922 - S-2, 2'

Laboratory: Lubbock

| | | | RL | | | |
|-----------|------|-------|-----------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 1,2,4 | $\bf 572$ | m mg/Kg | 5 | 25.0 |

Sample: 398922 - S-2, 2'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK Prep Batch: 104367 Sample Preparation: 2015-07-24 Prepared By: AK

| | | | RL | | | |
|-----------|------|-----------------------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | Qr | 3 | 31000 | mg/Kg | 20 | 50.0 |

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 886 | mg/Kg | 20 | 50.0 | 1772 | 70 - 130 |

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Sample: 398922 - S-2, 2'

Laboratory: Midland

S 5035 Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By: AK

| | | | | | | | Spike | Percent | Recovery |
|------------------------------|-------------------|-------------------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 97.1 | mg/Kg | 50 | 100 | 97 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{\mathrm{Qsr}}$ | | 157 | mg/Kg | 50 | 100 | 157 | 70 - 130 |

Sample: 398923 - S-3, 2'

Laboratory: Midland

Analysis: **BTEX** Analytical Method: S 8021BPrep Method: S 5035 QC Batch: 123263 Date Analyzed: 2015 - 07 - 21Analyzed By: AK2015-07-20 Prep Batch: 104236 Sample Preparation: Prepared By: AK

RLFlag Parameter Cert Result Units Dilution RL8.18 50 0.0200 Benzene mg/Kg 3 Toluene 42.6 mg/Kg50 0.0200 3 50 0.0200 Ethylbenzene 36.5 mg/Kg3 50 Xylene 99.7mg/Kg0.0200

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 79.8 | mg/Kg | 50 | 100 | 80 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 106 | mg/Kg | 50 | 100 | 106 | 70 - 130 |

Sample: 398923 - S-3, 2'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RLPrep Batch: 104511 Sample Preparation: Prepared By: RL

 $\overline{continued \dots}$

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sample 398923 continued ...

| | | | RL | | | |
|-----------|------|-----------------------|---------------------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| | | | DI | | | |
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | В | 1,2,4 | 403 | mg/Kg | 5 | 25.0 |

Sample: 398923 - S-3, 2'

Laboratory: Midland

| | | | RL | | | |
|-----------|------|------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | Qr | 3 | 35800 | m mg/Kg | 20 | 50.0 |
| | | | | | | |

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 1040 | mg/Kg | 20 | 50.0 | 2080 | 70 - 130 |

Sample: 398923 - S-3, 2'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AKPrep Batch: 104236 Sample Preparation: Prepared By: 2015-07-20 AK

| | | | RL | | | |
|-----------|-----------------------|-----------------------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | | 3 | 3440 | mg/Kg | 50 | 4.00 |

| | | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|-------------------|-------------|-----------------------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 91.6 | mg/Kg | 50 | 100 | 92 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{ m Qsr}$ | | 133 | mg/Kg | 50 | 100 | 133 | 70 - 130 |

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Sample: 398924 - S-4, 2'

Laboratory: Midland

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035 QC Batch: 123263 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By: AK

| | | | RL | | | |
|--------------|------|-----------------------|---------------------|---------------------------|----------|--------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | | 3 | 21.0 | mg/Kg | 50 | 0.0200 |
| Toluene | | 3 | 158 | mg/Kg | 50 | 0.0200 |
| Ethylbenzene | | 3 | 137 | mg/Kg | 50 | 0.0200 |
| Xylene | | 3 | 261 | mg/Kg | 50 | 0.0200 |

| | | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|-------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 83.0 | mg/Kg | 50 | 100 | 83 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | Qsr | | 131 | mg/Kg | 50 | 100 | 131 | 70 - 130 |

Sample: 398924 - S-4, 2'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 123638 Date Analyzed: 2015-07-31 Analyzed By: RL Prep Batch: 104554 Sample Preparation: Prepared By: RL

| | | | RL | | | |
|-----------|-----------------------|-------|---------------------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | $_{ m Qr,Qs}$ | 1,2,4 | 488 | m mg/Kg | 5 | 25.0 |

Sample: 398924 - S-4, 2'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK Prep Batch: 104367 Sample Preparation: 2015-07-24 Prepared By: AK

| | | | RL | | | |
|-----------|------|------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | Qr | 3 | 23500 | mg/Kg | 20 | 50.0 |

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 680 | mg/Kg | 20 | 50.0 | 1360 | 70 - 130 |

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Sample: 398924 - S-4, 2'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 Sample Preparation: 2015-07-20 Prepared By: AK

| | | | | | | | Spike | Percent | Recovery |
|------------------------------|-------------------|-------------------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 96.7 | mg/Kg | 50 | 100 | 97 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{\mathrm{Qsr}}$ | | 202 | mg/Kg | 50 | 100 | 202 | 70 - 130 |

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Method Blanks

Method Blank (1) QC Batch: 123263

QC Batch: 123263 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 QC Preparation: 2015-07-20 Prepared By: AK

| | | | MDL | | |
|--------------|------|-----------------------|----------------|---------|------|
| Parameter | Flag | Cert | Result | Units | RL |
| Benzene | | 3 | < 0.00533 | mg/Kg | 0.02 |
| Toluene | | 3 | < 0.00645 | mg/Kg | 0.02 |
| Ethylbenzene | | 3 | < 0.0116 | mg/Kg | 0.02 |
| Xvlene | | 3 | < 0.00874 | m mg/Kg | 0.02 |

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.72 | mg/Kg | 1 | 2.00 | 86 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.60 | mg/Kg | 1 | 2.00 | 80 | 70 - 130 |

Method Blank (1) QC Batch: 123264

QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 QC Preparation: 2015-07-20 Prepared By: AK

| | | | MDL | | |
|-----------|------|------|--------|---------------------------|----|
| Parameter | Flag | Cert | Result | Units | RL |
| GRO | | 3 | < 2.32 | mg/Kg | 4 |

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.85 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.62 | mg/Kg | 1 | 2.00 | 81 | 70 - 130 |

Method Blank (1) QC Batch: 123422

QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK Prep Batch: 104367 QC Preparation: 2015-07-24 Prepared By: AK Report Date: August 3, 2015 Work Order: 15071669 Page Number: 21 of 33 15-0143-01 Pipeline Release Lea Co, NM

| | | | | | M | DL | | |
|-------------|------|-----------------------|--------|-------|----------|-----------------------|----------|----------|
| Parameter | | Fla | ag | Cert | Res | sult | Units | RL |
| DRO | | | | 3 | <7 | 7.41 | mg/Kg | 50 |
| | | | | | | Spike | Percent | Recovery |
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 49.6 | mg/Kg | 1 | 50.0 | 99 | 70 - 130 |
| | | | | | | | | |

Method Blank (1) QC Batch: 123592

| | | | MDL | | |
|-----------|------|-------|--------|---------|----|
| Parameter | Flag | Cert | Result | Units | RL |
| Chloride | | 1,2,4 | 8.81 | m mg/Kg | 25 |

Method Blank (1) QC Batch: 123638

QC Batch: 123638 Date Analyzed: 2015-07-31 Analyzed By: RL Prep Batch: 104554 QC Preparation: 2015-07-31 Prepared By: RL

| | | | MDL | | |
|-----------|------|-------|--------|---------------------------|----|
| Parameter | Flag | Cert | Result | Units | RL |
| Chloride | | 1,2,4 | < 4.69 | mg/Kg | 25 |

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 123263 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 QC Preparation: 2015-07-20 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|--------------|--------------|--------------|--------|---------------------------|------|--------|-----------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Benzene | | 3 | 1.65 | mg/Kg | 1 | 2.00 | < 0.00533 | 82 | 70 - 130 |
| Toluene | | 3 | 1.73 | mg/Kg | 1 | 2.00 | < 0.00645 | 86 | 70 - 130 |
| Ethylbenzene | | 3 | 1.75 | mg/Kg | 1 | 2.00 | < 0.0116 | 88 | 70 - 130 |
| Xylene | | 3 | 5.25 | mg/Kg | 1 | 6.00 | < 0.00874 | 88 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|--------------|--------------|--------------|--------|---------------------------|------|--------|-----------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Benzene | | 3 | 1.70 | mg/Kg | 1 | 2.00 | < 0.00533 | 85 | 70 - 130 | 3 | 20 |
| Toluene | | 3 | 1.81 | mg/Kg | 1 | 2.00 | < 0.00645 | 90 | 70 - 130 | 4 | 20 |
| Ethylbenzene | | 3 | 1.84 | mg/Kg | 1 | 2.00 | < 0.0116 | 92 | 70 - 130 | 5 | 20 |
| Xylene | | 3 | 5.52 | mg/Kg | 1 | 6.00 | < 0.00874 | 92 | 70 - 130 | 5 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.78 | 1.74 | mg/Kg | 1 | 2.00 | 89 | 87 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.85 | 1.84 | mg/Kg | 1 | 2.00 | 92 | 92 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 QC Preparation: 2015-07-20 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 3 | 14.2 | mg/Kg | 1 | 20.0 | < 2.32 | 71 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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| control spikes continued | | | | | | | | | | | |
|--------------------------|--------------|--------------|--------|-------|------|---------------|--------|------|----------|-----|-------|
| 1 | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
| Param | F | С | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| | | | | | | | | | | | |
| | | | LCSD | | | $_{ m Spike}$ | Matrix | | Rec. | | RPD |
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 3 | 14.1 | mg/Kg | 1 | 20.0 | < 2.32 | 70 | 70 - 130 | 1 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | $_{ m Spike}$ | LCS | LCSD | Rec. |
|------------------------------|--------|--------|-------|------|---------------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.92 | 1.87 | mg/Kg | 1 | 2.00 | 96 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.93 | 1.85 | mg/Kg | 1 | 2.00 | 96 | 92 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK Prep Batch: 104367 QC Preparation: 2015-07-24 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 3 | 210 | mg/Kg | 1 | 250 | < 7.41 | 84 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 3 | 241 | mg/Kg | 1 | 250 | < 7.41 | 96 | 70 - 130 | 14 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 51.3 | 57.2 | mg/Kg | 1 | 50.0 | 103 | 114 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RL Prep Batch: 104511 QC Preparation: 2015-07-29 Prepared By: RL

| | | | LCS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|------------------------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 1,2,4 | 249 | mg/Kg | 1 | 250 | 8.81 | 96 | 90 - 110 |

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Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 1,2,4 | 257 | mg/Kg | 1 | 250 | 8.81 | 99 | 90 - 110 | 3 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 123638 Date Analyzed: 2015-07-31 Analyzed By: RL Prep Batch: 104554 QC Preparation: 2015-07-31 Prepared By: RL

| | | | LCS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 1,2,4 | 245 | mg/Kg | 1 | 250 | < 4.69 | 98 | 90 - 110 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 1,2,4 | 250 | mg/Kg | 1 | 250 | < 4.69 | 100 | 90 - 110 | 2 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 398916

QC Batch: 123263 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 QC Preparation: 2015-07-20 Prepared By: AK

| | | | MS | | | Spike | Matrix | | Rec. |
|--------------|--------------|--------------|--------|---------------------------|------|------------------------|-----------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Benzene | | 3 | 1.48 | mg/Kg | 1 | 2.00 | < 0.00533 | 74 | 70 - 130 |
| Toluene | | 3 | 1.70 | mg/Kg | 1 | 2.00 | < 0.00645 | 85 | 70 - 130 |
| Ethylbenzene | | 3 | 1.81 | mg/Kg | 1 | 2.00 | < 0.0116 | 90 | 70 - 130 |
| Xylene | | 3 | 5.43 | mg/Kg | 1 | 6.00 | < 0.00874 | 90 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|--------------|--------------|--------------|--------|-------|------|--------|-----------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Benzene | | 3 | 1.48 | mg/Kg | 1 | 2.00 | < 0.00533 | 74 | 70 - 130 | 0 | 20 |
| Toluene | | 3 | 1.69 | mg/Kg | 1 | 2.00 | < 0.00645 | 84 | 70 - 130 | 1 | 20 |
| Ethylbenzene | | 3 | 1.82 | mg/Kg | 1 | 2.00 | < 0.0116 | 91 | 70 - 130 | 1 | 20 |
| Xylene | | 3 | 5.38 | mg/Kg | 1 | 6.00 | < 0.00874 | 90 | 70 - 130 | 1 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|---------------------------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.68 | 1.74 | mg/Kg | 1 | 2 | 84 | 87 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.85 | 1.88 | mg/Kg | 1 | 2 | 92 | 94 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 398916

QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AK Prep Batch: 104236 QC Preparation: 2015-07-20 Prepared By: AK

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 3 | 17.6 | mg/Kg | 1 | 20.0 | < 2.32 | 88 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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| matrix spikes continued | | | | | | | | | | | |
|-------------------------|--------------|--------------|--------|-------|------|---------------|--------|------|----------|-----|-------|
| 1 | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
| Param | F | С | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| | | | | | | | | | | | |
| | | | MSD | | | $_{ m Spike}$ | Matrix | | Rec. | | RPD |
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 3 | 15.8 | mg/Kg | 1 | 20.0 | < 2.32 | 79 | 70 - 130 | 11 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.95 | 1.85 | mg/Kg | 1 | 2 | 98 | 92 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.85 | 1.94 | mg/Kg | 1 | 2 | 92 | 97 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 398916

QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK Prep Batch: 104367 QC Preparation: 2015-07-24 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|----|--------------|--------|-------|------|--------|--------|------|----------|
| Param | | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | Qs | Qs | 3 | 753 | mg/Kg | 1 | 250 | 589 | 66 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | Qr,Qs | Qr,Qs | 3 | 499 | mg/Kg | 1 | 250 | 589 | -36 | 70 - 130 | 41 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|-----|-----|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | Qsr | Qsr | 112 | 85.4 | mg/Kg | 1 | 50 | 224 | 85 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 398923

QC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RL Prep Batch: 104511 QC Preparation: 2015-07-29 Prepared By: RL

| | | | | MS | | | Spike | Matrix | | Rec. |
|----------|----|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | Qs | Qs | 1,2,4 | 778 | mg/Kg | 5 | 250 | 403 | 150 | 80 - 120 |

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Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | $_{\mathrm{Spike}}$ | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|---------------------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 1,2,4 | 667 | mg/Kg | 5 | 250 | 403 | 106 | 80 - 120 | 15 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 398924

QC Batch: 123638 Date Analyzed: 2015-07-31 Analyzed By: RL Prep Batch: 104554 QC Preparation: 2015-07-31 Prepared By: RL

| | | | MS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 1.2.4 | 755 | mg/Kg | 5 | 250 | 488 | 107 | 80 - 120 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|---------------|---------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | $_{ m Qr,Qs}$ | $_{ m Qr,Qs}$ | 1,2,4 | 579 | mg/Kg | 5 | 250 | 488 | 36 | 80 - 120 | 26 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Calibration Standards

Standard (CCV-1)

QC Batch: 123263 Date Analyzed: 2015-07-21 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|--------------|------|-----------------------|-------|-------|--------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Benzene | | 3 | mg/kg | 0.100 | 0.0864 | 86 | 80 - 120 | 2015-07-21 |
| Toluene | | 3 | mg/kg | 0.100 | 0.0905 | 90 | 80 - 120 | 2015-07-21 |
| Ethylbenzene | | 3 | mg/kg | 0.100 | 0.0919 | 92 | 80 - 120 | 2015-07-21 |
| Xylene | | 3 | mg/kg | 0.300 | 0.275 | 92 | 80 - 120 | 2015-07-21 |

Standard (CCV-2)

QC Batch: 123263 Date Analyzed: 2015-07-21 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|--------------|------|------|-------|-------|-----------------|----------|----------|----------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Benzene | | 3 | mg/kg | 0.100 | 0.0846 | 85 | 80 - 120 | 2015-07-21 |
| Toluene | | 3 | mg/kg | 0.100 | 0.0881 | 88 | 80 - 120 | 2015-07-21 |
| Ethylbenzene | | 3 | mg/kg | 0.100 | 0.0886 | 89 | 80 - 120 | 2015-07-21 |
| Xylene | | 3 | mg/kg | 0.300 | 0.265 | 88 | 80 - 120 | 2015 - 07 - 21 |

Standard (CCV-1)

QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|---------------------------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 3 | mg/Kg | 1.00 | 1.11 | 111 | 80 - 120 | 2015-07-21 |

Standard (CCV-2)

QC Batch: 123264 Date Analyzed: 2015-07-21 Analyzed By: AK

Report Date: August 3, 2015 Work Order: 15071669 Page Number: 29 of 33 15-0143-01 Pipeline Release Lea Co, NM

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 3 | mg/Kg | 1.00 | 0.977 | 98 | 80 - 120 | 2015-07-21 |

Standard (CCV-1)

QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 3 | mg/Kg | 250 | 246 | 98 | 80 - 120 | 2015-07-24 |

Standard (CCV-2)

QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 3 | mg/Kg | 250 | 243 | 97 | 80 - 120 | 2015-07-24 |

Standard (CCV-3)

QC Batch: 123422 Date Analyzed: 2015-07-24 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 3 | mg/Kg | 250 | 207 | 83 | 80 - 120 | 2015-07-24 |

Standard (CCV-1)

QC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RL

Report Date: August 3, 2015 Work Order: 15071669 Page Number: 30 of 33 15-0143-01 Pipeline Release Lea Co, NM

| | | | | CCVs True | CCVs Found | $\begin{array}{c} { m CCVs} \\ { m Percent} \end{array}$ | Percent Recovery | Date |
|----------|------|-------|-------|--------------|---------------|--|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 1,2,4 | mg/Kg | 25.0 | 24.8 | 99 | 90 - 110 | 2015-07-30 |

Standard (CCV-2)

QC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RL

| | | | | CCVs True | $\begin{array}{c} { m CCVs} \\ { m Found} \end{array}$ | $\begin{array}{c} { m CCVs} \\ { m Percent} \end{array}$ | Percent Recovery | Date |
|----------|------|-------|-------|--------------|--|--|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 1,2,4 | mg/Kg | 25.0 | 25.0 | 100 | 90 - 110 | 2015-07-30 |

Standard (CCV-3)

QC Batch: 123592 Date Analyzed: 2015-07-30 Analyzed By: RL

| D | T) | G. A | TT */ | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|----------|-----------------------|-----------------------|------------------------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 1,2,4 | mg/Kg | 25.0 | 23.6 | 94 | 90 - 110 | 2015-07-30 |

Standard (CCV-1)

QC Batch: 123638 Date Analyzed: 2015-07-31 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 1,2,4 | mg/Kg | 25.0 | 25.1 | 100 | 90 - 110 | 2015-07-31 |

Standard (CCV-2)

QC Batch: 123638 Date Analyzed: 2015-07-31 Analyzed By: RL

Report Date: August 3, 2015 Work Order: 15071669 Page Number: 31 of 33 15-0143-01 Pipeline Release Lea Co, NM

 CCVs CCVs CCVs Percent True Found Percent Recovery Date Limits Param Flag Cert Units ${\rm Conc.}$ ${\rm Conc.}$ Recovery Analyzed mg/Kg $\overline{\text{Chloride}}$ 25.0 25.7 103 90 - 110 2015-07-31 1,2,4

Report Date: August 3, 2015 Work Order: 15071669 Page Number: 32 of 33 15-0143-01 Pipeline Release Lea Co, NM

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|---------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | LELAP | LELAP-02003 | Lubbock |
| 2 | NELAP | T104704219-15-11 | Lubbock |
| 3 | NELAP | T104704392-14-8 | Midland |
| 4 | | 2014-018 | Lubbock |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
 - U The analyte is not detected above the SDL

Report Date: August 3, 2015 Work Order: 15071669 Page Number: 33 of 33 15-0143-01 Pipeline Release Lea Co, NM

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

or Specify Method ANALYSIS REQUEST PCB's 8082 / 608 Vol. 8270 / 625 GC/MS Semi. REMARKS GC/MS A91. 8260 / 624 RCI TCLP Pesticides TCLP Semi Volatiles Circle Se Contraction ш 200 East Sunset Rd., Suite E El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-3443 1 (888) 588-3443 LAB USE TCLP Metals Ag As Ba Cd Cr Pb Se Hg Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7 Log-in-Review PAH 8270 / 625 TPH 8015 GRO / DRO / TVHC TPH 418.1 / TX1005 / TX1005 Ext(C35) BTEX 8021 / 602 / 8260 / 624 INST 8021 / 602 / 8260 / 624 OBS S **HTBE** CORS OBS INST 4:0 200 8:5 OBS COR 10:40 55,0 0.83 0.58 INST COR 1,05 Mark elaenvironmentol.com 10:30 SAMPLING **JMIT** 5002 Basin Street, Suite A1 Midland, Texas 79703 Tel (432) 689-6301 Fax (432) 689-6313 Time: 712/15 Jime: Tx (432) 687-0456 Q the wine fulle clara vironmentar com **DATE** 687.090 0 Date: PRESERVATIVE NONE nittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C. METHOD ICE > Sampler Signature: **HOBN** Project Name: Company: Company: Company PSO H HNO3 Suite 6701 Aberdeen Avenue, Suite Lubbock, Texas 79424 Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296 Phone #: HCI Toursend Received by: STUDGE Received by: Received by: MATRIX AIA 2 of lond TIOS 2 **MATER** 50 issociates Volume / Amount Time: Time: Street, City, Zip) ... Time: Tang FraceAnalysis, Inc. # CONTAINERS 116/15 エフ Date: email: lab@traceanalysis.com Larson -0143-61 Project Location (including state): NA-4,0.5 -A1500 E 4 A 3 3 0 5' FIELD CODE 0 HA-2,0.5 V Company: Company: S Company N HA-5, N 5-1, 5.3 5-4 (If different from above) 1-41 Contact Person: LAB Order ID# N Company Name: Relinguished by: Relinquished by: Relinquished by: 32920 LAB USE Stok 584930 Project #: 9/6/8 38992 Address: Invoice to 61668 4C668 4890 1898 ONLY LAB#

BioAquatic Testing 2501 Mayes Rd., Ste 100 Carrollton, Texas 75006 Tel (972) 242-7750

Brandon & Clark 3403 Industrial Blvd. **Hobbs, NM 88240** Tel (575) 392-7561 Fax (575) 392-4508

of

Turn Around Time if different from standard

Chland

Cl, F, SO4,

Na, Ca, Mg, K,

Moisture Content

Pesticides 8081 / 608

Hq, RST, QOB

करिये TDS, EC

NO3 -N, NO2 -N, PO4 -P, Alkalinity

PIOH

Dry Weight Basis Required

Check If Special Reporting Limits Are Needed TRRP Report Required

Carrier #

Sol

ORIGINAL COPY



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Mark Larson Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM Project Name: Townsend 12" Project Number: 15-0143-01

Report Date: August 12, 2015

Work Order: 15080409

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | Time | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 400814 | SB-5,10' | soil | 2015-08-03 | 13:38 | 2015-08-04 |
| 400815 | SB-5,15' | soil | 2015-08-03 | 13:45 | 2015-08-04 |
| 400816 | SB-5,20' | soil | 2015-08-03 | 13:50 | 2015-08-04 |
| 400817 | SB-5,25' | soil | 2015-08-03 | 13:55 | 2015-08-04 |
| 400818 | SB-4,0 | soil | 2015-08-03 | 14:07 | 2015-08-04 |
| 400819 | SB-4,5 | soil | 2015-08-03 | 14:16 | 2015-08-04 |
| 400820 | SB-4,10' | soil | 2015-08-03 | 14:20 | 2015-08-04 |
| 400821 | SB-2,5 | soil | 2015-08-03 | 14:40 | 2015-08-04 |
| 400822 | SB-2,10' | soil | 2015-08-03 | 14:45 | 2015-08-04 |
| 400823 | SB-1,5' | soil | 2015-08-03 | 14:59 | 2015-08-04 |
| 400824 | SB-1,10' | soil | 2015-08-03 | 15:04 | 2015-08-04 |
| 400825 | SB-3,5 | soil | 2015-08-03 | 15:15 | 2015-08-04 |
| 400826 | SB-3,10' | soil | 2015-08-03 | 15:20 | 2015-08-04 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 30 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

Report Contents

| Case Narrative | |
|---|--|
| Analytical Report | |
| Sample 400814 (SB-5,10') | |
| Sample 400815 (SB-5,15') | |
| Sample 400816 (SB-5,20') | |
| Sample 400817 (SB-5,25') | |
| Sample 400818 (SB-4,0') | |
| Sample 400819 (SB-4,5') | |
| Sample 400820 (SB-4,10') | |
| Sample 400821 (SB-2,5') | |
| Sample 400822 (SB-2,10') | |
| Sample 400823 (SB-1,5') | |
| Sample 400824 (SB-1,10') | |
| Sample 400825 (SB-3,5') | |
| Sample 400826 (SB-3,10') | |
| | |
| Method Blanks | |
| QC Batch 123752 - Method Blank (1) | |
| QC Batch 123758 - Method Blank (1) | |
| QC Batch 123882 - Method Blank (1) | |
| QC Batch 123888 - Method Blank (1) | |
| QC Batch 123937 - Method Blank (1) | |
| Laboratory Control Spikes | |
| QC Batch 123752 - LCS (1) | |
| QC Batch 123758 - LCS (1) | |
| QC Batch 123882 - LCS (1) | |
| QC Batch 123888 - LCS (1) | |
| QC Batch 123937 - LCS (1) | |
| Q = Daton 125001 | |
| Matrix Spikes | |
| QC Batch 123752 - MS (1) | |
| QC Batch 123758 - MS (1) | |
| QC Batch 123882 - MS (1) | |
| QC Batch 123888 - MS (1) | |
| QC Batch 123937 - MS (1) | |
| | |
| Calibration Standards | |
| | |
| V | |
| Q = | |
| • | |
| • | |
| QC Batch 123758 - CCV (3) | |
| OC Batch 123882 - ICV (1) | |

| QC Batch 123882 - CCV (1) | |
|---------------------------|------|
| QC Batch 123888 - ICV (1) | |
| QC Batch 123888 - CCV (1) | |
| QC Batch 123937 - CCV (1) | |
| QC Batch 123937 - CCV (2) | |
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| Report Definitions | |
| Laboratory Certifications | |
| Standard Flags | |
| Result Comments | |
| Attachmenta | |

Case Narrative

Samples for project Townsend 12" were received by TraceAnalysis, Inc. on 2015-08-04 and assigned to work order 15080409. Samples for work order 15080409 were received intact at a temperature of 8.3 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|----------------------|--------------|--------|-----------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| Chloride (Titration) | SM 4500-Cl B | 104587 | 2015-08-04 at 09:50 | 123882 | 2015-08-10 at 13:58 |
| Chloride (Titration) | SM 4500-Cl B | 104752 | 2015-08-10 at 16:44 | 123888 | 2015-08-10 at $16:45$ |
| TPH DRO | S 8015 D | 104646 | 2015-08-05 at $08:00$ | 123758 | 2015-08-05 at $08:45$ |
| TPH GRO | S 8015 D | 104611 | 2015-08-05 at $10:45$ | 123752 | 2015-08-06 at $07:36$ |
| TPH GRO | S 8015 D | 104788 | 2015-08-11 at 07:12 | 123937 | 2015-08-12 at $07:13$ |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15080409 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 6 of 30 15-0143-01 Townsend 12" Lea Co, NM

Analytical Report

Sample: 400814 - SB-5,10'

Laboratory: Midland

Chloride (Titration) Prep Method: Analysis: Analytical Method: SM 4500-Cl B N/AQC Batch: 123882 Date Analyzed: 2015-08-10 Analyzed By: AK 104587 Prep Batch: Sample Preparation: 2015-08-04 Prepared By: AK

Sample: 400814 - SB-5,10'

Laboratory: Midland

TPH DRO Analysis: Analytical Method: S 8015 D Prep Method: N/AQC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: 104646 Sample Preparation: 2015-08-05 Prepared By: AK

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 93.0 | mg/Kg | 1 | 50.0 | 186 | 70 - 130 |

Sample: 400814 - SB-5,10'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 123752 Date Analyzed: 2015-08-06 Analyzed By: AKPrep Batch: 104611 Sample Preparation: 2015-08-05 Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.97 | mg/Kg | 1 | 2.00 | 98 | 70 - 130 |

 $continued \dots$

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 7 of 30 15-0143-01 Townsend 12" Lea Co, NM

 $sample\ continued\ \dots$

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| 4-Bromofluorobenzene (4-BFB) | | | 1.90 | mg/Kg | 1 | 2.00 | 95 | 70 - 130 |

Sample: 400815 - SB-5,15'

Laboratory: Midland

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 123882Date Analyzed: 2015 - 08 - 10Analyzed By: AKPrep Batch: 104587 Sample Preparation: Prepared By: AK 2015-08-04

Sample: 400815 - SB-5,15'

Laboratory: Midland

TPH DRO Analytical Method: S 8015 D Prep Method: N/AAnalysis: QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: 104646 Sample Preparation: 2015-08-05 Prepared By: AK

 Parameter
 Flag
 Cert
 Result
 Units
 Dilution
 RL

 DRO
 5
 56.6
 mg/Kg
 1
 50.0

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 85.8 | mg/Kg | 1 | 50.0 | 172 | 70 - 130 |

Sample: 400815 - SB-5,15'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 1237522015-08-06 Analyzed By: AKDate Analyzed: Prep Batch: 104611 Sample Preparation: 2015-08-05 Prepared By: AK

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 8 of 30 15-0143-01 Townsend 12" Lea Co, NM

| Surrogate | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|------|------|--------------|---|----------|-----------------|---------------------|----------------------|
| Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) | | | 1.91 1.77 | $\frac{\mathrm{mg/Kg}}{\mathrm{mg/Kg}}$ | 1 1 | 2.00 2.00 | 96 88 | 70 - 130 70 - 130 |

Sample: 400816 - SB-5,20'

Laboratory: Midland

Chloride (Titration) Analysis: Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 123888 Date Analyzed: 2015 - 08 - 10Analyzed By: AMPrep Batch: 104752 Sample Preparation: Prepared By: AM2015-08-10

Sample: 400816 - SB-5,20'

Laboratory: Midland

TPH DRO Analytical Method: S 8015 D Prep Method: N/AAnalysis: QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: 104646 Sample Preparation: 2015-08-05 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 61.5 | mg/Kg | 1 | 50.0 | 123 | 70 - 130 |

Sample: 400816 - SB-5,20'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 1237522015-08-06 Analyzed By: AKDate Analyzed: Prep Batch: 104611 Sample Preparation: 2015-08-05 Prepared By: AK

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 9 of 30 15-0143-01 Townsend 12" Lea Co, NM

| Surrogate | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|------|------|--------------|----------------|----------|-----------------|---------------------|----------------------|
| Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) | | | 1.90 1.79 | mg/Kg mg/Kg | 1 1 | 2.00 2.00 | 95 90 | 70 - 130 70 - 130 |

Sample: 400817 - SB-5,25'

Laboratory: Midland

Chloride (Titration) Analysis: Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 123888 Date Analyzed: 2015 - 08 - 10Analyzed By: AMPrep Batch: 104752 Sample Preparation: Prepared By: AM2015-08-10

Sample: 400817 - SB-5,25'

Laboratory: Midland

TPH DRO Analytical Method: S 8015 D Prep Method: N/AAnalysis: QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: 104646 Sample Preparation: 2015-08-05 Prepared By: AK

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 76.8 | mg/Kg | 1 | 50.0 | 154 | 70 - 130 |

Sample: 400817 - SB-5,25'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 1237522015-08-06 Analyzed By: AKDate Analyzed: Prep Batch: 104611 Sample Preparation: 2015-08-05 Prepared By: AK

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 10 of 30

15-0143-01 Townsend 12" Lea Co, NM

| | | - | | | | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.90 | mg/Kg | 1 | 2.00 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.77 | mg/Kg | 1 | 2.00 | 88 | 70 - 130 |

Sample: 400818 - SB-4,0'

Laboratory: Midland

Chloride (Titration) Analysis: Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 123888 Date Analyzed: 2015 - 08 - 10Analyzed By: AMPrep Batch: 104752 Sample Preparation: Prepared By: AM2015-08-10

Sample: 400818 - SB-4,0'

Laboratory: Midland

TPH DRO Analytical Method: S 8015 D Prep Method: N/AAnalysis: QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: 104646 Sample Preparation: 2015-08-05 Prepared By: AK

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 74.9 | mg/Kg | 1 | 50.0 | 150 | 70 - 130 |

Sample: 400818 - SB-4,0'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 1237522015-08-06 Analyzed By: AKDate Analyzed: Prep Batch: 104611 Sample Preparation: 2015-08-05 Prepared By: AK

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 11 of 30 15-0143-01 Townsend 12" Lea Co, NM

| | | | | | | Spike | Percent | Recovery |
|------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 3.81 | mg/Kg | 2 | 4.00 | 95 | 70 - 130 |

mg/Kg

3.77

2

4.00

94

70 - 130

Sample: 400819 - SB-4,5'

4-Bromofluorobenzene (4-BFB)

Laboratory: Midland

Chloride (Titration) Analysis: Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 123888 Date Analyzed: 2015 - 08 - 10Analyzed By: AMPrep Batch: 104752 Sample Preparation: Prepared By: 2015-08-10 AM

Sample: 400819 - SB-4,5'

Laboratory: Midland

TPH DRO Analytical Method: S 8015 D Prep Method: N/AAnalysis: QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: 104646 Sample Preparation: 2015-08-05 Prepared By: AK

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 126 | mg/Kg | 5 | 5.00 | 2520 | 70 - 130 |

Sample: 400819 - SB-4,5'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 1237522015-08-06 Analyzed By: AKDate Analyzed: Prep Batch: 104611 Sample Preparation: 2015-08-05 Prepared By: AK

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| | | | | | | | Spike | Percent | Recovery |
|------------------------------|-------------------|-----------------------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 8.54 | mg/Kg | 5 | 10.0 | 85 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{\mathrm{Qsr}}$ | | 18.1 | mg/Kg | 5 | 10.0 | 181 | 70 - 130 |

Sample: 400820 - SB-4,10'

Laboratory: Midland

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 123888 Date Analyzed: 2015 - 08 - 10Analyzed By: AMPrep Batch: 104752 Sample Preparation: Prepared By: AM2015-08-10

Sample: 400820 - SB-4,10'

Laboratory: Midland

TPH DRO Analytical Method: S 8015 D Prep Method: N/AAnalysis: QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: 104646 Sample Preparation: 2015-08-05 Prepared By: AK

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 69.9 | mg/Kg | 1 | 50.0 | 140 | 70 - 130 |

Sample: 400820 - SB-4,10'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 1237522015-08-06 Analyzed By: AKDate Analyzed: Prep Batch: 104611 Sample Preparation: 2015-08-05 Prepared By: AK

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Spike Percent Recovery Surrogate Flag Cert Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 1.74 mg/Kg 2.00 87 70 - 130 1 70 - 130 4-Bromofluorobenzene (4-BFB) 1.57mg/Kg1 2.0078

Sample: 400821 - SB-2,5'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 123758Date Analyzed: 2015 - 08 - 05Analyzed By: AKPrep Batch: 104646 Sample Preparation: 2015-08-05 Prepared By: AK

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 132 | mg/Kg | 5 | 50.0 | 264 | 70 - 130 |

Sample: 400821 - SB-2,5'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 123752Date Analyzed: 2015-08-06 Analyzed By: AKPrep Batch: 104611 Sample Preparation: 2015-08-05 Prepared By: AK

| | | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|-------------------|-------------|-----------------------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 8.13 | mg/Kg | 5 | 10.0 | 81 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{ m Qsr}$ | | 19.3 | mg/Kg | 5 | 10.0 | 193 | 70 - 130 |

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Sample: 400822 - SB-2,10'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: Prep Method: S 8015 D N/A QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: Sample Preparation: Prepared By: 104646 2015-08-05 AK

| | | | | | | Spike | Percent | Recovery |
|-------------|-----------------------|------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 64.6 | mg/Kg | 1 | 50.0 | 129 | 70 - 130 |

Sample: 400822 - SB-2,10'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 123752 Date Analyzed: 2015-08-06 Analyzed By: AKPrep Batch: 104611 Sample Preparation: 2015-08-05 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.98 | mg/Kg | 1 | 2.00 | 99 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 70 - 130 |

Sample: 400823 - SB-1,5'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: 104646 Sample Preparation: Prepared By: 2015-08-05 AK

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Spike Percent Recovery

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|--------------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 294 | ${ m mg/Kg}$ | 10 | 50.0 | 588 | 70 - 130 |

Sample: 400823 - SB-1,5'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 123937 Date Analyzed: 2015-08-12 Analyzed By: AKPrep Batch: 104788 Sample Preparation: 2015-08-11 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 97.9 | mg/Kg | 50 | 100 | 98 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 126 | mg/Kg | 50 | 100 | 126 | 70 - 130 |

Sample: 400824 - SB-1,10'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 123758 Date Analyzed: 2015 - 08 - 05Analyzed By: AK Prep Batch: 104646 Sample Preparation: Prepared By: 2015-08-05 AK

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 218 | mg/Kg | 5 | 50.0 | 436 | 70 - 130 |

Sample: 400824 - SB-1,10'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 123937 Date Analyzed: 2015 - 08 - 12Analyzed By: AKPrep Batch: 104788 2015-08-11 Sample Preparation: Prepared By: AK

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| | | | | | RL | | | | |
|------------------------------|------|------|------|--------|--------|----------|-----------------|---------------------|--------------------|
| Parameter | Flag | | Cert | | Result | Uni | ts | Dilution | RL |
| GRO | | | 5 | | 1870 | mg/K | g | 50 | 4.00 |
| Surrogate | | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
| Trifluorotoluene (TFT) | | riag | CCIT | 95.1 | mg/Kg | 50 | 100 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | | 113 | mg/Kg | 50 | 100 | 113 | 70 - 130 |

Sample: 400825 - SB-3,5'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: Prep Method: N/A S 8015 D QC Batch: 123758 Date Analyzed: Analyzed By: 2015 - 08 - 05Prep Batch: 104646 Sample Preparation: 2015-08-05 Prepared By:

| | | | RL | | | |
|-----------|------|------|--------|---------|----------|----------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | | 5 | < 50.0 | m mg/Kg | 1 | 50.0 |
| | | | | | | <u> </u> |

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| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|--------------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 60.8 | ${ m mg/Kg}$ | 1 | 50.0 | 122 | 70 - 130 |

Sample: 400825 - SB-3,5

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 123937 Date Analyzed: 2015-08-12 Analyzed By: AKPrep Batch: 104788 Sample Preparation: Prepared By: AK2015 - 08 - 11

| | | | RL | | | |
|-----------|------|-----------------------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | U | 5 | < 4.00 | m mg/Kg | 1 | 4.00 |

| | | | | | | Бріке | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.79 | mg/Kg | 1 | 2.00 | 90 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.66 | mg/Kg | 1 | 2.00 | 83 | 70 - 130 |
| | | | | | | | | |

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Sample: 400826 - SB-3,10'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: Analyzed By: 123758 Date Analyzed: 2015 - 08 - 05AKPrep Batch: 104646 Sample Preparation: 2015-08-05 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 57.5 | mg/Kg | 1 | 50.0 | 115 | 70 - 130 |

Sample: 400826 - SB-3,10'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 DPrep Method: S 5035 QC Batch: 123937 Date Analyzed: 2015 - 08 - 12Analyzed By: AKPrep Batch: 104788 Sample Preparation: 2015-08-11 Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.82 | mg/Kg | 1 | 2.00 | 91 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.78 | mg/Kg | 1 | 2.00 | 89 | 70 - 130 |

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Method Blanks

Method Blank (1) QC Batch: 123752

QC Batch: 123752 Date Analyzed: 2015-08-06 Analyzed By: AK Prep Batch: 104611 QC Preparation: 2015-08-05 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.90 | mg/Kg | 1 | 2.00 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.81 | mg/Kg | 1 | 2.00 | 90 | 70 - 130 |

Method Blank (1) QC Batch: 123758

QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: 104646 QC Preparation: 2015-08-05 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 58.1 | mg/Kg | 1 | 50.0 | 116 | 70 - 130 |

Method Blank (1) QC Batch: 123882

QC Batch: 123882 Date Analyzed: 2015-08-10 Analyzed By: AK
Prep Batch: 104587 QC Preparation: 2015-08-04 Prepared By: AK

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Method Blank (1) QC Batch: 123888

QC Batch: 123888 Date Analyzed: 2015-08-10 Analyzed By: AM Prep Batch: 104752 QC Preparation: 2015-08-10 Prepared By: AM

MDL

Method Blank (1) QC Batch: 123937

QC Batch: 123937 Date Analyzed: 2015-08-12 Analyzed By: AK
Prep Batch: 104788 QC Preparation: 2015-08-11 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.72 | mg/Kg | 1 | 2.00 | 86 | 70 - 130 |

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 123752 Date Analyzed: 2015-08-06 Analyzed By: AK Prep Batch: 104611 QC Preparation: 2015-08-05 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 5 | 16.3 | mg/Kg | 1 | 20.0 | < 2.32 | 82 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 14.7 | mg/Kg | 1 | 20.0 | < 2.32 | 74 | 70 - 130 | 10 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|--------|--------|---------------------------|------|------------------------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.81 | 1.92 | mg/Kg | 1 | 2.00 | 90 | 96 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.78 | 1.96 | mg/Kg | 1 | 2.00 | 89 | 98 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: 104646 QC Preparation: 2015-08-05 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 5 | 231 | mg/Kg | 1 | 250 | < 7.41 | 92 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | $_{\rm Spike}$ | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|----------------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 5 | 208 | mg/Kg | 1 | 250 | < 7.41 | 83 | 70 - 130 | 10 | 20 |

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 56.0 | 51.1 | mg/Kg | 1 | 50.0 | 112 | 102 | 70 - 130 |

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Laboratory Control Spike (LCS-1)

QC Batch: 123882 Date Analyzed: 2015-08-10 Analyzed By: AK Prep Batch: 104587 QC Preparation: 2015-08-04 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | | 2540 | mg/Kg | 5 | 2500 | <19.2 | 102 | 85 - 115 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | | 2630 | mg/Kg | 5 | 2500 | <19.2 | 105 | 85 - 115 | 4 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 123888 Date Analyzed: 2015-08-10 Analyzed By: AM Prep Batch: 104752 QC Preparation: 2015-08-10 Prepared By: AM

| | | | LCS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | | 2290 | mg/Kg | 5 | 2500 | <19.2 | 92 | 85 - 115 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | | 2190 | mg/Kg | 5 | 2500 | <19.2 | 88 | 85 - 115 | 4 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 123937 Date Analyzed: 2015-08-12 Analyzed By: AK
Prep Batch: 104788 QC Preparation: 2015-08-11 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 5 | 14.0 | mg/Kg | 1 | 20.0 | < 2.32 | 70 | 70 - 130 |

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| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 15.1 | mg/Kg | 1 | 20.0 | < 2.32 | 76 | 70 - 130 | 8 | 20 |

| | LCS | LCSD | | | $_{ m Spike}$ | LCS | LCSD | $\mathrm{Rec}.$ |
|------------------------------|--------|--------|---------------------------|------|---------------|------|------|-----------------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.80 | 1.90 | mg/Kg | 1 | 2.00 | 90 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.73 | 1.73 | mg/Kg | 1 | 2.00 | 86 | 86 | 70 - 130 |

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Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 399963

QC Batch: 123752 Date Analyzed: 2015-08-06 Analyzed By: AK Prep Batch: 104611 QC Preparation: 2015-08-05 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|--------------|--------------|--------|-------|------|------------------------|--------|------|------------------------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | Qs | Qs | 5 | 12.0 | mg/Kg | 1 | 20.0 | < 2.32 | 60 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | Qs | Qs | 5 | 13.8 | mg/Kg | 1 | 20.0 | < 2.32 | 69 | 70 - 130 | 14 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.89 | 1.78 | mg/Kg | 1 | 2 | 94 | 89 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.86 | 1.86 | mg/Kg | 1 | 2 | 93 | 93 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 400826

QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK Prep Batch: 104646 QC Preparation: 2015-08-05 Prepared By: AK

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 5 | 310 | mg/Kg | 1 | 250 | 9.31 | 120 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 5 | 284 | mg/Kg | 1 | 250 | 9.31 | 110 | 70 - 130 | 9 | 20 |

| | | | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|-----|-----|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | Qsr | Qsr | 69.0 | 65.0 | mg/Kg | 1 | 50 | 138 | 130 | 70 - 130 |

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Matrix Spike (MS-1) Spiked Sample: 400627

QC Batch: 123882 Date Analyzed: 2015-08-10 Analyzed By: AK
Prep Batch: 104587 QC Preparation: 2015-08-04 Prepared By: AK

MS Spike Matrix Rec. Param F \mathbf{C} Result Units Dil. Amount Result Rec. Limit Chloride 2730 78.9 - 121 mg/Kg 5 2500 293 97

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | | 2930 | mg/Kg | 5 | 2500 | 293 | 117 | 78.9 - 121 | 7 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 400921

QC Batch: 123888 Date Analyzed: 2015-08-10 Analyzed By: AM Prep Batch: 104752 QC Preparation: 2015-08-10 Prepared By: AM

| | | | MS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | | 2890 | mg/Kg | 5 | 2500 | <19.2 | 116 | 78.9 - 121 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|----|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | Os | Os | | 3080 | mg/Kg | 5 | 2500 | <19.2 | 123 | 78.9 - 121 | 6 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 400826

QC Batch: 123937 Date Analyzed: 2015-08-12 Analyzed By: AK
Prep Batch: 104788 QC Preparation: 2015-08-11 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|----|--------------|--------|-------|------|------------------------|--------|------|------------------------|
| Param | | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | Qs | Qs | 5 | 13.2 | mg/Kg | 1 | 20.0 | < 2.32 | 66 | 70 - 130 |

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 25 of 30 15-0143-01 Townsend 12" Lea Co, NM

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 14.6 | mg/Kg | 1 | 20.0 | < 2.32 | 73 | 70 - 130 | 10 | 20 |

| | MS | MSD | | | $_{ m Spike}$ | MS | MSD | $\mathrm{Rec}.$ |
|------------------------------|--------|--------|---------------------------|------|---------------|------|------|-----------------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.80 | 1.89 | mg/Kg | 1 | 2 | 90 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.70 | 1.83 | mg/Kg | 1 | 2 | 85 | 92 | 70 - 130 |

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 26 of 30 15-0143-01 Townsend 12" Lea Co, NM

Calibration Standards

Standard (CCV-2)

| QC Batch: | 123752 | Date Analyzed: | 2015-08-06 | Analyz | Analyzed By: AK | | |
|-----------|--------|----------------|---------------|-----------------|---------------------|------|--|
| | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date | |

| | | | | True | Found | Percent | Recovery | Date |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.811 | 81 | 80 - 120 | 2015-08-06 |

Standard (CCV-3)

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.898 | 90 | 80 - 120 | 2015-08-06 |

Standard (CCV-4)

QC Batch: 123752 Date Analyzed: 2015-08-06 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-----------------|-----------------------|-----------------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.820 | 82 | 80 - 120 | 2015-08-06 |

Standard (CCV-1)

QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 5 | mg/Kg | 250 | 265 | 106 | 80 - 120 | 2015-08-05 |

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 27 of 30 15-0143-01 Townsend 12" Lea Co, NM

Standard (CCV-2)

QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-----------------|-----------------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 5 | mg/Kg | 250 | 236 | 94 | 80 - 120 | 2015-08-05 |

Standard (CCV-3)

QC Batch: 123758 Date Analyzed: 2015-08-05 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-----------------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 5 | mg/Kg | 250 | 234 | 94 | 80 - 120 | 2015-08-05 |

Standard (ICV-1)

QC Batch: 123882 Date Analyzed: 2015-08-10 Analyzed By: AK

| | | | | ICVs | ICVs | ICVs | Percent | |
|----------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | | mg/Kg | 100 | 100 | 100 | 85 - 115 | 2015-08-10 |

Standard (CCV-1)

QC Batch: 123882 Date Analyzed: 2015-08-10 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | | mg/Kg | 100 | 100 | 100 | 85 - 115 | 2015-08-10 |

Standard (ICV-1)

QC Batch: 123888 Date Analyzed: 2015-08-10 Analyzed By: AM

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 28 of 30 15-0143-01 Townsend 12" Lea Co, NM

| | | | | ICVs | ICVs | ICVs | Percent | |
|----------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | | mg/Kg | 100 | 100 | 100 | 85 - 115 | 2015-08-10 |

Standard (CCV-1)

QC Batch: 123888 Date Analyzed: 2015-08-10 Analyzed By: AM

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | | mg/Kg | 100 | 100 | 100 | 85 - 115 | 2015-08-10 |

Standard (CCV-1)

QC Batch: 123937 Date Analyzed: 2015-08-12 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.953 | 95 | 80 - 120 | 2015-08-12 |

Standard (CCV-2)

QC Batch: 123937 Date Analyzed: 2015-08-12 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-----------------|-----------------|-----------------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.795 | 80 | 80 - 120 | 2015-08-12 |

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 29 of 30 15-0143-01 Townsend 12" Lea Co, NM

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|---------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | L-A-B | L2418 | Lubbock |
| 2 | Kansas | Kansas E-10317 | Lubbock |
| 3 | LELAP | LELAP-02003 | Lubbock |
| 4 | NELAP | T104704219-15-11 | Lubbock |
| 5 | NELAP | T104704392-14-8 | Midland |
| 6 | | 2014-018 | Lubbock |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.

Report Date: August 12, 2015 Work Order: 15080409 Page Number: 30 of 30 15-0143-01 Townsend 12" Lea Co, NM

F Description

Qsr Surrogate recovery outside of laboratory limits.

U The analyte is not detected above the SDL

Result Comments

1 Dilution due to surfactants.

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

w W 1 10 #2 1508041

CHAIN-OF-CUSTODY CUSTODY SEALS - G BROKEN G INTACT G NOT USED PAGE OF FIELD NOTES COLLECTOR: ME/MC LOSSIBA E 91300U 128g A (308) eesoon 400/23 he800A 1800h SIBOOK 400gr #88% 18087 488RS 4004 THERM #: 🧸 LAB WORK ORDER #: LABORATORY USE ONLY: RECEIVING TEMP: 8.7 A HAND DELIVERED Ž 1 G CARRIER BILL # 1850 LAI PROJECT #: 15-0143-01 PROJECT LOCATION OR NAME: 3-2015 **TURN AROUND TIME** NORMAL 🗓 OTHER 🗆 2 DAY □ 1 DAY 🗓 10.6 5/hB DATE: PO #: $\frac{1}{2}$ 1 1 7 7 507 N. Marienfeld, Ste. 200 \geq ١ RECEIVED BY: (Signature) RECEIVED BY: (Signature) RECEIVED 6/7: (Signature) UNPRESERVED **PRESERVATION** Midland, TX 79701 432-687-0901 ICE □ HOBN □ DOSSH GNH HCI # of Confainers Matrix J n VA DATE/TIME DATE/TIME (4. Ma 15:04 エエ 14:8 を必 8.5 1250 0 [5] 9 .T 13:55 5 1245 1245 Time SL=SLUDGE OT=OTHER P=PAINT 9/3/18 Date SSOCIATES, Inc. Environmental Consultants W=WATER RELINQUISHED BY: (Signature) RELINGUISHED BY: (Stignature) RELINQUISHED BY: (Signature) S=SOIL Lab# A=AIR 0 SB-1,10 エス 2 9 M 58-2, 10 V Data Reported to: 0 TIME ZONE: Time zone/State: M ☐ Yes No S B-4: 5 TRRP report? Sample I.D. 50-3 SB-3 SB - 1. 58-4 58-5 5 五年 58.5 Sh-2 58 T Spor TOTAL



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

(Corrected Report)

Mark Larson Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM Project Name: Townsend 16" Project Number: 15-0143-01 (2)

Report Date: October 2, 2015

15092126

Work Order:

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | $_{ m 1ime}$ | Date |
|--------|--------------------------------|--------|------------|--------------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 404888 | Bottom 15' | soil | 2015-09-21 | 10:45 | 2015-09-21 |
| 404889 | West Side 12' | soil | 2015-09-21 | 10:50 | 2015-09-21 |
| 404890 | North Side 12' | soil | 2015-09-21 | 10:55 | 2015-09-21 |
| 404891 | East Side 12' | soil | 2015-09-21 | 11:00 | 2015-09-21 |
| 404892 | Southside (South of P/L) 9' | soil | 2015-09-21 | 12:00 | 2015-09-21 |

Report Corrections (Work Order 15092126)

• 10/2/15: Corrected Project Name.

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company,

sampler, contacts and any special remarks.

This report consists of a total of 19 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

Report Contents

| Case Narrative | 4 |
|---|--|
| Analytical Report Sample 404888 (Bottom 15') Sample 404889 (West Side 12') Sample 404890 (North Side 12') Sample 404891 (East Side 12') Sample 404892 (Southside (South of P/L) 9') | 5 5 6 7 8 |
| Method Blanks QC Batch 125059 - Method Blank (1) QC Batch 125094 - Method Blank (1) QC Batch 125166 - Method Blank (1) QC Batch 125167 - Method Blank (1) | 9 9 9 10 |
| QC Batch 125059 - LCS (1) 1 QC Batch 125094 - LCS (1) 1 QC Batch 125166 - LCS (1) 1 | 11 11 11 12 |
| QC Batch 125059 - MS (1) 1 QC Batch 125094 - xMS (1) 1 QC Batch 125166 - xMS (1) 1 | 13 13 14 14 |
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| Report Definitions | 18 18 18 |

Case Narrative

Samples for project Townsend 16" were received by TraceAnalysis, Inc. on 2015-09-21 and assigned to work order 15092126. Samples for work order 15092126 were received intact at a temperature of 2.3 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------|------------|--------|-----------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| TPH DRO | S 8015 D | 105805 | 2015-09-23 at 15:40 | 125094 | 2015-09-24 at 10:23 |
| TPH DRO | S 8015 D | 105856 | 2015-09-24 at 19:00 | 125166 | 2015-09-28 at 09:46 |
| TPH DRO | S 8015 D | 105857 | 2015-09-24 at 17:30 | 125167 | 2015-09-28 at $09:47$ |
| TPH GRO | S 8015 D | 105739 | 2015-09-22 at 07:51 | 125059 | 2015-09-23 at $08:03$ |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15092126 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: October 2, 2015 Work Order: 15092126 Page Number: 5 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

Analytical Report

Sample: 404888 - Bottom 15'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D QC Batch: 125166 Date Analyzed: 2015-09-28 Prep Batch: 105856 Sample Preparation: 2015-09-24

Prep Method: N/A

HJ

HJ

S 5035

AK

AK

Analyzed By:

Prepared By:

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | 3 | 147 | mg/Kg | 1 | 25.0 | 588 | 48.9 - 172 |

Sample: 404888 - Bottom 15'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: QC Batch: 125059 Date Analyzed: 2015-09-23 Analyzed By: Prep Batch: 105739 Sample Preparation: 2015-09-22 Prepared By:

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 78.7 | mg/Kg | 50 | 100 | 79 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 128 | mg/Kg | 50 | 100 | 128 | 70 - 130 |

Sample: 404889 - West Side 12'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 125094 Date Analyzed: 2015-09-24 Analyzed By: AKPrep Batch: 105805 Sample Preparation: 2015-09-23 Prepared By: AK

Report Date: October 2, 2015

Work Order: 15092126 Page Number: 6 of 19 Townsend 16" 15-0143-01 (2) Lea Co, NM

| | | | | | I | RL | | | |
|-------------|-----|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Parameter | | | Flag | Cert | Res | ult | Units | Dilution | RL |
| DRO | | | Je | 5 | 125 | 00 | mg/Kg | 5 | 50.0 |
| Surrogate | | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
| n-Tricosane | Qsr | Qsr | | 350 | mg/Kg | 5 | 50.0 | 700 | 70 - 130 |

Sample: 404889 - West Side 12'

Laboratory: Midland

S 8015 D Analysis: TPH GRO Analytical Method: Prep Method: S 5035QC Batch: 125059Date Analyzed: 2015 - 09 - 23Analyzed By: AKPrep Batch: 105739 Sample Preparation: 2015-09-22 Prepared By: AK

| | | | RL | | | |
|-----------|------|------|--------|---------------------------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | | 5 | 5350 | mg/Kg | 100 | 4.00 |
| | | | | | | |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 186 | mg/Kg | 100 | 200 | 93 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 239 | mg/Kg | 100 | 200 | 120 | 70 - 130 |

Sample: 404890 - North Side 12'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 125166 Date Analyzed: Analyzed By: HJ2015 - 09 - 28Prep Batch: 105856 Sample Preparation: 2015-09-24 Prepared By: HJ

| | | | RL | | | |
|-----------|-----------------------|---------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | U | 1,2,3,4 | < 50.0 | m mg/Kg | 1 | 50.0 |

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|-------------|------|------|--------|-------|----------|---------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 33.9 | mg/Kg | 1 | 25.0 | 136 | 48.9 - 172 |

Report Date: October 2, 2015 Work Order: 15092126 Page Number: 7 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

Sample: 404890 - North Side 12'

Laboratory: Midland

S 5035Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: QC Batch: 125059 Date Analyzed: 2015-09-23 Analyzed By: AK Prep Batch: 105739 Sample Preparation: 2015-09-22 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.83 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.72 | mg/Kg | 1 | 2.00 | 86 | 70 - 130 |

Sample: 404891 - East Side 12'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 125166 Date Analyzed: 2015-09-28 Analyzed By: HJ2015-09-24 Prepared By: Prep Batch: 105856 Sample Preparation: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|-----------------------|-----------------------|--------|--------------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 38.9 | ${ m mg/Kg}$ | 1 | 25.0 | 156 | 48.9 - 172 |

Sample: 404891 - East Side 12'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125059 Date Analyzed: 2015-09-23 Analyzed By: AK Prep Batch: 105739 Sample Preparation: 2015-09-22 Prepared By: AK

Report Date: October 2, 2015

15-0143-01 (2)

Work Order: 15092126 Townsend 16"

Spike Percent Recovery Surrogate Flag Cert Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 1.84 mg/Kg 2.00 92 70 - 130 1 mg/Kg 70 - 130 4-Bromofluorobenzene (4-BFB) 1.721 2.0086

Sample: 404892 - Southside (South of P/L) 9'

Laboratory: Lubbock

Analysis: TPH DRO QC Batch: 125167Prep Batch: 105857

Analytical Method: S 8015 D Date Analyzed: 2015-09-28 Sample Preparation: 2015-09-24 Prep Method: N/A Analyzed By: HJPrepared By: HJ

Page Number: 8 of 19

Lea~Co,~NM

| | | | RL | | | |
|-----------|-----------------------|---------|--------|------------------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | U | 1,2,3,4 | < 50.0 | $\mathrm{mg/Kg}$ | 1 | 50.0 |

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 32.8 | mg/Kg | 1 | 25.0 | 131 | 48.9 - 172 |

Sample: 404892 - Southside (South of P/L) 9'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125059 Date Analyzed: 2015-09-23 Analyzed By: AKPrep Batch: 105739 Sample Preparation: 2015-09-22 Prepared By: AK

| | | | RL | | | |
|-----------|------|-----------------------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | U | 5 | < 4.00 | mg/Kg | 1 | 4.00 |

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.78 | mg/Kg | 1 | 2.00 | 89 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.72 | mg/Kg | 1 | 2.00 | 86 | 70 - 130 |

Report Date: October 2, 2015 Work Order: 15092126 Page Number: 9 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

Method Blanks

Method Blank (1) QC Batch: 125059

QC Batch: 125059 Date Analyzed: 2015-09-23 Analyzed By: AK Prep Batch: 105739 QC Preparation: 2015-09-22 Prepared By: AK

Parameter Flag Cert Result Units RL GRO $_{5}$ Cert $_{5}$ C2.32 $_{6}$ mg/Kg 4

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 2.01 | mg/Kg | 1 | 2.00 | 100 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.74 | mg/Kg | 1 | 2.00 | 87 | 70 - 130 |

Method Blank (1) QC Batch: 125094

QC Batch: 125094 Date Analyzed: 2015-09-24 Analyzed By: AK Prep Batch: 105805 QC Preparation: 2015-09-23 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 57.8 | mg/Kg | 1 | 50.0 | 116 | 70 - 130 |

Method Blank (1) QC Batch: 125166

QC Batch: 125166 Date Analyzed: 2015-09-28 Analyzed By: HJ Prep Batch: 105856 QC Preparation: 2015-09-24 Prepared By: HJ

Report Date: October 2, 2015Work Order: 15092126

Page Number: 10 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 35.4 | mg/Kg | 1 | 25.0 | 142 | 48.9 - 172 |

Method Blank (1) QC Batch: 125167

QC Batch: 125167Date Analyzed: 2015 - 09 - 28Analyzed By: HJ Prepared By: HJ

Prep Batch: 105857 QC Preparation: 2015-09-24

MDL ${\rm Units}$ ${\bf Parameter}$ Flag Cert Result RL $\overline{\mathrm{DRO}}$ < 5.22mg/Kg 50 1,2,3,4

| | | | | | | Spike | Percent | Recovery |
|-------------|-----------------------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 34.5 | mg/Kg | 1 | 25.0 | 138 | 48.9 - 172 |

Report Date: October 2, 2015 Work Order: 15092126 Page Number: 11 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 125059 Date Analyzed: 2015-09-23 Analyzed By: AK Prep Batch: 105739 QC Preparation: 2015-09-22 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 5 | 16.1 | mg/Kg | 1 | 20.0 | < 2.32 | 80 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 19.0 | mg/Kg | 1 | 20.0 | < 2.32 | 95 | 70 - 130 | 16 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|--------|--------|---------------------------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.98 | 1.90 | mg/Kg | 1 | 2.00 | 99 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.75 | 1.70 | mg/Kg | 1 | 2.00 | 88 | 85 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 125094 Date Analyzed: 2015-09-24 Analyzed By: AK Prep Batch: 105805 QC Preparation: 2015-09-23 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 5 | 211 | mg/Kg | 1 | 250 | < 7.41 | 84 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 5 | 216 | mg/Kg | 1 | 250 | < 7.41 | 86 | 70 - 130 | 2 | 20 |

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 46.2 | 47.1 | mg/Kg | 1 | 50.0 | 92 | 94 | 70 - 130 |

Report Date: October 2, 2015 Work Order: 15092126 Page Number: 12 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

Laboratory Control Spike (LCS-1)

QC Batch: 125166 Date Analyzed: 2015-09-28 Analyzed By: HJ
Prep Batch: 105856 QC Preparation: 2015-09-24 Prepared By: HJ

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|-----------------|--------|-------|------|------------------------|--------|------|------------|
| Param | \mathbf{F} | $^{\mathrm{C}}$ | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 445 | mg/Kg | 1 | 500 | < 5.22 | 89 | 60.9 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 511 | mg/Kg | 1 | 500 | < 5.22 | 102 | 60.9 - 130 | 14 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | LCS | LCSD | | | $_{\mathrm{Spike}}$ | LCS | LCSD | Rec. |
|-------------|---|--------|--------|-------|------|---------------------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 37.0 | 41.7 | mg/Kg | 1 | 25.0 | 148 | 167 | 48.9 - 172 |

Laboratory Control Spike (LCS-1)

QC Batch: 125167 Date Analyzed: 2015-09-28 Analyzed By: HJ
Prep Batch: 105857 QC Preparation: 2015-09-24 Prepared By: HJ

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 466 | mg/Kg | 1 | 500 | < 5.22 | 93 | 60.9 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 480 | mg/Kg | 1 | 500 | < 5.22 | 96 | 60.9 - 130 | 3 | 20 |

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 37.3 | 40.6 | mg/Kg | 1 | 25.0 | 149 | 162 | 48.9 - 172 |

Report Date: October 2, 2015 Work Order: 15092126 Page Number: 13 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 404609

QC Batch: 125059 Date Analyzed: 2015-09-23 Analyzed By: AK Prep Batch: 105739 QC Preparation: 2015-09-22 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | Qs | Qs | 5 | 11.7 | mg/Kg | 1 | 20.0 | < 2.32 | 58 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | Qs | Qs | 5 | 12.3 | mg/Kg | 1 | 20.0 | < 2.32 | 62 | 70 - 130 | 5 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|------------------------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.62 | 1.74 | mg/Kg | 1 | 2 | 81 | 87 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.72 | 1.80 | mg/Kg | 1 | 2 | 86 | 90 | 70 - 130 |

Matrix Spike (xMS-1) Spiked Sample: 404905

QC Batch: 125094 Date Analyzed: 2015-09-24 Analyzed By: AK Prep Batch: 105805 QC Preparation: 2015-09-23 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | Qs | Qs | 5 | 2580 | mg/Kg | 1 | 250 | 3950 | -548 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | Qs | Qs | 5 | 2140 | mg/Kg | 1 | 250 | 3950 | -724 | 70 - 130 | 19 | 20 |

| | | | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|-----|-----|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | Qsr | Qsr | 205 | 233 | mg/Kg | 1 | 50 | 410 | 466 | 70 - 130 |

Report Date: October 2, 2015 Work Order: 15092126 Page Number: 14 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

Matrix Spike (xMS-1) Spiked Sample: 405054

QC Batch: 125166 Date Analyzed: 2015-09-28 Analyzed By: HJ Prep Batch: 105856 QC Preparation: 2015-09-24 Prepared By: HJ

MS Spike Matrix Rec. Limit \mathbf{F} С Result Param Result Units Dil. Amount Rec. $\overline{\mathrm{DRO}}$ 958 598 47.9 - 130 1,2,3,4 mg/Kg 500 72

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 994 | mg/Kg | 1 | 500 | 598 | 79 | 47.9 - 130 | 4 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MS | MSD | | | $_{ m Spike}$ | MS | MSD | Rec. |
|-------------|-----|-----|---|--------|--------|-------|------|---------------|------|------|------------|
| Surrogate | | | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | Qsr | Qsr | 3 | 44.1 | 45.3 | mg/Kg | 1 | 25 | 176 | 181 | 48.9 - 172 |

Matrix Spike (MS-1) Spiked Sample: 404892

QC Batch: 125167 Date Analyzed: 2015-09-28 Analyzed By: HJ
Prep Batch: 105857 QC Preparation: 2015-09-24 Prepared By: HJ

MS Spike Matrix Rec. Param Result Units Dil. Amount Result Limit Rec. $\overline{\text{DRO}}$ 446 mg/Kg 500 < 5.2289 47.9 - 130 1,2,3,4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 481 | mg/Kg | 1 | 500 | < 5.22 | 96 | 47.9 - 130 | 8 | 20 |

| | | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 34.2 | 37.7 | mg/Kg | 1 | 25 | 137 | 151 | 48.9 - 172 |

Report Date: October 2, 2015 Work Order: 15092126 Page Number: 15 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

Calibration Standards

Standard (CCV-1)

| | QC Batch: | 125059 | Date Analyzed: | 2015-09-23 | Analyzed By: | AK |
|--|-----------|--------|----------------|------------|--------------|----|
|--|-----------|--------|----------------|------------|--------------|----|

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-----------------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.988 | 99 | 80 - 120 | 2015-09-23 |

Standard (CCV-2)

| QC Batch: | 125059 | Date Analyzed: | 2015-09-23 | Analyzed By: | ΑK |
|-----------|--------|----------------|------------|--------------|----|
| | | | | | |

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.869 | 87 | 80 - 120 | 2015-09-23 |

Standard (CCV-3)

QC Batch: 125059 Date Analyzed: 2015-09-23 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-----------------|-----------------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.946 | 95 | 80 - 120 | 2015-09-23 |

Standard (CCV-2)

QC Batch: 125094 Date Analyzed: 2015-09-24 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-----------------------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 5 | mg/Kg | 250 | 209 | 84 | 80 - 120 | 2015-09-24 |

Report Date: October 2, 2015 Work Order: 15092126 Page Number: 16 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

Standard (CCV-3)

QC Batch: 125094 Date Analyzed: 2015-09-24 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-----------------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 5 | mg/Kg | 250 | 240 | 96 | 80 - 120 | 2015-09-24 |

Standard (CCV-1)

QC Batch: 125166 Date Analyzed: 2015-09-28 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 475 | 95 | 80 - 120 | 2015-09-28 |

Standard (CCV-2)

QC Batch: 125166 Date Analyzed: 2015-09-28 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 487 | 97 | 80 - 120 | 2015-09-28 |

Standard (CCV-1)

QC Batch: 125167 Date Analyzed: 2015-09-28 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 487 | 97 | 80 - 120 | 2015-09-28 |

Standard (CCV-2)

QC Batch: 125167 Date Analyzed: 2015-09-28 Analyzed By: HJ

Work Order: 15092126

Report Date: October 2, 2015 15-0143-01 (2) Page Number: 17 of 19 Lea Co, NM Townsend 16"

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|---------|-----------------|-----------------|-----------------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | m mg/Kg | 500 | 471 | 94 | 80 - 120 | 2015-09-28 |

Report Date: October 2, 2015 Work Order: 15092126 Page Number: 18 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|---------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | L-A-B | L2418 | Lubbock |
| 2 | Kansas | Kansas E-10317 | Lubbock |
| 3 | LELAP | LELAP-02003 | Lubbock |
| 4 | NELAP | T104704219-15-11 | Lubbock |
| 5 | NELAP | T104704392-14-8 | Midland |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
 - Qc Calibration check outside of laboratory limits.
 - Qr RPD outside of laboratory limits
 - Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.

Report Date: October 2, 2015 Work Order: 15092126 Page Number: 19 of 19 15-0143-01 (2) Townsend 16" Lea Co, NM

F Description

U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

OBS 2.3 12:8 5 R 5. 3 8 5 SAMPLING Time: 5002 Basin Street, Suite A1

Midland, Texas 79703

Tel (432) 689-6301

Fax (432) 689-6313 19/2/A Time: > **DATE** elaenvironmontal. 9年7月 Date: PRESERVATIVE NONE ICE METHOD Sampler Signature: (37-0456 HOBN Project Name: 080-189 Company Company OS2H ^EONH Suite 6701 Aberdeen Avenue, Suite Lubbock, Texas 79424 Tel (806) 724-1296 Fax (806) 794-1298 1 (800) 378-1296 Phone #: HCI Fax #: Received by 2 MATRIX STADGE 437 (297) ЯIA 32 r X Townsand TIOS **A3TAW** Time: JnuomA \ emuloV 58.3 النع Stc 205 FraceAnalysis, Inc. # CONTAINERS Associates LAB Order ID # 150 92 12 6 といく いっとお email: lab@traceanalysis.com 5 5 I SSIN Movie Meld St. Scral Z 7,5 Y Cle Ū FIELD CODE Project # 15-0 143-0 かん C08201 Company Company Project Location (including state) (Street, City, Zip) 7(209) Bottom くれる くまって South FURRY WASH East S (If different from above) Relinquished by: Relinguished by SPACE A Contact Person: Company Name: × 333,50 101/890 8 9 75.8/40] 104892 13350F AB USE Invoice to: Address: LAB# ONLY

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O.

Carrier #

200 East Sunset Rd., Suite E El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443

BioAquatic Testing 2501 Mayes Rd., Ste 100 Carrollton, Texas 75006 Tel (972) 242-7750

Brandon & Clark 3403 Industrial Bivd. **Hobbs, NM 88240** Tel (575) 392-7561 Fax (575) 392-4508

2

Circle of Specify Nethod

ANALYSIS REQUEST

₽

Turn Around Time if different from standard

TDS, EC

TCLP Metals Ag As Ba Cd Cr Pb Se Hg

TPH 418.1 / TX1005 / TX1005 Ext(C35)

8021 / 602 / 8260 / 624

8021 / 602 / 8260 / 624

TPH 8015 GRO / DRO / TVHC

Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7

NO3 -N, NO2 -N, PO4 -P, Alkalinity

Na, Ca, Mg, K,

Moisture Content

Pesticides 8081 / 608 **LCB**,2 8082 \ 608

GC/MS AOI: 8260 / 624

TCLP Pesticides TCLP Semi Volatiles

GC/MS Semi. Vol. 8270 / 625

CI, F, SO₄,

BCI

BETM

TIME

Check If Special Reporting Limits Are Needed Log-in-Review O OBS

Dry Weight Basis Required

REMARKS

LAB USE

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INST

ONLY

ntact Y / N

INST. OBS COR INST

Time:

Date:

Company

Received by:

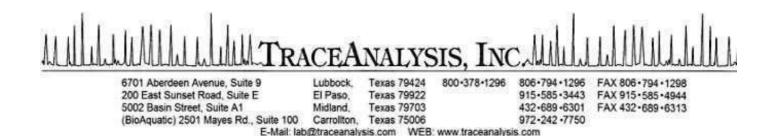
Time:

Date:

Company

Relinquished by

TRRP Report Required



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Mark Larson Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM Project Name: Townsend 16" Project Number: 15-0143-01 (2) Work Order: 15092404

Report Date: September 30, 2015

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | Time | Date |
|--------|-----------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 405105 | East Corner | soil | 2015-09-22 | 11:36 | 2015-09-24 |
| 405106 | 8' South Vent | soil | 2015-09-22 | 11:42 | 2015-09-24 |
| 405107 | 8' South Wall | soil | 2015-09-22 | 11:47 | 2015-09-24 |
| 405108 | West Under Pipe | soil | 2015-09-22 | 13:50 | 2015-09-24 |
| 405109 | SW Corner | soil | 2015-09-22 | 13:58 | 2015-09-24 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

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| QC Batch 125240 - Method Blank (1) | Ć |
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Case Narrative

Samples for project Townsend 16" were received by TraceAnalysis, Inc. on 2015-09-24 and assigned to work order 15092404. Samples for work order 15092404 were received intact at a temperature of 9.9 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------|------------|--------|---------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| TPH DRO | S 8015 D | 105909 | 2015-09-28 at 15:00 | 125211 | 2015-09-28 at 18:00 |
| TPH GRO | S 8015 D | 105930 | 2015-09-29 at 07:09 | 125240 | 2015-09-30 at $13:49$ |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15092404 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: September 30, 2015 Work Order: 15092404 Page Number: 5 of 14 15-0143-01 (2) Townsend 16" Lea Co, NM

Analytical Report

Sample: 405105 - East Corner

Laboratory: Midland

Prep Method: Analysis: TPH DRO Analytical Method: S 8015 D N/AQC Batch: 125211 Date Analyzed: 2015-09-28 Analyzed By: AKPrep Batch: 105909 Sample Preparation: 2015-09-28 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 54.2 | mg/Kg | 1 | 50.0 | 108 | 70 - 130 |

Sample: 405105 - East Corner

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125240 Date Analyzed: 2015-09-30 Analyzed By: AKPrep Batch: 105930 Sample Preparation: Prepared By: 2015-09-29 AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.90 | mg/Kg | 1 | 2.00 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.78 | mg/Kg | 1 | 2.00 | 89 | 70 - 130 |

Sample: 405106 - 8' South Vent

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 125211 Date Analyzed: 2015-09-28 Analyzed By: AKPrep Batch: 105909 Sample Preparation: 2015-09-28 Prepared By: AK

Report Date: September 30, 2015

Work Order: 15092404 15-0143-01 (2) Townsend 16"

| | | | | | R | LL. | | | |
|-------------|-----|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Parameter | | | Flag | Cert | Resu | ılt | Units | Dilution | RL |
| DRO | | | | 1 | 322 | 20 | mg/Kg | 10 | 50.0 |
| Surrogate | | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
| n-Tricosane | Qsr | Qsr | | 132 | mg/Kg | 10 | 50.0 | 264 | 70 - 130 |

Page Number: 6 of 14

Prep Method: S 5035

AK

AK

Analyzed By:

Prepared By:

Lea Co, NM

Sample: 405106 - 8' South Vent

Laboratory: Midland

TPH GRO Analytical Method: Analysis: S 8015 D QC Batch: 125240Date Analyzed: 2015 - 09 - 30Prep Batch: 105930 Sample Preparation: 2015-09-29

RLParameter Cert Dilution Flag Result Units RL $\overline{\text{GRO}}$ 1420 mg/Kg 50 4.00 1

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 95.0 | mg/Kg | 50 | 100 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 107 | mg/Kg | 50 | 100 | 107 | 70 - 130 |

Sample: 405107 - 8' South Wall

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: Analyzed By: AK 125211 Date Analyzed: 2015-09-28 Prep Batch: 105909 Sample Preparation: Prepared By: 2015-09-28 AK

RLFlag Parameter Cert Result Units Dilution RL $\overline{\text{DRO}}$ < 50.0 mg/Kg 50.0

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 50.1 | mg/Kg | 1 | 50.0 | 100 | 70 - 130 |

Report Date: September 30, 2015 Work Order: 15092404 Page Number: 7 of 14 15-0143-01 (2) Townsend 16" Lea Co, NM

Sample: 405107 - 8' South Wall

Laboratory: Midland

S 5035 Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: QC Batch: 125240 Date Analyzed: 2015-09-30 Analyzed By: AK Prep Batch: 105930 Sample Preparation: 2015-09-29 Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.89 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.85 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |

Sample: 405108 - West Under Pipe

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 125211 Date Analyzed: 2015-09-28 Analyzed By: AKPrep Batch: 105909 2015-09-28 Sample Preparation: Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 56.9 | mg/Kg | 1 | 50.0 | 114 | 70 - 130 |

Sample: 405108 - West Under Pipe

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125240 Date Analyzed: 2015-09-30 Analyzed By: AK Prep Batch: 105930 Sample Preparation: 2015-09-29 Prepared By: AK

Report Date: September 30, 2015

15-0143-01 (2)

| Work Order: 15092404 | Page Number: 8 of 14 |
|----------------------|----------------------|
| Townsend 16" | Lea Co, NM |
| Townsold To | |

AK

AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.78 | mg/Kg | 1 | 2.00 | 89 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.82 | mg/Kg | 1 | 2.00 | 91 | 70 - 130 |

Sample: 405109 - SW Corner

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: Analyzed By: 125211Date Analyzed: 2015 - 09 - 28Prep Batch: 105909 Sample Preparation: 2015-09-28 Prepared By:

RLFlag Parameter Cert Result Units Dilution RL $\overline{\mathrm{DRO}}$ < 50.0 mg/Kg 50.0 U 1 1

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 51.4 | mg/Kg | 1 | 50.0 | 103 | 70 - 130 |

Sample: 405109 - SW Corner

Laboratory: Midland

TPH GRO Analysis: Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125240 Date Analyzed: 2015-09-30 Analyzed By: AKPrep Batch: 105930 Sample Preparation: Prepared By: AK2015-09-29

RLFlag Dilution Parameter Cert Result Units RL $\overline{\text{GRO}}$ < 4.00 4.00 U 1 mg/Kg

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.74 | mg/Kg | 1 | 2.00 | 87 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.70 | mg/Kg | 1 | 2.00 | 85 | 70 - 130 |

Report Date: September 30, 2015 Work Order: 15092404 Page Number: 9 of 14 15-0143-01 (2) Townsend 16" Lea Co, NM

Method Blanks

Method Blank (1) QC Batch: 125211

QC Batch: 125211 Date Analyzed: 2015-09-28 Analyzed By: AK Prep Batch: 105909 QC Preparation: 2015-09-28 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 51.0 | mg/Kg | 1 | 50.0 | 102 | 70 - 130 |

Method Blank (1) QC Batch: 125240

QC Batch: 125240 Date Analyzed: 2015-09-30 Analyzed By: AK Prep Batch: 105930 QC Preparation: 2015-09-29 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.94 | mg/Kg | 1 | 2.00 | 97 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.71 | mg/Kg | 1 | 2.00 | 86 | 70 - 130 |

Report Date: September 30, 2015 Work Order: 15092404 Page Number: 10 of 14 15-0143-01 (2) Townsend 16" Lea Co, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 125211 Date Analyzed: 2015-09-28 Analyzed By: AK Prep Batch: 105909 QC Preparation: 2015-09-28 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1 | 261 | mg/Kg | 1 | 250 | < 7.41 | 104 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1 | 256 | mg/Kg | 1 | 250 | < 7.41 | 102 | 70 - 130 | 2 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 56.0 | 55.3 | mg/Kg | 1 | 50.0 | 112 | 111 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 125240 Date Analyzed: 2015-09-30 Analyzed By: AK Prep Batch: 105930 QC Preparation: 2015-09-29 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 1 | 20.0 | mg/Kg | 1 | 20.0 | < 2.32 | 100 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 1 | 22.7 | mg/Kg | 1 | 20.0 | < 2.32 | 114 | 70 - 130 | 13 | 20 |

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.84 | 1.92 | mg/Kg | 1 | 2.00 | 92 | 96 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.65 | 1.78 | mg/Kg | 1 | 2.00 | 82 | 89 | 70 - 130 |

Report Date: September 30, 2015 Work Order: 15092404 Page Number: 11 of 14 15-0143-01 (2) Townsend 16" Lea Co, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 405105

QC Batch: 125211 Date Analyzed: 2015-09-28 Analyzed By: AK Prep Batch: 105909 QC Preparation: 2015-09-28 Prepared By: AK

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1 | 250 | mg/Kg | 1 | 250 | < 7.41 | 100 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|---|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1 | 270 | mg/Kg | 1 | 250 | < 7.41 | 108 | 70 - 130 | 8 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 53.7 | 58.2 | mg/Kg | 1 | 50 | 107 | 116 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 405105

QC Batch: 125240 Date Analyzed: 2015-09-30 Analyzed By: AK Prep Batch: 105930 QC Preparation: 2015-09-29 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | Qs | Qs | 1 | 12.5 | mg/Kg | 1 | 20.0 | < 2.32 | 62 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | Qs | Qs | 1 | 10.8 | mg/Kg | 1 | 20.0 | < 2.32 | 54 | 70 - 130 | 15 | 20 |

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.63 | 1.79 | mg/Kg | 1 | 2 | 82 | 90 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.65 | 1.81 | mg/Kg | 1 | 2 | 82 | 90 | 70 - 130 |

Report Date: September 30, 2015 Work Order: 15092404 Page Number: 12 of 14 15-0143-01 (2) Townsend 16" Lea Co, NM

Calibration Standards

Standard (CCV-1)

| QC | Batch: | 125211 | Date Analyzed: | 2015-09-28 | Analyze | d By: | AK |
|----|--------|--------|----------------|------------|---------|-------|----|
|----|--------|--------|----------------|------------|---------|-------|----|

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-----------------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1 | mg/Kg | 250 | 234 | 94 | 80 - 120 | 2015-09-28 |

Standard (CCV-2)

| QC Batch: | 125211 | Date Analyzed: | 2015-09-28 | Analyzed By: | ΑK |
|-----------|--------|----------------|------------|--------------|----|
| | | | | | |

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1 | mg/Kg | 250 | 238 | 95 | 80 - 120 | 2015-09-28 |

Standard (CCV-1)

QC Batch: 125240 Date Analyzed: 2015-09-30 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-----------------------|-----------------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 1 | mg/Kg | 1.00 | 1.10 | 110 | 80 - 120 | 2015-09-30 |

Standard (CCV-2)

QC Batch: 125240 Date Analyzed: 2015-09-30 Analyzed By: AK

| | | | | $\begin{array}{c} { m CCVs} \\ { m True} \end{array}$ | $\begin{array}{c} { m CCVs} \\ { m Found} \end{array}$ | CCVs Percent | Percent Recovery | Date |
|-------|------|------|-------|---|--|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 1 | mg/Kg | 1.00 | 0.932 | 93 | 80 - 120 | 2015-09-30 |

Report Date: September 30, 2015 Work Order: 15092404 Page Number: 13 of 14 15-0143-01 (2) Townsend 16" Lea Co, NM

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|-----------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100 - 86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | NELAP | T104704392-14-8 | Midland |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit.
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

Attachments

Report Date: September 30, 2015 Work Order: 15092404 Page Number: 14 of 14 15-0143-01 (2) Townsend 16" Lea Co, NM

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

Wo #: 16092404

| CHAIN-OF-CUSTODY | LAB WO | (0) (0) (0) (0) (0) (0) (0) (0) (0) (0) | | | | 90/504 | 10/504 | 801500 | 60504 | | | | | | LABORATORY USE ONLY: | CLETON STATE DEDOKEN DINTACT DINTACT | COSTODI SEALS - LI BRONEIN LI INTACTI LI NOTI USEDI | ZAHAND DELIVERED |
|------------------|--|---|---|--------------------------|---------------------------------------|------------------|---------------|-----------------|----------------|--|--|--|--|--|------------------------------|--------------------------------------|---|------------------|
| | DATE: $\frac{Q/22/2C}{PO\#}$ PO #: PROJECT LOCATION O LAI PROJECT #: $\frac{C-C}{C-C}$ | | CO 0 5 10 10 10 10 10 10 10 10 10 10 10 10 10 | | | > | > | / / | > > | | | | | | 14-5 8 45 NORMAL [] | 1 DAY | 2 DAY □ OTHER □ | |
| | 507 N. Marienfeld, Ste. 200 Midland, TX 79701 432-687-0901 | PRESERVATION | NgOH □ | UNPRESE HUO3 HCI HCI HCI | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | > | > | > | > | | | | | | RECEIVED BY: (Signature) | RECEIVED (BY): (Signature) | RECEIVED BY: (Signature) | |
| 50KZK0S | | P=PAINT | OT=OTHER | Date Time Matrix | 9/22/15/11:36 5 | 12/15/11/42 5 | 12/15/11:47 S | 9(22/18/13:50 5 | 9/22/1513:58 5 | | | | | | × 145 | ĎATE/TIME | DATE/TIME | |
| 3 | A Grson & Inc. Ssociates, Inc. Environmental Consultants ata Reported to: | TRRP report? S=SOIL | s V No E ZONE: zone/State: | Field Lab # D | stcorner 9/ | South West. 96 | /b | er pigg | | | | | | JOINE TO THE | RELINQUISHED BY: (Signature) | RELINQUISHED BY:(Signature) | RELINQUISHED BY:(Signature) | |



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Report Date: October 22, 2015

15101419

Work Order:

Mark Larson Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM

Project Name: Townsend 16" Pipeline

Project Number: 15-0143-01 (2)

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | Time | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 406372 | W Wall 12' | soil | 2015-10-13 | 13:45 | 2015-10-14 |
| 406373 | N P/L 18' | soil | 2015-10-13 | 15:05 | 2015-10-14 |
| 406374 | N P/L 20' | soil | 2015-10-13 | 15:12 | 2015-10-14 |
| 406375 | N P/L 22' | soil | 2015-10-13 | 15:19 | 2015-10-14 |
| 406376 | N P/L 24' | soil | 2015-10-13 | 15:23 | 2015-10-14 |
| 406377 | N P/L 26' | soil | 2015-10-13 | 15:27 | 2015-10-14 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 25 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

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| Sample 406374 (N P/L 20') | |
| Sample 406375 (N P/L 22') | |
| Sample 406376 (N P/L 24') | |
| Sample 406377 (N P/L 26') | 1 |
| Method Blanks | 1 |
| QC Batch 125580 - Method Blank (1) | |
| QC Batch 125587 - Method Blank (1) | |
| QC Batch 125666 - Method Blank (1) | |
| QC Batch 125682 - Method Blank (1) | |
| QC Batch 125692 - Method Blank (1) | |
| QC Batch 125761 - Method Blank (1) | |
| QC Datch 125701 - Method Diank (1) | 1 |
| Laboratory Control Spikes | 1 |
| QC Batch 125580 - LCS (1) | 1 |
| QC Batch 125587 - LCS (1) | 1 |
| QC Batch 125666 - LCS (1) | 1 |
| QC Batch 125682 - LCS (1) | 1 |
| QC Batch 125692 - LCS (1) | 1 |
| QC Batch 125761 - LCS (1) | 1 |
| Matrix Spikes | 1 |
| QC Batch 125580 - MS (1) | |
| QC Batch 125587 - MS (1) | |
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| QC Batch 125692 - MS (1) | |
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| QC Batch 125580 - CCV (3) | 2 |
| QC Batch 125587 - CCV (1) | 2 |
| QC Batch 125587 - CCV (2) | 2 |
| QC Batch 125666 - CCV (1) | |
| QC Batch 125666 - CCV (2) | |
| QC Batch 125682 - CCV (1) | |
| QC Batch 125682 - CCV (2) | |
| QC Batch 125692 - CCV (1) | |
| QC Batch 125692 - CCV (2) | _ |
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Case Narrative

Samples for project Townsend 16" Pipeline were received by TraceAnalysis, Inc. on 2015-10-14 and assigned to work order 15101419. Samples for work order 15101419 were received intact at a temperature of 7.1 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------------|------------|--------|-----------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| Chloride (IC) | E 300.0 | 106322 | 2015-10-19 at 12:30 | 125692 | 2015-10-19 at 13:01 |
| Chloride (IC) | E 300.0 | 106385 | 2015-10-21 at 13:00 | 125761 | 2015-10-21 at $14:22$ |
| TPH DRO | S 8015 D | 106226 | 2015-10-14 at 07:16 | 125580 | 2015-10-14 at $15:30$ |
| TPH DRO | S 8015 D | 106290 | 2015-10-16 at 14:00 | 125666 | 2015-10-19 at 10:44 |
| TPH GRO | S 8015 D | 106233 | 2015-10-14 at 08:29 | 125587 | 2015-10-15 at $08:30$ |
| TPH GRO | S 8015 D | 106312 | 2015-10-19 at $10:05$ | 125682 | 2015-10-19 at $10:05$ |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15101419 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: October 22, 2015 Work Order: 15101419 15-0143-01 (2) Townsend 16" Pipeline

Analytical Report

Sample: 406372 - W Wall 12'

Laboratory: Lubbock

Prep Method: Analysis: Chloride (IC) Analytical Method: E 300.0N/AQC Batch: 125692 Date Analyzed: 2015-10-19 Analyzed By: RLPrep Batch: 106322 Sample Preparation: Prepared By: RL

Sample: 406372 - W Wall 12'

Laboratory: Midland

TPH DRO Analysis: Analytical Method: S 8015 D Prep Method: N/AQC Batch: 125580 Date Analyzed: 2015-10-14 Analyzed By: AKPrep Batch: 106226 Sample Preparation: 2015-10-14 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 55.3 | mg/Kg | 1 | 50.0 | 111 | 70 - 130 |

Sample: 406372 - W Wall 12'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125587 Date Analyzed: 2015-10-15 Analyzed By: AKPrep Batch: 106233 Sample Preparation: 2015 - 10 - 14Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.72 | mg/Kg | 1 | 2.00 | 86 | 70 - 130 |

 $continued \dots$

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sample continued ...

| | | | | | | Spike | Percent | Recovery | |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|---|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits | |
| 4-Bromofluorobenzene (4-BFB) | | | 1.93 | mg/Kg | 1 | 2.00 | 96 | 70 - 130 | _ |

Sample: 406373 - N P/L 18'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: $\to 300.0$ Prep Method: N/A QC Batch: Date Analyzed: 2015-10-19 Analyzed By: RL125692Prepared By: RL

Prep Batch: 106322 Sample Preparation:

RLDilution Parameter Flag Cert Result Units RLChloride <25.0 mg/Kg 1 25.0 3,4,6

Sample: 406373 - N P/L 18'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 125580Date Analyzed: 2015 - 10 - 14Analyzed By: AKPrep Batch: 106226 Sample Preparation: 2015-10-14 Prepared By: AK

RLCert Dilution Parameter Flag Result Units RL $\overline{\mathrm{DRO}}$ 4640 mg/Kg 10 50.0 5 Qr

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 194 | mg/Kg | 10 | 50.0 | 388 | 70 - 130 |

Sample: 406373 - N P/L 18'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125587 Date Analyzed: 2015-10-15 Analyzed By: AKPrep Batch: 106233 Sample Preparation: 2015-10-14 Prepared By: AK

RLParameter Flag Cert Result Units Dilution RL \overline{GRO} 4640 50 4.00 mg/Kg 5

15-0143-01 (2)

Work Order: 15101419 Townsend 16" Pipeline

Spike Percent Recovery Amount Flag Cert Result Units Dilution Recovery Limits Surrogate Trifluorotoluene (TFT) 84.4 mg/Kg 50 100 84 70 - 130 70 - 130 4-Bromofluorobenzene (4-BFB) 125 mg/Kg50 100 125

Sample: 406374 - N P/L 20'

Laboratory:

Lubbock

Analysis: Chloride (IC) QC Batch: 125692 Prep Batch: 106322 Analytical Method: E 300.0 Date Analyzed: 2015-10-19

Sample Preparation:

Prep Method: N/A Analyzed By: RL

RL

N/A

AK

Prepared By:

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Sample: 406374 - N P/L 20'

Laboratory: Midland

Analysis: TPH DRO QC Batch: 125580 Prep Batch: 106226 Analytical Method: S 8015 D Date Analyzed: 2015-10-14 Sample Preparation: 2015-10-14

Prepared By: AK

Prep Method:

Analyzed By:

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 300 | mg/Kg | 10 | 50.0 | 600 | 70 - 130 |

Sample: 406374 - N P/L 20'

Laboratory: Midland

Analysis: TPH GRO QC Batch: 125587 Prep Batch: 106233 Analytical Method: S 8015 D
Date Analyzed: 2015-10-15
Sample Preparation: 2015-10-14

Prep Method: S 5035 Analyzed By: AK Prepared By: AK

15-0143-01 (2)

Work Order: 15101419 Townsend 16" Pipeline

Spike Recovery Percent Surrogate Flag Cert Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 79.2 mg/Kg 50 100 79 70 - 130 70 - 130 4-Bromofluorobenzene (4-BFB) 136 mg/Kg50 100 136 Qsr

Sample: 406375 - N P/L 22'

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 125692Prep Batch: 106322

Analytical Method: $\to 300.0$ Date Analyzed: 2015-10-19

Sample Preparation:

Prep Method: N/A Analyzed By: RL

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Prepared By: RL

| | | | RL | | | |
|-----------|------|-------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,6 | <25.0 | m mg/Kg | 1 | 25.0 |

Sample: 406375 - N P/L 22'

Laboratory: Midland

Analysis: TPH DRO QC Batch: 125580Prep Batch: 106226

Analytical Method: S 8015 D Date Analyzed: 2015 - 10 - 14Sample Preparation: 2015-10-14

Prep Method: N/AAnalyzed By: AKPrepared By: AK

Prep Method: S 5035

AK

AK

Analyzed By:

Prepared By:

| | | | RL | | | |
|-----------|------|------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | Qr | 5 | 1050 | m mg/Kg | 1 | 50.0 |

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 87.1 | mg/Kg | 1 | 50.0 | 174 | 70 - 130 |

Sample: 406375 - N P/L 22'

Laboratory: Midland

Analysis: TPH GRO QC Batch: 125587 Prep Batch: 106233

Analytical Method: S 8015 D Date Analyzed: 2015-10-15 Sample Preparation: 2015-10-14

RLParameter Flag Cert Result Units Dilution RLGRO 668 50 4.00 mg/Kg 5

15-0143-01 (2)

Work Order: 15101419 Townsend 16" Pipeline

| Dilution | Amount | Recovery | Limits |
|----------|----------|----------|----------------------|
| 50 50 | 100 | 92 | 70 - 130 70 - 130 |
| | 50 50 | | |

Sample: 406376 - N P/L 24'

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 125761Prep Batch: 106385

Analytical Method: $\to 300.0$ Date Analyzed: 2015-10-21

Sample Preparation:

Prep Method: N/A Analyzed By: RL

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Prepared By: RL

| | | | RL | | | |
|-----------|------|-------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,6 | <25.0 | m mg/Kg | 1 | 25.0 |

Sample: 406376 - N P/L 24'

Laboratory: Lubbock

TPH DRO Analysis: QC Batch: 125666 Prep Batch: 106290

Analytical Method: S 8015 D Date Analyzed: 2015 - 10 - 19Sample Preparation: 2015-10-16

Prep Method: N/AHJAnalyzed By: Prepared By: HJ

RLFlag Cert Result Dilution Parameter Units RL $\overline{\text{DRO}}$ 1,2,3,4 281 mg/Kg 50.0

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 41.9 | mg/Kg | 1 | 25.0 | 168 | 48.9 - 172 |

Sample: 406376 - N P/L 24'

Laboratory: Lubbock

Analysis: TPH GRO QC Batch: 125682 Prep Batch: 106312

Analytical Method: S 8015 D Date Analyzed: 2015-10-19 Sample Preparation: 2015-10-19

Prep Method: S 5035 Analyzed By: JSPrepared By: JS

RLParameter Flag Cert Result Units Dilution RL \overline{GRO} 201 4.00 mg/Kg 5 1,2,3,4

15-0143-01 (2)

Work Order: 15101419 Townsend 16" Pipeline

| Surrogate | | Flag | Cert | Result | Units | Dilution | $\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$ | Percent Recovery | Recovery Limits |
|------------------------------|-----|-------------------|------|--------|--------------|----------|--|---------------------|--------------------|
| Trifluorotoluene (TFT) | | | 3 | 2.11 | mg/Kg | 5 | 2.00 | 106 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | Qsr | $_{\mathrm{Qsr}}$ | 3 | 7.79 | ${ m mg/Kg}$ | 5 | 2.00 | 390 | 68.4 - 120 |

Sample: 406377 - N P/L 26

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 125761Prep Batch: 106385

Analytical Method: $\to 300.0$ Date Analyzed: 2015-10-21

Sample Preparation:

Prep Method: N/A Analyzed By: RL

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Prepared By: RL

| | | | RL | | | |
|-----------|------|-------|---------------------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,6 | <25.0 | m mg/Kg | 1 | 25.0 |

Sample: 406377 - N P/L 26'

Laboratory: Lubbock

TPH DRO

Analysis: QC Batch: 125666Prep Batch: 106290

Analytical Method: S 8015 D Date Analyzed: 2015 - 10 - 19Sample Preparation: 2015-10-16

Analyzed By: HJPrepared By: HJ

Prep Method: S 5035

JS

JS

Analyzed By:

Prepared By:

Prep Method: N/A

| | | | KL | | | |
|-----------|------|---------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | | 1,2,3,4 | 578 | m mg/Kg | 1 | 50.0 |

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | 3 | 58.6 | mg/Kg | 1 | 25.0 | 234 | 48.9 - 172 |

Sample: 406377 - N P/L 26

Laboratory: Lubbock

Analysis: TPH GRO QC Batch: 125682Prep Batch: 106312

Analytical Method: S 8015 D Date Analyzed: 2015-10-19 Sample Preparation: 2015-10-19

RLParameter Flag Cert Result Units Dilution RL \overline{GRO} 86.6 4.00 mg/Kg 5 Qs 1,2,3,4

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| ~ | | | - | | | | Spike | Percent | Recovery |
|------------------------------|-------------------|-----------------------|-----------------------|--------|------------------------|----------|--------|----------|-------------------------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 3 | 2.06 | mg/Kg | 5 | 2.00 | 103 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{\mathrm{Qsr}}$ | 3 | 4.40 | mg/Kg | 5 | 2.00 | 220 | 68.4 - 120 |

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Method Blanks

Method Blank (1) QC Batch: 125580

QC Batch: 125580 Date Analyzed: 2015-10-14 Analyzed By: AK Prep Batch: 106226 QC Preparation: 2015-10-14 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|--------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 50.6 | ${ m mg/Kg}$ | 1 | 50.0 | 101 | 70 - 130 |

Method Blank (1) QC Batch: 125587

QC Batch: 125587 Date Analyzed: 2015-10-15 Analyzed By: AK Prep Batch: 106233 QC Preparation: 2015-10-14 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.72 | mg/Kg | 1 | 2.00 | 86 | 70 - 130 |

Method Blank (1) QC Batch: 125666

QC Batch: 125666 Date Analyzed: 2015-10-19 Analyzed By: HJ Prep Batch: 106290 QC Preparation: 2015-10-16 Prepared By: HJ

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| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 33.2 | mg/Kg | 1 | 25.0 | 133 | 48.9 - 172 |

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Method Blank (1) QC Batch: 125682

QC Batch: 125682Date Analyzed: 2015 - 10 - 19Analyzed By: JSPrep Batch: 106312 Prepared By: JSQC Preparation: 2015-10-19

 MDL Parameter Flag Cert Result Units RLGRO < 0.641mg/Kg 1,2,3,4

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 3 | 1.88 | mg/Kg | 1 | 2.00 | 94 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | 3 | 1.84 | mg/Kg | 1 | 2.00 | 92 | 68.4 - 120 |

Method Blank (1) QC Batch: 125692

QC Batch: Analyzed By: RL 125692Date Analyzed: 2015-10-19 Prep Batch: 106322 Prepared By: QC Preparation: 2015-10-19 RL

MDLParameter Flag Cert Result Units RLChloride < 8.34 mg/Kg 25 3,4,6

Method Blank (1) QC Batch: 125761

QC Batch: Date Analyzed: Analyzed By: RL 125761 2015-10-21 Prep Batch: 106385 QC Preparation: 2015 - 10 - 21Prepared By: RL

 MDL Parameter Flag Cert Result Units RLChloride < 8.34 mg/Kg 25 3,4,6

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 125580 Date Analyzed: 2015-10-14 Analyzed By: AK Prep Batch: 106226 QC Preparation: 2015-10-14 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 5 | 217 | mg/Kg | 1 | 250 | < 7.41 | 87 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 5 | 211 | mg/Kg | 1 | 250 | < 7.41 | 84 | 70 - 130 | 3 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 53.2 | 51.6 | mg/Kg | 1 | 50.0 | 106 | 103 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 125587 Date Analyzed: 2015-10-15 Analyzed By: AK Prep Batch: 106233 QC Preparation: 2015-10-14 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 5 | 21.7 | mg/Kg | 1 | 20.0 | < 2.32 | 108 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 22.7 | mg/Kg | 1 | 20.0 | < 2.32 | 114 | 70 - 130 | 4 | 20 |

| | LCS | LCSD | | | $_{ m Spike}$ | LCS | LCSD | $\mathrm{Rec}.$ |
|------------------------------|--------|--------|-------|------|---------------|------|------|-----------------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.84 | 1.84 | mg/Kg | 1 | 2.00 | 92 | 92 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.72 | 1.75 | mg/Kg | 1 | 2.00 | 86 | 88 | 70 - 130 |

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Laboratory Control Spike (LCS-1)

QC Batch: 125666 Date Analyzed: 2015-10-19 Analyzed By: HJ
Prep Batch: 106290 QC Preparation: 2015-10-16 Prepared By: HJ

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|-----------------|--------|-------|------|------------------------|--------|------|------------|
| Param | \mathbf{F} | $^{\mathrm{C}}$ | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 425 | mg/Kg | 1 | 500 | < 5.22 | 85 | 60.9 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|---|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 405 | mg/Kg | 1 | 500 | < 5.22 | 81 | 60.9 - 130 | 5 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 35.5 | 34.3 | mg/Kg | 1 | 25.0 | 142 | 137 | 48.9 - 172 |

Laboratory Control Spike (LCS-1)

QC Batch: 125682 Date Analyzed: 2015-10-19 Analyzed By: JS Prep Batch: 106312 QC Preparation: 2015-10-19 Prepared By: JS

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|---------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 1,2,3,4 | 18.0 | mg/Kg | 1 | 20.0 | < 0.641 | 90 | 60.3 - 120 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|---|--------------|--------|-------|------|--------|---------|------|------------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 1,2,3,4 | 17.4 | mg/Kg | 1 | 20.0 | < 0.641 | 87 | 60.3 - 120 | 3 | 20 |

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|---|--------|--------|--------------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 3 | 1.94 | 1.86 | mg/Kg | 1 | 2.00 | 97 | 93 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 3 | 2.15 | 2.00 | ${ m mg/Kg}$ | 1 | 2.00 | 108 | 100 | 68.4 - 120 |

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Laboratory Control Spike (LCS-1)

QC Batch: 125692 Date Analyzed: 2015-10-19 Analyzed By: RL Prep Batch: 106322 QC Preparation: 2015-10-19 Prepared By: RL

LCS Spike Matrix Rec. Limit Param F \mathbf{C} Result Dil. Amount Result Units Rec. Chloride 256 250 < 8.34 90 - 110 3,4,6 mg/Kg 102

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 251 | mg/Kg | 1 | 250 | < 8.34 | 100 | 90 - 110 | 2 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 125761 Date Analyzed: 2015-10-21 Analyzed By: RL Prep Batch: 106385 QC Preparation: 2015-10-21 Prepared By: RL

| | | | LCS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 3,4,6 | 251 | mg/Kg | 1 | 250 | < 8.34 | 100 | 90 - 110 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | $_{ m Spike}$ | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|---------------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 253 | mg/Kg | 1 | 250 | < 8.34 | 101 | 90 - 110 | 1 | 20 |

Report Date: October 22, 2015 Work Order: 15101419 Page Number: 18 of 25 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 406095

QC Batch: 125580 Date Analyzed: 2015-10-14 Analyzed By: AK Prep Batch: 106226 QC Preparation: 2015-10-14 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|----|--------------|--------|-------|------|------------------------|--------|------|----------|
| Param | | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | Qs | Qs | 5 | 166 | mg/Kg | 1 | 250 | < 7.41 | 66 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|----|--------------|--------------|--------|-------|------|------------------------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | Qr | Qr | 5 | 212 | mg/Kg | 1 | 250 | < 7.41 | 85 | 70 - 130 | 24 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 44.0 | 56.9 | mg/Kg | 1 | 50 | 88 | 114 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 406088

QC Batch: 125587 Date Analyzed: 2015-10-15 Analyzed By: AK Prep Batch: 106233 QC Preparation: 2015-10-14 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|----|--------------|--------|-------|------|--------|--------|------|----------|
| Param | | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | Qs | Qs | 5 | 12.2 | mg/Kg | 1 | 20.0 | < 2.32 | 61 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | Qs | Qs | 5 | 12.7 | mg/Kg | 1 | 20.0 | < 2.32 | 64 | 70 - 130 | 4 | 20 |

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.82 | 1.70 | mg/Kg | 1 | 2 | 91 | 85 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.96 | 1.88 | mg/Kg | 1 | 2 | 98 | 94 | 70 - 130 |

Report Date: October 22, 2015 Work Order: 15101419 Page Number: 19 of 25 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spike (xMS-1) Spiked Sample: 406110

MS Spike Matrix Rec. Limit \mathbf{F} \mathbf{C} Result Param Result Units Dil. Amount Rec. DRO 2230 1870 47.9 - 130 1,2,3,4 mg/Kg 50072

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 2340 | mg/Kg | 1 | 500 | 1870 | 94 | 47.9 - 130 | 5 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MS | MSD | | | $_{\rm Spike}$ | MS | MSD | Rec. |
|-------------|-----|-----|---|--------|--------|-------|------|----------------|------|------|------------|
| Surrogate | | | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | Qsr | Qsr | 3 | 274 | 286 | mg/Kg | 1 | 25 | 1096 | 1144 | 48.9 - 172 |

Matrix Spike (MS-1) Spiked Sample: 406377

QC Batch: 125682 Date Analyzed: 2015-10-19 Analyzed By: JS Prep Batch: 106312 QC Preparation: 2015-10-19 Prepared By: JS

MS Spike Matrix Rec. Param \mathbf{C} Result Units Dil. Amount Result Limit Rec. GRO 75.6 mg/Kg 5 20.0 86.6 25 - 139 1,2,3,4 Os

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | Qs | Qs | 1,2,3,4 | 81.3 | mg/Kg | 5 | 20.0 | 86.6 | -26 | 25 - 139 | 7 | 20 |

| | | | | MS | MSD | | | $_{ m Spike}$ | MS | MSD | $\mathrm{Rec.}$ |
|------------------------------|-------------|-----|---|--------|--------|-------|------|---------------|------|------|-----------------|
| Surrogate | | | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | | | 3 | 1.90 | 1.76 | mg/Kg | 5 | 2 | 95 | 88 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{ m Qsr}$ | Qsr | 3 | 3.59 | 3.70 | mg/Kg | 5 | 2 | 180 | 185 | 68.4 - 120 |

15-0143-01 (2)

Work Order: 15101419 Townsend 16" Pipeline Page Number: 20 of 25 Lea Co, NM

Matrix Spike (MS-1) Spiked Sample: 406375

QC Batch: 125692 Prep Batch: 106322 Date Analyzed: 2015-10-19 QC Preparation: 2015-10-19 Analyzed By: RL Prepared By: RL

| | | | MS | | | $_{\mathrm{Spike}}$ | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|---------------------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 3,4,6 | 264 | mg/Kg | 1 | 250 | 10.8 | 101 | 80 - 120 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 260 | mg/Kg | 1 | 250 | 10.8 | 100 | 80 - 120 | 2 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 406567

QC Batch: 125761 Date Analyzed: 2015-10-21 Analyzed By: RL Prep Batch: 106385 QC Preparation: 2015-10-21 Prepared By: RL

| | | | MS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 3,4,6 | 259 | mg/Kg | 1 | 250 | 10.7 | 99 | 80 - 120 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | $_{ m Spike}$ | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|---------------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 259 | mg/Kg | 1 | 250 | 10.7 | 99 | 80 - 120 | 0 | 20 |

Report Date: October 22, 2015 Work Order: 15101419 Page Number: 21 of 25 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Calibration Standards

Standard (CCV-2)

| QC Batch: 125580 Date Analyzed: 2015-10-14 | Analyzed By: AK |
|--|-----------------|
|--|-----------------|

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 5 | mg/Kg | 250 | 212 | 85 | 80 - 120 | 2015-10-14 |

Standard (CCV-3)

| | QC Batch: | 125580 | Date Analyzed: | 2015-10-14 | Analyzed By: | ΑK |
|--|-----------|--------|----------------|------------|--------------|----|
|--|-----------|--------|----------------|------------|--------------|----|

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 5 | mg/Kg | 250 | 226 | 90 | 80 - 120 | 2015-10-14 |

Standard (CCV-1)

QC Batch: 125587 Date Analyzed: 2015-10-15 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-----------------|-----------------------|-----------------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 1.03 | 103 | 80 - 120 | 2015-10-15 |

Standard (CCV-2)

QC Batch: 125587 Date Analyzed: 2015-10-15 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.824 | 82 | 80 - 120 | 2015-10-15 |

Report Date: October 22, 2015 Work Order: 15101419 Page Number: 22 of 25 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Standard (CCV-1)

QC Batch: 125666 Date Analyzed: 2015-10-19 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1.2.3.4 | mg/Kg | 500 | 410 | 82 | 80 - 120 | 2015-10-19 |

Standard (CCV-2)

QC Batch: 125666 Date Analyzed: 2015-10-19 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-----------------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 425 | 85 | 80 - 120 | 2015-10-19 |

Standard (CCV-1)

QC Batch: 125682 Date Analyzed: 2015-10-19 Analyzed By: JS

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 1,2,3,4 | mg/Kg | 1.00 | 1.11 | 111 | 80 - 120 | 2015-10-19 |

Standard (CCV-2)

QC Batch: 125682 Date Analyzed: 2015-10-19 Analyzed By: JS

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 1,2,3,4 | mg/Kg | 1.00 | 1.03 | 103 | 80 - 120 | 2015-10-19 |

Standard (CCV-1)

QC Batch: 125692 Date Analyzed: 2015-10-19 Analyzed By: RL

Report Date: October 22, 2015 Work Order: 15101419 Page Number: 23 of 25 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 25.6 | 102 | 90 - 110 | 2015-10-19 |

Standard (CCV-2)

QC Batch: 125692 Date Analyzed: 2015-10-19 Analyzed By: RL

| | 771 | | TT 4. | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|----------|------|-----------------------|------------------------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 25.5 | 102 | 90 - 110 | 2015-10-19 |

Standard (CCV-1)

QC Batch: 125761 Date Analyzed: 2015-10-21 Analyzed By: RL

| | | | | CCVs True | $\begin{array}{c} {\rm CCVs} \\ {\rm Found} \end{array}$ | $\begin{array}{c} { m CCVs} \\ { m Percent} \end{array}$ | Percent Recovery | Date |
|----------|------|-------|-------|--------------|--|--|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3.4.6 | mg/Kg | 25.0 | 25.0 | 100 | 90 - 110 | 2015-10-21 |

Standard (CCV-2)

QC Batch: 125761 Date Analyzed: 2015-10-21 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|--------------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | ${ m mg/Kg}$ | 25.0 | 25.3 | 101 | 90 - 110 | 2015-10-21 |

Report Date: October 22, 2015 Work Order: 15101419 Page Number: 24 of 25 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|---------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | L-A-B | L2418 | Lubbock |
| 2 | Kansas | Kansas E-10317 | Lubbock |
| 3 | LELAP | LELAP-02003 | Lubbock |
| 4 | NELAP | T104704219-15-11 | Lubbock |
| 5 | NELAP | T104704392-14-8 | Midland |
| 6 | | 2014-018 | Lubbock |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
 - Qc Calibration check outside of laboratory limits.
 - Qr RPD outside of laboratory limits
 - Qs Spike recovery outside of laboratory limits.

Report Date: October 22, 2015 Work Order: 15101419 Page Number: 25 of 25 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

F Description

Qsr Surrogate recovery outside of laboratory limits.

U The analyte is not detected above the SDL

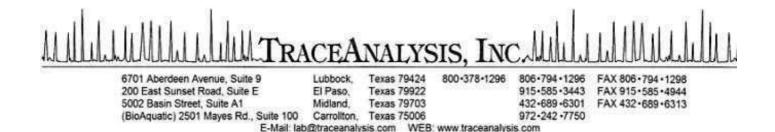
Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

WO # 15101419

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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Report Date: October 16, 2015

15101544

Work Order:

Mark Larson Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM

Project Name: Targa Townsend 16"

Project Number: 15-01

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | 11110 | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 406524 | S P/L 18' | soil | 2015-10-15 | 14:24 | 2015-10-15 |
| 406525 | S P/L 20' | soil | 2015-10-15 | 15:00 | 2015-10-15 |
| 406526 | S P/L 22' | soil | 2015-10-15 | 15:06 | 2015-10-15 |
| 406527 | S P/L 24' | soil | 2015-10-15 | 15:11 | 2015-10-15 |
| 406530 | W N P/L 15' | soil | 2015-10-15 | 13:37 | 2015-10-15 |
| | | | | | |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

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| Sample 406527 (S P/L 24') | |
| Sample 406530 (W N P/L 15') | |
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| QC Batch 125653 - Method Blank $\stackrel{\checkmark}{(1)}$ | |
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Case Narrative

Samples for project Targa Townsend 16" were received by TraceAnalysis, Inc. on 2015-10-15 and assigned to work order 15101544. Samples for work order 15101544 were received intact at a temperature of 4.5 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------|------------|--------|-----------------------|--------|---------------------|
| Test | Method | Batch | Date | Batch | Date |
| TPH DRO | S 8015 D | 106282 | 2015-10-16 at 08:15 | 125653 | 2015-10-16 at 15:47 |
| TPH GRO | S 8015 D | 106280 | 2015-10-16 at 14:24 | 125645 | 2015-10-16 at 14:24 |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15101544 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: October 16, 2015 Work Order: 15101544 Page Number: 5 of 14 15-01 Targa Townsend 16" Lea Co, NM

Analytical Report

Sample: 406524 - S P/L 18'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: QC Batch: 125653 Date Analyzed: 2015-10-16 Analyzed By: Prep Batch: 106282 Sample Preparation: 2015-10-16 Prepared By:

N/A

AK

AK

| | | | | | | | $_{\mathrm{Spike}}$ | Percent | Recovery |
|-------------|-----|------|-----------------------|--------|-------|----------|---------------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 169 | mg/Kg | 5 | 100 | 169 | 70 - 130 |

Sample: 406524 - S P/L 18'

Laboratory: Midland

TPH GRO Analysis: Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125645 Date Analyzed: 2015-10-16 Analyzed By: AKPrep Batch: 106280 Sample Preparation: Prepared By: AK2015-10-16

| | | | | | | | $_{\mathrm{Spike}}$ | Percent | Recovery |
|------------------------------|-------------------|-------------------|-----------------------|--------|---------------------------|----------|---------------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | | 86.2 | mg/Kg | 50 | 100 | 86 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | $_{\mathrm{Qsr}}$ | $_{\mathrm{Qsr}}$ | | 135 | mg/Kg | 50 | 100 | 135 | 70 - 130 |

Sample: 406525 - S P/L 20'

Laboratory: Midland

Report Date: October 16, 2015 Work Order: 15101544 Page Number: 6 of 14 15-01 Targa Townsend 16" Lea Co, NM

| | | | | | I | RL | | | |
|-------------|-------------|-------------|------------|--------|--------------|----------|--|---------------------|--------------------|
| Parameter | | | Flag | Cert | Resi | ılt | Units | Dilution | RL |
| DRO | | | $_{ m Qr}$ | 1 | 18 | 50 | mg/Kg | 5 | 50.0 |
| Surrogate | | Flag | Cert | Result | Units | Dilution | $\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$ | Percent Recovery | Recovery Limits |
| n-Tricosane | $_{ m Qsr}$ | $_{ m Qsr}$ | | 116 | ${ m mg/Kg}$ | 5 | 50.0 | 232 | 70 - 130 |

Sample: 406525 - S P/L 20'

Laboratory: Midland

TPH GRO Analysis: Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125645 Date Analyzed: 2015 - 10 - 16Analyzed By: AKPrep Batch: 106280 Sample Preparation: 2015-10-16 Prepared By: AK

| | | | RL | | | |
|-----------|------|------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | | 1 | 1400 | mg/Kg | 40 | 4.00 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 67.6 | mg/Kg | 40 | 80.0 | 84 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 79.4 | mg/Kg | 40 | 80.0 | 99 | 70 - 130 |

Sample: 406526 - S P/L 22'

Laboratory: Midland

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 125653 Date Analyzed: 2015-10-16 Analyzed By: AKSample Preparation: Prepared By: Prep Batch: 106282 2015-10-16 AK

| | | | RL | | | |
|-----------|-----------------------|------|--------|---------------------------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | $_{ m Qr}$ | 1 | 69.0 | mg/Kg | 1 | 50.0 |
| ' | | | | | | |

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|-------------|------|------|--------|--------------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 55.0 | ${ m mg/Kg}$ | 1 | 50.0 | 110 | 70 - 130 |

Report Date: October 16, 2015 Work Order: 15101544 Page Number: 7 of 14 15-01 Targa Townsend 16" Lea Co, NM

Sample: 406526 - S P/L 22'

Laboratory: Midland

Analysis:TPH GROAnalytical Method:S 8015 DQC Batch:125645Date Analyzed:2015-10-16Prep Batch:106280Sample Preparation:2015-10-16

Prep Method: S 5035 Analyzed By: AK Prepared By: AK

| | | | RL | | | |
|-----------|------|------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | | 1 | 11.9 | m mg/Kg | 1 | 4.00 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.66 | mg/Kg | 1 | 2.00 | 83 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.88 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |

Sample: 406527 - S P/L 24'

Laboratory: Midland

 Prep Method: N/A Analyzed By: AK Prepared By: AK

| | | | RL | | | |
|-----------|------|-----------------------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | Qr,U | 1 | < 50.0 | m mg/Kg | 1 | 50.0 |

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 55.0 | mg/Kg | 1 | 50.0 | 110 | 70 - 130 |

Sample: 406527 - S P/L 24'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125645 Date Analyzed: 2015-10-16 Analyzed By: AKPrep Batch: 106280 Sample Preparation: 2015-10-16 Prepared By: AK

| | | | RL | | | |
|-----------|------|------|---------------------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | U | 1 | < 4.00 | mg/Kg | 1 | 4.00 |

Report Date: October 16, 2015 Work Order: 15101544 Page Number: 8 of 14 15-01 Targa Townsend 16" Lea Co, NM

| | | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.76 | mg/Kg | 1 | 2.00 | 88 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 2.05 | mg/Kg | 1 | 2.00 | 102 | 70 - 130 |

Sample: 406530 - W N P/L 15

Laboratory: Midland

Analysis: TPH DRO QC Batch: 125653 Prep Batch: 106282

Analytical Method: S 8015 D
Date Analyzed: 2015-10-16
Sample Preparation: 2015-10-16

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 60.6 | mg/Kg | 1 | 50.0 | 121 | 70 - 130 |

Sample: 406530 - W N P/L 15

4-Bromofluorobenzene (4-BFB)

Laboratory: Midland

Parameter

<u>ano</u>

Sample Preparation: 2015-10-16 Prepared By: AK

RL
Flag Cert Result Units Dilution RL

1

2.00

Prep Method: N/A

Prep Method: S 5035

AK

70 - 130

Analyzed By:

153

AK

AK

Analyzed By:

Prepared By:

| GRO | | 1 | | 77.3 | mg/K | g | 1 | 4.00 |
|------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
| Trifluorotoluene (TFT) | | | 1.62 | mg/Kg | 1 | 2.00 | 81 | 70 - 130 |

3.06

mg/Kg

Report Date: October 16, 2015 Work Order: 15101544 Page Number: 9 of 14 15-01 Targa Townsend 16" Lea Co, NM

Method Blanks

Method Blank (1) QC Batch: 125645

QC Batch: 125645 Date Analyzed: 2015-10-16 Analyzed By: AK Prep Batch: 106280 QC Preparation: 2015-10-16 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.77 | mg/Kg | 1 | 2.00 | 88 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.70 | mg/Kg | 1 | 2.00 | 85 | 70 - 130 |

Method Blank (1) QC Batch: 125653

QC Batch: 125653 Date Analyzed: 2015-10-16 Analyzed By: AK Prep Batch: 106282 QC Preparation: 2015-10-16 Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|-------------|------|------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 47.5 | mg/Kg | 1 | 50.0 | 95 | 70 - 130 |

Report Date: October 16, 2015 Work Order: 15101544 Page Number: 10 of 14 15-01 Targa Townsend 16" Lea Co, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 125645 Date Analyzed: 2015-10-16 Analyzed By: AK Prep Batch: 106280 QC Preparation: 2015-10-16 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 1 | 20.8 | mg/Kg | 1 | 20.0 | < 2.32 | 104 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 1 | 19.6 | mg/Kg | 1 | 20.0 | < 2.32 | 98 | 70 - 130 | 6 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|--------|--------|---------------------------|------|------------------------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.83 | 1.82 | mg/Kg | 1 | 2.00 | 92 | 91 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.83 | 1.77 | mg/Kg | 1 | 2.00 | 92 | 88 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 125653 Date Analyzed: 2015-10-16 Analyzed By: AK Prep Batch: 106282 QC Preparation: 2015-10-16 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1 | 225 | mg/Kg | 1 | 250 | < 7.41 | 90 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | $_{\mathrm{Spike}}$ | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|---------------------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1 | 213 | mg/Kg | 1 | 250 | < 7.41 | 85 | 70 - 130 | 6 | 20 |

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 48.9 | 47.2 | mg/Kg | 1 | 50.0 | 98 | 94 | 70 - 130 |

Report Date: October 16, 2015 Work Order: 15101544 Page Number: 11 of 14 15-01 Targa Townsend 16" Lea Co, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 406507

QC Batch: 125645 Date Analyzed: 2015-10-16 Analyzed By: AK Prep Batch: 106280 QC Preparation: 2015-10-16 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|--------------|--------------|--------|-------|------|------------------------|--------|------|------------------------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | Qs | Qs | 1 | 12.0 | mg/Kg | 1 | 20.0 | < 2.32 | 60 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | Qs | Qs | 1 | 12.2 | mg/Kg | 1 | 20.0 | < 2.32 | 61 | 70 - 130 | 2 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.64 | 1.66 | mg/Kg | 1 | 2 | 82 | 83 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.81 | 1.78 | mg/Kg | 1 | 2 | 90 | 89 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 406530

QC Batch: 125653 Date Analyzed: 2015-10-16 Analyzed By: AK Prep Batch: 106282 QC Preparation: 2015-10-16 Prepared By: AK

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1 | 474 | mg/Kg | 1 | 250 | 242 | 93 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | $_{\rm Spike}$ | Matrix | | Rec. | | RPD |
|-------|---------------|---------------|---|--------|-------|------|----------------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | С | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | $_{ m Qr,Qs}$ | $_{ m Qr,Qs}$ | 1 | 1040 | mg/Kg | 1 | 250 | 242 | 319 | 70 - 130 | 75 | 20 |

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 55.6 | 118 | mg/Kg | 1 | 50 | 111 | 118 | 70 - 130 |

Report Date: October 16, 2015 Work Order: 15101544 Page Number: 12 of 14 15-01 Targa Townsend 16" Lea Co, NM

Calibration Standards

Standard (CCV-2)

| QC Batch: | 125645 | Date Analyzed: | 2015-10-16 | Analyzed By: | AK |
|-----------|--------|----------------|------------|--------------|----|
|-----------|--------|----------------|------------|--------------|----|

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 1 | mg/Kg | 1.00 | 1.06 | 106 | 80 - 120 | 2015-10-16 |

Standard (CCV-3)

| QC Batch: 125645 | Date Analyzed: 2015-10-16 | Analyzed By: AK |
|------------------|---------------------------|-----------------|
| | | |

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 1 | mg/Kg | 1.00 | 0.828 | 83 | 80 - 120 | 2015-10-16 |

Standard (CCV-1)

| QC Batch: 125653 | Date Analyzed: 2015-10-16 | Analyzed By: AK |
|------------------|---------------------------|-----------------|
|------------------|---------------------------|-----------------|

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1 | mg/Kg | 250 | 234 | 94 | 80 - 120 | 2015-10-16 |

Standard (CCV-2)

QC Batch: 125653 Date Analyzed: 2015-10-16 Analyzed By: AK

| | | | | $\begin{array}{c} { m CCVs} \\ { m True} \end{array}$ | $\begin{array}{c} { m CCVs} \\ { m Found} \end{array}$ | CCVs Percent | Percent Recovery | Date |
|-------|------|------|-------|---|--|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1 | mg/Kg | 250 | 206 | 82 | 80 - 120 | 2015-10-16 |

Report Date: October 16, 2015 Work Order: 15101544 Page Number: 13 of 14 15-01 Targa Townsend 16" Lea Co, NM

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|-----------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100 - 86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | NELAP | T104704392-14-8 | Midland |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

Attachments

Report Date: October 16, 2015 Work Order: 15101544 Page Number: 14 of 14 15-01 Targa Townsend 16" Lea Co, NM

The scanned attachments will follow this page.

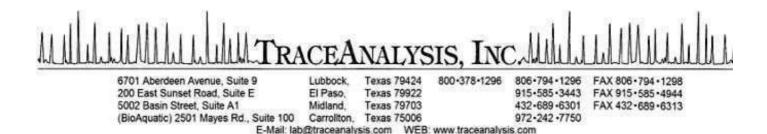
Please note, each attachment may consist of more than one page.

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PIOH Brandon & Clark 3403 Industrial Bivd. **Hobbs, NM 88240** Tel (575) 392-7561 Fax (575) 392-4508 Turn Around Time if different from standard Š YEAR NLZ Ca, Mg, K, EC , SQT or specify Method ^ʻ†OS NO3 -N, NO2 -N, PO4 -P, Alkalinity CI, F, Moisture Content **ANALYSIS REQUEST** BioAquatic Testing 2501 Mayes Rd., Ste 100 Carrollton, Texas 75006 Tel (972) 242-7750 Dry Weight Basis Required Check If Special Reporting Limits Are Needed BOD, TSS, pH TRRP Report Required Pesticides 8081 / 608 PCB's 8082 / 608 GC/MS Semi. Vol. 8270 / 625 REMARKS CC/W2 A9l: 8500 / 624 **BCI** TCLP Pesticides TCLP Semi Volatiles Circle TCLP Volatiles LAB USE 200 East Sunset Rd., Suite E El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443 ONLY TCLP Metals Ag As Ba Cd Cr Pb Se Hg Intact Y / N Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7 PAH 8270 / 625 TPH 8015 GRO / DRO / TVHC Carrier # TPH 418.1 / TX1005 / TX1005 Ext(C35) 16-15-15 16 40 0884.5 °C \$021 \ 602 \ 8260 \ 624 X3T8 429 / 602 / 8260 / 624 **BETM** INST OBS COR OBS INST COR 2:0 10:25 5.2 15.21 13.37 Ä 15.00 15.00 53.5 3 SAMPLING **TIME** ~ 5002 Basin Street, Suite A1 **Midland, Texas 79703** Tel. (432) 689-6301 Fax (432) 689-6313 Time: Time: **BYA** \$ = 7 þ * 9 WENT RE I GEN VINON MENTA Date: Date: 0456 PRESERVATIVE NONE ပ o METHOD ICE Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. Sampler Signature: HOBN (432) (87-Company: Company: Company ^⁵OS^zH Project Name: 10wnord 16 432) (\$7-0901 6701 Aberdeen Avenue, Suite 9 **Lubbock, Texas 79424**Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296 HCI Received by: Received by SLUDGE Received by MATRIX AIR SOIF 1255, Phalland **MATER** Tark 704 16.40 2 ÷ ٠, ٠ Time: Time: JulomA \ emuloV ç 4 Time: TraceAnalysis, Inc. # CONTAINERS 12/5/15 Date: Date: email: lab@traceanalysis.com 2 77 30 10 O. - Maritemand しんなり 200 FIELD CODE ムイケシュハ * ASSO Cyc. (もつ ddress: (Street, City, Zip) Company Company: Company 3 Project Location (including state, 539 3 Z (If different from above) 10 Tr K Relinquished by: Relinquished by: Relinquished by Z Z 9 Contact Person: Company Name 15-01 400928 マののマ (4089A) h6590) LAB USE) きんが Address: invoice to: Project #: LAB#

ORGINAL COPY



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Report Date: October 22, 2015

15101611

Work Order:

Mark Larson Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM

Project Name: Townsend 16" Pipeline

Project Number: 15-0143-01 (2)

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | 111116 | Date |
|--------|------------------|--------|------------|--------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 406565 | W. Side SP/L 15' | soil | 2015-10-15 | 13:51 | 2015-10-16 |
| 406566 | W. Side SP/L 18' | soil | 2015-10-15 | 14:43 | 2015-10-16 |
| 406567 | W. Side NP/L 18' | soil | 2015-10-15 | 14:49 | 2015-10-16 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 17 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

Report Contents

| Case Narrative |
|---|
| Analytical Report Sample 406565 (W. Side SP/L 15') |
| Method Blanks QC Batch 125722 - Method Blank (1) |
| Laboratory Control Spikes 1 QC Batch 125722 - LCS (1) QC Batch 125744 - LCS (1) QC Batch 125761 - LCS (1) |
| Matrix Spikes 1 QC Batch 125722 - MS (1) QC Batch 125744 - xMS (1) QC Batch 125761 - MS (1) |
| Calibration Standards 1 QC Batch 125722 - CCV (1) 1 QC Batch 125722 - CCV (2) 1 QC Batch 125744 - CCV (1) 1 QC Batch 125744 - CCV (2) 1 QC Batch 125761 - CCV (2) 1 QC Batch 125761 - CCV (2) 1 |
| Appendix Report Definitions Laboratory Certifications Standard Flags |

Case Narrative

Samples for project Townsend 16" Pipeline were received by TraceAnalysis, Inc. on 2015-10-16 and assigned to work order 15101611. Samples for work order 15101611 were received intact at a temperature of 0.8 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------------|------------|--------|-----------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| Chloride (IC) | E 300.0 | 106385 | 2015-10-21 at 13:00 | 125761 | 2015-10-21 at 14:22 |
| TPH DRO | S 8015 D | 106358 | 2015-10-20 at 13:00 | 125744 | 2015-10-21 at $13:33$ |
| TPH GRO | S 8015 D | 106344 | 2015-10-20 at $14:45$ | 125722 | 2015-10-20 at $14:45$ |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15101611 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: October 22, 2015 Work Order: 15101611 Page Number: 5 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Analytical Report

Sample: 406565 - W. Side SP/L 15'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 125761Date Analyzed: 2015-10-21 Analyzed By: RL Prepared By: RL

Prep Batch: 106385 Sample Preparation:

RLParameter Flag Cert Result Units Dilution RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 406565 - W. Side SP/L 15'

Laboratory: Lubbock

TPH DRO Analysis: Analytical Method: S 8015 D Prep Method: N/AQC Batch: 125744 Date Analyzed: 2015-10-21 Analyzed By: HJPrep Batch: 106358 Sample Preparation: 2015-10-20 Prepared By: HJ

RLParameter Cert Result Units Dilution RLFlag $\overline{\text{DRO}}$ 1,2,3,4 < 50.0mg/Kg 1 50.0

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 38.5 | mg/Kg | 1 | 25.0 | 154 | 48.9 - 172 |

Sample: 406565 - W. Side SP/L 15'

Laboratory: Lubbock

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125722 Date Analyzed: 2015-10-20 Analyzed By: JSPrep Batch: 106344 Sample Preparation: 2015-10-20 Prepared By: JS

RLParameter Flag Cert Result Units Dilution RL $\overline{\text{GRO}}$ < 4.00 mg/Kg 4.00 U 1,2,3,4

| | | | | | | | $_{\mathrm{Spike}}$ | Percent | Recovery |
|------------------------|-------------------|-------------------|-----------------------|--------|-------|----------|---------------------|----------|------------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | $_{\mathrm{Qsr}}$ | $_{\mathrm{Qsr}}$ | 3 | 1.47 | mg/Kg | 1 | 2.00 | 74 | 76.5 - 130 |

 $continued \dots$

Report Date: October 22, 2015

Work Order: 15101611 Townsend 16" Pipeline

 $sample\ continued\ \dots$

15-0143-01 (2)

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| 4-Bromofluorobenzene (4-BFB) | | 3 | 1.67 | mg/Kg | 1 | 2.00 | 84 | 68.4 - 120 |

Sample: 406566 - W. Side SP/L 18'

Laboratory: Lubbock

Prep Batch: 106385

Analysis: Chloride (IC) Analytical Method: E 300.0QC Batch: 125761Date Analyzed: 2015-10-21

Sample Preparation:

Analyzed By: RLPrepared By: RL

Page Number: 6 of 17

Prep Method: N/A

Lea Co, NM

| | | | RL | | | |
|-----------|------|-----------------------|---------------------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,5 | <25.0 | m mg/Kg | 1 | 25.0 |

Sample: 406566 - W. Side SP/L 18'

Laboratory: Lubbock

TPH DRO Analysis: Analytical Method: S 8015 DPrep Method: N/A QC Batch: Analyzed By: HJ125744Date Analyzed: 2015-10-21 Prep Batch: 106358 Sample Preparation: 2015-10-20 Prepared By: HJ

| | | | \mathbf{n} | | | |
|-----------|------|---------|--------------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | | 1,2,3,4 | < 50.0 | m mg/Kg | 1 | 50.0 |
| | | | | | | |

DI

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 38.5 | mg/Kg | 1 | 25.0 | 154 | 48.9 - 172 |

Sample: 406566 - W. Side SP/L 18'

Laboratory: Lubbock

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125722Date Analyzed: 2015-10-20 Analyzed By: JSPrep Batch: 106344 Sample Preparation: 2015-10-20 Prepared By: JS

| | | | RL | | | |
|-----------|------|---------|--------|---------------------------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | | 1,2,3,4 | < 4.00 | mg/Kg | 1 | 4.00 |

Report Date: October 22, 2015

15-0143-01 (2)

Work Order: 15101611 Townsend 16" Pipeline

Spike Percent Recovery Cert Flag Result Units Dilution Amount Recovery Limits Surrogate Trifluorotoluene (TFT) 1.50 mg/Kg 2.00 75 76.5 - 130 1 Qsr 3 68.4 - 120 4-Bromofluorobenzene (4-BFB) 1.76 mg/Kg1 2.00 88

Sample: 406567 - W. Side NP/L 18'

Laboratory:

Lubbock

Analysis: Chloride (IC) QC Batch: 125761 Prep Batch: 106385

Analytical Method: E 300.02015-10-21 Date Analyzed:

Sample Preparation:

Prep Method: N/A Analyzed By: RLPrepared By: RL

Page Number: 7 of 17

Lea Co, NM

RLDilution Parameter Flag Cert Result Units RLChloride < 25.0mg/Kg 1 25.0 3,4,5

Sample: 406567 - W. Side NP/L 18'

Laboratory: Lubbock

Parameter

Analysis: TPH DRO QC Batch: 125744Prep Batch: 106358

Analytical Method: S 8015 D Date Analyzed: 2015-10-21 Sample Preparation: 2015-10-20

RL

Result

Dilution RL

Prep Method:

Analyzed By:

Prepared By:

N/A

HJ

HJ

| DRO | | | 1,2,3,4 | | 50.0 | $\mathrm{mg/Kg}$ | 1 | 50.0 |
|-------------|------|------|---------|-------|----------|------------------|---------------------|--------------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
| n-Tricosane | | 3 | 38.6 | mg/Kg | 1 | 25.0 | 154 | 48.9 - 172 |

Cert

Sample: 406567 - W. Side NP/L 18'

Laboratory: Lubbock

Analysis: TPH GRO QC Batch: 125722Date Analyzed: Prep Batch: 106344

Flag

Analytical Method: S 8015 D Prep Method: S 5035 2015-10-20 Analyzed By: JSSample Preparation: 2015-10-20 Prepared By: JS

Units

RLParameter Flag Cert Result Units Dilution RLGRO < 4.00 4.00 mg/Kg U 1,2,3,4

Report Date: October 22, 2015 15-0143-01 (2)

Work Order: 15101611 Townsend 16" Pipeline Page Number: 8 of 17

Lea Co, NM

| G | DI. | G . | D 1 | TT * | D:1 - : | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|------------------------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 3 | 1.75 | mg/Kg | 1 | 2.00 | 88 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | 3 | 1.77 | mg/Kg | 1 | 2.00 | 88 | 68.4 - 120 |

Report Date: October 22, 2015 Work Order: 15101611 Page Number: 9 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Method Blanks

Method Blank (1) QC Batch: 125722

QC Batch: 125722 Date Analyzed: 2015-10-20 Analyzed By: JS Prep Batch: 106344 QC Preparation: 2015-10-20 Prepared By: JS

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 3 | 1.98 | mg/Kg | 1 | 2.00 | 99 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | 3 | 1.86 | mg/Kg | 1 | 2.00 | 93 | 68.4 - 120 |

Method Blank (1) QC Batch: 125744

QC Batch: 125744 Date Analyzed: 2015-10-21 Analyzed By: HJ Prep Batch: 106358 QC Preparation: 2015-10-20 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|--------------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 30.6 | ${ m mg/Kg}$ | 1 | 25.0 | 122 | 48.9 - 172 |

Method Blank (1) QC Batch: 125761

QC Batch: 125761 Date Analyzed: 2015-10-21 Analyzed By: RL Prep Batch: 106385 QC Preparation: 2015-10-21 Prepared By: RL

Report Date: October 22, 2015 Work Order: 15101611 Page Number: 10 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 125722 Date Analyzed: 2015-10-20 Analyzed By: JS Prep Batch: 106344 QC Preparation: 2015-10-20 Prepared By: JS

| | | | LCS | | | $_{\mathrm{Spike}}$ | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|---------------------|---------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 1,2,3,4 | 16.8 | mg/Kg | 1 | 20.0 | < 0.641 | 84 | 60.3 - 120 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|---------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 1,2,3,4 | 16.6 | mg/Kg | 1 | 20.0 | < 0.641 | 83 | 60.3 - 120 | 1 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|---|--------|--------|---------------------------|------|------------------------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 3 | 1.72 | 1.87 | mg/Kg | 1 | 2.00 | 86 | 94 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 3 | 1.83 | 1.89 | mg/Kg | 1 | 2.00 | 92 | 94 | 68.4 - 120 |

Laboratory Control Spike (LCS-1)

QC Batch: 125744 Date Analyzed: 2015-10-21 Analyzed By: HJ Prep Batch: 106358 QC Preparation: 2015-10-20 Prepared By: HJ

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 429 | mg/Kg | 1 | 500 | < 5.22 | 86 | 60.9 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|---|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 512 | mg/Kg | 1 | 500 | < 5.22 | 102 | 60.9 - 130 | 18 | 20 |

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 35.2 | 39.5 | mg/Kg | 1 | 25.0 | 141 | 158 | 48.9 - 172 |

Report Date: October 22, 2015 Work Order: 15101611 Page Number: 11 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Laboratory Control Spike (LCS-1)

QC Batch: 125761 Date Analyzed: 2015-10-21 Analyzed By: RL Prep Batch: 106385 QC Preparation: 2015-10-21 Prepared By: RL

LCS Spike Matrix Rec. F Param \mathbf{C} Result Units Dil. Amount Result Limit Rec. 90 - 110 Chloride 251 mg/Kg 250 < 8.34 100 3,4,5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,5 | 253 | mg/Kg | 1 | 250 | < 8.34 | 101 | 90 - 110 | 1 | 20 |

Report Date: October 22, 2015 Work Order: 15101611 Page Number: 12 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 406567

QC Batch: 125722 Date Analyzed: 2015-10-20 Analyzed By: JS Prep Batch: 106344 QC Preparation: 2015-10-20 Prepared By: JS

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|------------------------|---------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 1,2,3,4 | 14.8 | mg/Kg | 1 | 20.0 | < 0.641 | 74 | 25 - 139 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|-----------------|--------|-------|------|--------|---------|------|----------|-----|-------|
| Param | \mathbf{F} | $^{\mathrm{C}}$ | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 1,2,3,4 | 16.8 | mg/Kg | 1 | 20.0 | < 0.641 | 84 | 25 - 139 | 13 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|---|--------|--------|---------------------------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 3 | 1.57 | 1.82 | mg/Kg | 1 | 2 | 78 | 91 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 3 | 1.76 | 1.87 | mg/Kg | 1 | 2 | 88 | 94 | 68.4 - 120 |

Matrix Spike (xMS-1) Spiked Sample: 406657

QC Batch: 125744 Date Analyzed: 2015-10-21 Analyzed By: HJ Prep Batch: 106358 QC Preparation: 2015-10-20 Prepared By: HJ

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 433 | mg/Kg | 1 | 500 | 8.25 | 85 | 47.9 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | $_{ m Spike}$ | Matrix | | Rec. | | RPD |
|-------|---|--------------|--------|-------|------|---------------|--------|------|------------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 399 | mg/Kg | 1 | 500 | 8.25 | 78 | 47.9 - 130 | 8 | 20 |

| | | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 35.0 | 28.5 | mg/Kg | 1 | 25 | 140 | 114 | 48.9 - 172 |

Report Date: October 22, 2015 Work Order: 15101611 Page Number: 13 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spike (MS-1) Spiked Sample: 406567

QC Batch: 125761 Date Analyzed: 2015-10-21 Analyzed By: RL Prep Batch: 106385 QC Preparation: 2015-10-21 Prepared By: RL

MSSpike Matrix Rec. F Param \mathbf{C} Result Units Dil. Amount Result Limit Rec. 80 - 120 Chloride 259 mg/Kg 250 10.7 99 3,4,5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,5 | 259 | mg/Kg | 1 | 250 | 10.7 | 99 | 80 - 120 | 0 | 20 |

Report Date: October 22, 2015 Work Order: 15101611 Page Number: 14 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Calibration Standards

Standard (CCV-1)

QC Batch: 125722 Date Analyzed: 2015-10-20 Analyzed By: JS

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 1,2,3,4 | mg/Kg | 1.00 | 0.999 | 100 | 80 - 120 | 2015-10-20 |

Standard (CCV-2)

QC Batch: 125722 Date Analyzed: 2015-10-20 Analyzed By: JS

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 1,2,3,4 | mg/Kg | 1.00 | 0.887 | 89 | 80 - 120 | 2015-10-20 |

Standard (CCV-1)

QC Batch: 125744 Date Analyzed: 2015-10-21 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 496 | 99 | 80 - 120 | 2015-10-21 |

Standard (CCV-2)

QC Batch: 125744 Date Analyzed: 2015-10-21 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|-----------------------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 402 | 80 | 80 - 120 | 2015-10-21 |

Report Date: October 22, 2015 Work Order: 15101611 Page Number: 15 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Standard (CCV-1)

QC Batch: 125761 Date Analyzed: 2015-10-21 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-------|-----------------|-----------------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,5 | mg/Kg | 25.0 | 25.0 | 100 | 90 - 110 | 2015-10-21 |

Standard (CCV-2)

QC Batch: 125761 Date Analyzed: 2015-10-21 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,5 | mg/Kg | 25.0 | 25.3 | 101 | 90 - 110 | 2015-10-21 |

Report Date: October 22, 2015 Work Order: 15101611 Page Number: 16 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|---------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | L-A-B | L2418 | Lubbock |
| 2 | Kansas | Kansas E- 10317 | Lubbock |
| 3 | LELAP | LELAP-02003 | Lubbock |
| 4 | NELAP | T104704219-15-11 | Lubbock |
| 5 | | 2014-018 | Lubbock |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
 - Qc Calibration check outside of laboratory limits.
 - Qr RPD outside of laboratory limits
 - Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.

Report Date: October 22, 2015 Work Order: 15101611 Page Number: 17 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

F Description

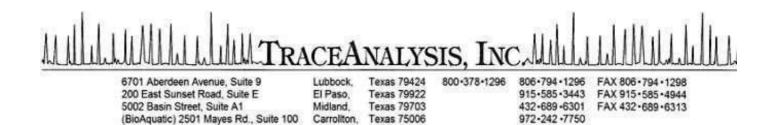
U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

Þ



Certifications

E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Report Date: November 3, 2015

15102023

Work Order:

Mark Larson Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM

Project Name: Townsend 16" Pipeline

Project Number: 15-0143-01 (2)

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | 1 ime | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 406695 | Ramp | soil | 2015-10-19 | 14:52 | 2015-10-20 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

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Case Narrative

Samples for project Townsend 16" Pipeline were received by TraceAnalysis, Inc. on 2015-10-20 and assigned to work order 15102023. Samples for work order 15102023 were received intact at a temperature of 5.1 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------------|------------|--------|-----------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| Chloride (IC) | E 300.0 | 106633 | 2015-11-02 at 16:00 | 126045 | 2015-11-02 at 22:54 |
| TPH DRO | S 8015 D | 106379 | 2015-10-21 at 08:00 | 125762 | 2015-10-22 at 11:15 |
| TPH GRO | S 8015 D | 106375 | 2015-10-21 at $13:55$ | 125755 | 2015-10-21 at $13:55$ |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15102023 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: November 3, 2015 Work Order: 15102023 Page Number: 5 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Analytical Report

Sample: 406695 - Ramp

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: Chloride (IC) E 300.0N/AQC Batch: 126045 Date Analyzed: 2015-11-02 Analyzed By: RLPrep Batch: 106633 Sample Preparation: Prepared By: RL

Sample: 406695 - Ramp

Laboratory: Lubbock

TPH DRO Analysis: Analytical Method: S 8015 D Prep Method: N/AQC Batch: 125762Date Analyzed: 2015-10-22 Analyzed By: HJPrep Batch: 106379 Sample Preparation: 2015-10-21 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 27.9 | mg/Kg | 1 | 25.0 | 112 | 48.9 - 172 |

Sample: 406695 - Ramp

Laboratory: Lubbock

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125755 Date Analyzed: 2015-10-21 Analyzed By: JSPrep Batch: 106375Sample Preparation: 2015 - 10 - 21Prepared By: JS

| | | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------|-----|-------------|-----------------------|--------|-------|----------|---------------|----------|------------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | Qsr | $_{ m Qsr}$ | 3 | 1.31 | mg/Kg | 1 | 2.00 | 66 | 76.5 - 130 |

 $continued \dots$

Report Date: November 3, 2015 15-0143-01 (2)

Work Order: 15102023 Townsend 16" Pipeline Page Number: 6 of 15

Lea Co, NM

 $sample\ continued\ \dots$

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|---------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| 4-Bromofluorobenzene (4-BFB) | | 3 | 1.74 | mg/Kg | 1 | 2.00 | 87 | 68.4 - 120 |

Report Date: November 3, 2015 Work Order: 15102023 Page Number: 7 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Method Blanks

Method Blank (1) QC Batch: 125755

QC Batch: 125755 Date Analyzed: 2015-10-21 Analyzed By: JS Prep Batch: 106375 QC Preparation: 2015-10-21 Prepared By: JS

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 3 | 1.84 | mg/Kg | 1 | 2.00 | 92 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | 3 | 1.77 | mg/Kg | 1 | 2.00 | 88 | 68.4 - 120 |

Method Blank (1) QC Batch: 125762

QC Batch: 125762 Date Analyzed: 2015-10-22 Analyzed By: HJ Prep Batch: 106379 QC Preparation: 2015-10-21 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 31.0 | mg/Kg | 1 | 25.0 | 124 | 48.9 - 172 |

Method Blank (1) QC Batch: 126045

QC Batch: 126045 Date Analyzed: 2015-11-02 Analyzed By: RL Prep Batch: 106633 QC Preparation: 2015-11-02 Prepared By: RL

Report Date: November 3, 2015 Work Order: 15102023 Page Number: 8 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 125755 Date Analyzed: 2015-10-21 Analyzed By: JS Prep Batch: 106375 QC Preparation: 2015-10-21 Prepared By: JS

| | | | LCS | | | $_{\mathrm{Spike}}$ | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|---------------------|---------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 1,2,3,4 | 16.1 | mg/Kg | 1 | 20.0 | < 0.641 | 80 | 60.3 - 120 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|---------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 1,2,3,4 | 18.0 | mg/Kg | 1 | 20.0 | < 0.641 | 90 | 60.3 - 120 | 11 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|---|--------|--------|---------------------------|------|------------------------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 3 | 1.77 | 1.77 | mg/Kg | 1 | 2.00 | 88 | 89 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 3 | 1.87 | 1.90 | mg/Kg | 1 | 2.00 | 94 | 95 | 68.4 - 120 |

Laboratory Control Spike (LCS-1)

QC Batch: 125762 Date Analyzed: 2015-10-22 Analyzed By: HJ Prep Batch: 106379 QC Preparation: 2015-10-21 Prepared By: HJ

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 440 | mg/Kg | 1 | 500 | < 5.22 | 88 | 60.9 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | $_{\rm Spike}$ | Matrix | | Rec. | | RPD |
|-------|---|--------------|--------|-------|------|----------------|--------|------|------------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 448 | mg/Kg | 1 | 500 | < 5.22 | 90 | 60.9 - 130 | 2 | 20 |

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 32.0 | 32.4 | mg/Kg | 1 | 25.0 | 128 | 130 | 48.9 - 172 |

Report Date: November 3, 2015 Work Order: 15102023 Page Number: 9 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Laboratory Control Spike (LCS-1)

QC Batch: 126045 Date Analyzed: 2015-11-02 Analyzed By: RL Prep Batch: 106633 QC Preparation: 2015-11-02 Prepared By: RL

LCS Spike Matrix Rec. F Param \mathbf{C} Result Units Dil. Amount Result Limit Rec. 90 - 110 Chloride 254 mg/Kg 250 < 8.34 102 3,4,5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,5 | 256 | mg/Kg | 1 | 250 | < 8.34 | 102 | 90 - 110 | 1 | 20 |

Report Date: November 3, 2015 Work Order: 15102023 Page Number: 10 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 406674

QC Batch: 125755 Date Analyzed: 2015-10-21 Analyzed By: JS Prep Batch: 106375 QC Preparation: 2015-10-21 Prepared By: JS

| | | | MS | | | $_{ m Spike}$ | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|---------------|---------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 1,2,3,4 | 15.2 | mg/Kg | 1 | 20.0 | < 0.641 | 76 | 25 - 139 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|---|--------------|--------|-------|------|--------|---------|------|----------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 1,2,3,4 | 14.3 | mg/Kg | 1 | 20.0 | < 0.641 | 72 | 25 - 139 | 6 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|---|--------|--------|---------------------------|------|------------------------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 3 | 1.58 | 1.50 | mg/Kg | 1 | 2 | 79 | 75 | 76.5 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 3 | 1.80 | 1.72 | mg/Kg | 1 | 2 | 90 | 86 | 68.4 - 120 |

Matrix Spike (xMS-1) Spiked Sample: 406730

QC Batch: 125762 Date Analyzed: 2015-10-22 Analyzed By: HJ Prep Batch: 106379 QC Preparation: 2015-10-21 Prepared By: HJ

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 1660 | mg/Kg | 1 | 500 | 1200 | 92 | 47.9 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | $_{ m Spike}$ | Matrix | | Rec. | | RPD |
|-------|---|--------------|--------|-------|------|---------------|--------|------|------------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 1650 | mg/Kg | 1 | 500 | 1200 | 90 | 47.9 - 130 | 1 | 20 |

| | | | | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|-----|-----|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | Qsr | Qsr | 3 | 75.5 | 72.1 | mg/Kg | 1 | 25 | 302 | 288 | 48.9 - 172 |

Report Date: November 3, 2015 Work Order: 15102023 Page Number: 11 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spike (MS-1) Spiked Sample: 406904

QC Batch: 126045 Date Analyzed: 2015-11-02 Analyzed By: RL Prep Batch: 106633 QC Preparation: 2015-11-02 Prepared By: RL

MSSpike Matrix Rec. Param \mathbf{F} \mathbf{C} Result Units Dil. Amount Result Rec. Limit Chloride 590 50 250 538 80 - 120 Qs Qs 3,4,5 mg/Kg21

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | Qs | Qs | 3,4,5 | 593 | mg/Kg | 50 | 250 | 538 | 22 | 80 - 120 | 0 | 20 |

Report Date: November 3, 2015 Work Order: 15102023 Page Number: 12 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Calibration Standards

Standard (CCV-1)

QC Batch: 125755 Date Analyzed: 2015-10-21 Analyzed By: JS

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-----------------------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 1,2,3,4 | mg/Kg | 1.00 | 0.912 | 91 | 80 - 120 | 2015-10-21 |

Standard (CCV-2)

QC Batch: 125755 Date Analyzed: 2015-10-21 Analyzed By: JS

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 1,2,3,4 | mg/Kg | 1.00 | 0.945 | 94 | 80 - 120 | 2015-10-21 |

Standard (CCV-1)

QC Batch: 125762 Date Analyzed: 2015-10-22 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 426 | 85 | 80 - 120 | 2015-10-22 |

Standard (CCV-2)

QC Batch: 125762 Date Analyzed: 2015-10-22 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|-----------------------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 423 | 85 | 80 - 120 | 2015-10-22 |

Report Date: November 3, 2015 Work Order: 15102023 Page Number: 13 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Standard (CCV-1)

QC Batch: 126045 Date Analyzed: 2015-11-02 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-----------------------|-------|-----------------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,5 | mg/Kg | 25.0 | 25.4 | 102 | 90 - 110 | 2015-11-02 |

Standard (CCV-2)

QC Batch: 126045 Date Analyzed: 2015-11-02 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-----------------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,5 | mg/Kg | 25.0 | 25.7 | 103 | 90 - 110 | 2015-11-02 |

Report Date: November 3, 2015 Work Order: 15102023 Page Number: 14 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|---------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | L-A-B | L2418 | Lubbock |
| 2 | Kansas | Kansas E- 10317 | Lubbock |
| 3 | LELAP | LELAP-02003 | Lubbock |
| 4 | NELAP | T104704219-15-11 | Lubbock |
| 5 | | 2014-018 | Lubbock |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
 - Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.

Report Date: November 3, 2015 Work Order: 15102023 Page Number: 15 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

F Description

U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

LAB Order 10 # [5|09033

₹

Brandon & Clark 3403 Industrial Bivd. **Hobbs, NM 88240** Tel (575) 392-7561 Fax (575) 392-4508 Turn Around Time if different from standard 0 Oac Ca, Mg, K, TDS, EC , BN Circle or Specify Method NO3 -N' NO5 -N' bO4 -b' Alkalinity 'ÞOS Moisture Content **ANALYSIS REQUEST** BioAquatic Testing 2501 Mayes Rd., Ste 100 Carrollton, Texas 75006 Tel (972) 242-7750 Dry Weight Basis Required Page_ Check If Special Reporting Limits Are Needed TRRP Report Required Pesticides 8081 / 608 PCB's 8082 / 608 GC/MS Semi. Vol. 8270 / 625 REMARKS GC/W2 A91: 8560 / 624 **BCI** TCLP Pesticides TCLP Semi Volatiles Headspace Y/N/NA LAB USE TCLP Volatiles 200 East Sunset Rd., Suite E El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443 ш ONLY TCLP Metals Ag As Ba Cd Cr Pb Se Hg Intact Y / N Log-in-Review Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7 PAH 8270 / 625 TPH 8015 GRO / DRO / TVHC ਹ ုပ TPH 418.1 / TX1005 / TX1005 Ext(C35) 1020-514.10cors.0 \$021 \ 602 \ 8260 \ 624 **STEX** Time: INST **BTM** 429 / 0928 / 209 / 1208 OBS **INST** OBS COR INST COR 4.52 SAMPLING **TIME** 5002 Basin Street, Suite A1 **Midland, Texas 79703** Tel (432) 689-6301 Fax (432) 689-6313 Time: 18/6/15 Time: . Hant DATE 0456 0 Date: Date: Date: \leq NONE **PRESERVATIVE** Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C. O ICE METHOD Sampler Signature: Phone #: HObN ۲ 10 womend 16 Company: Company: Company: [⊅]OS^zH (452) 69 **Project Name** 6701 Aberdeen Avenue, Suite 9 **Lubbock, Texas 79:24**Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296 ^EONH HCI Received by: Received by STUDGE MATRIX Received ЯIA COIL 100g **A**3TAW 14:20 Time: S JnuomA \ emuloV Time 10/2415 FraceAnalysis, Inc. # CONTAINERS D Te Date: Date: Loworn + Associates Kanp (Comparty email: lab@traceanalysis.com D T FIELD CODE 507 N Mericages Company Company 2 Company Larson V Q Project Location (including state) (Street, City, Zip) Project #: | 5 - 01/3 -(If different from above) O Relinquished by Relinquished by Relinguished by N ELK Company Name: Contact Person 4 Space Ch LAB USE) ONLY Invoice to: Address: LAB#

SOCC IVINITION

Carrier #

Circle or Specify Method No. ANALYSIS REQUEST BioAquatic Testing 2501 Mayes Rd., Ste 100 **Carrollton, Texas 75006** Tel (972) 242-7750 Page Dry Weight Basis Required Check If Special Reporting Limits Are Needed BOD, TSS, pH TRRP Report Required Pesticides 8081 / 608 PCB's 8082 / 608 GC/MS Semi. Vol. 8270 / 625 REMARKS GC/WS A91, 8260 / 624 **BCI** TCLP Pesticides TCLP Semi Volatiles Spra LAB USE 200 East Sunset Rd., Suite El Paso, Taxas 79922 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443 Suite TCLP Metals Ag As Ba Cd Cr Pb Se Hg INST TO LOG-In-Review Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7 PAH 8270 / 625 TPH 8015 GRO / DRO / TVHC INSTAL P. TPH 418.1 / TX1005 / TX1005 Ext(C35) IV. OCORS. 0 8021 / 602 / 8260 / 624 **BTEX** \$ 55 COR 3. 8021 / 602 / 8260 / 624 **MTBE** OBS INST COR 4:52 SAMPLING TIME 5002 Basin Street, Suite A1 **Midland, Texas 79703** Tel (432) 689-6301 Fax (432) 689-6313 Time: 19/15 Time: Time: , Dont **BATE** 50201 090 0456 Date: 5 NONE **PRESERVATIVE** Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C. METHOD ICE -1.69 687 Sampler Signature: NaOH 2 Company: Company: Company: PSO H 6701 Aberdeen Avenue, Suite 9 **Lubbock, Texas 79424**Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296 Project Name HNO3 (432) (452) Townson Phone # HCI Received by STADGE Received by MATRIX AIR SOIL Tong **ABTAW** 14.20 19.4 265 Time: Volume / Amount Time: Time: 8 fraceAnalysis, Inc. # CONTAINERS 10/2415 1AB Order 1D# 1010 40 42 Associates Date: Date: 00-90 email: lab@traceanalysis.com DE Kamp (Comparty 507 N Mericayad FIELD CODE Larson V Company: Company: Company: Project Location (including state) 3 (Street, City, Zip) 15-0113-(If different from above) + 0 Coops. Relinquished by: ME-14 Relinquished-by Relinquished by Company Name: Contact Person: Aa LAB USE ONLY さるらん Invoice to: Project #: Address: LAB #

PIOH

O. DE

Moisture Content C, F, SO₄, NO₃-I

Na, Ca, Mg, K, TDS, EC

Turn Around Time if different from standard

NO₃ -N, NO₂ -N, PO₄ -P, Alkalinity

Brandon & Clark 3403 Industrial Blvd. **Hobbs, NM 88240** Tel (575) 392-7561 Fax (575) 392-4508

of

VECO INIMIPIEC

Carrier #



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Report Date: October 28, 2015

15102313

Work Order:

Mark Larson Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM

Project Name: Townsend 16" Pipeline

Project Number: 15-0143-01 (2)

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | 111116 | Date |
|--------|---------------|--------|------------|--------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 406933 | East Wall 23' | soil | 2015-10-22 | 10:35 | 2015-10-23 |
| 406934 | Mid SP/L 21' | soil | 2015-10-22 | 10:38 | 2015-10-23 |
| 406935 | West Wall 21' | soil | 2015-10-22 | 13:21 | 2015-10-23 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 17 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

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Case Narrative

Samples for project Townsend 16" Pipeline were received by TraceAnalysis, Inc. on 2015-10-23 and assigned to work order 15102313. Samples for work order 15102313 were received intact at a temperature of 3.1 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------------|------------|--------|-----------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| Chloride (IC) | E 300.0 | 106539 | 2015-10-28 at 08:30 | 125928 | 2015-10-28 at 09:30 |
| TPH DRO | S 8015 D | 106478 | 2015-10-26 at $08:03$ | 125860 | 2015-10-27 at $08:24$ |
| TPH GRO | S $8015 D$ | 106509 | 2015-10-27 at $15:15$ | 125893 | 2015-10-28 at $07:33$ |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15102313 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: October 28, 2015 Work Order: 15102313 Page Number: 5 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Analytical Report

Sample: 406933 - East Wall 23'

Laboratory: Lubbock

Prep Method: Analysis: Chloride (IC) Analytical Method: E 300.0 N/AQC Batch: 125928 Date Analyzed: 2015-10-28 Analyzed By: RLPrep Batch: 106539 Sample Preparation: Prepared By: RL

Sample: 406933 - East Wall 23'

Laboratory: Midland

TPH DRO Analysis: Analytical Method: S 8015 D Prep Method: N/AQC Batch: 125860 Date Analyzed: 2015-10-27 Analyzed By: AK Prep Batch: 106478 Sample Preparation: 2015-10-26 Prepared By: AK

Spike Percent Recovery Surrogate Flag Cert Result Units Dilution Amount Recovery Limits n-Tricosane 42.7 50.0 70 - 130 mg/Kg1 85

Sample: 406933 - East Wall 23'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125893 Date Analyzed: 2015-10-28 Analyzed By: AK Prep Batch: 106509 Sample Preparation: 2015-10-27 Prepared By: AK

Percent Recovery Spike Surrogate Flag Cert Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 70 - 130 1.80 mg/Kg 2.00 90

 $continued \dots$

Report Date: October 28, 2015

Work Order: 15102313 Townsend 16" Pipeline

sample continued ...

15-0143-01 (2)

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| 4-Bromofluorobenzene (4-BFB) | | | 1.87 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |

Sample: 406934 - Mid SP/L 21'

Laboratory: Lubbock

CII II (IC)

Analysis: Chloride (IC) QC Batch: 125928 Prep Batch: 106539 Analytical Method: E 300.0 Date Analyzed: 2015-10-28

Sample Preparation:

Prep Method: N/A Analyzed By: RL

RL

N/A

AK

RL

Prepared By:

Page Number: 6 of 17

Lea Co, NM

Sample: 406934 - Mid SP/L 21'

Laboratory: Midland

Parameter

Parameter

 \overline{GRO}

Analysis: TPH DRO QC Batch: 125860 Prep Batch: 106478 Analytical Method: S 8015 D
Date Analyzed: 2015-10-27
Sample Preparation: 2015-10-26

RL

Result

< 4.00

Prepared By: AK

Prep Method: S 5035

AK

AK

4.00

Analyzed By:

Prepared By:

Prep Method:

Analyzed By:

Dilution

| DRO | | Qr | 5 | | 171 | mg/Kg | 1 | 50.0 |
|-----------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |

Cert

5

| | | | | | | Sріке | Percent | Recovery |
|-------------|------|------|--------|--------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 43.6 | ${ m mg/Kg}$ | 1 | 50.0 | 87 | 70 - 130 |

Sample: 406934 - Mid SP/L 21'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D QC Batch: 125893 Date Analyzed: 2015-10-28 Prep Batch: 106509 Sample Preparation: 2015-10-27

Flag

Qr,U

Flag

RL
Cert Result Units Dilution RL

mg/Kg

Units

Report Date: October 28, 2015 15-0143-01 (2) Work Order: 15102313 Townsend 16" Pipeline Page Number: 7 of 17

Lea Co, NM

| | | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.87 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.84 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |

Sample: 406935 - West Wall 21'

Laboratory: Lubbock

Analysis: Chloride (IC)

Analytical Method: E 300.0

QC Batch: 125928

Prep Batch: 106539

Analytical Method: E 300.0

Date Analyzed: 2015-10-28

Analyzed By: RL

Prepared By: RL

RL Dilli

| | | | ILL | | | |
|-----------|------|-----------------------|--------|---------------------------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,6 | 112 | mg/Kg | 1 | 25.0 |

Sample: 406935 - West Wall 21'

Laboratory: Midland

TPH DRO Analytical Method: S 8015 D Prep Method: N/AAnalysis: QC Batch: 125860 Date Analyzed: 2015-10-27 Analyzed By: AKPrep Batch: 106478 Sample Preparation: 2015-10-26 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 46.6 | mg/Kg | 1 | 50.0 | 93 | 70 - 130 |

Sample: 406935 - West Wall 21'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125893 2015-10-28 Analyzed By: AKDate Analyzed: Prep Batch: 106509 Sample Preparation: 2015-10-27 Prepared By: AK

Report Date: October 28, 2015 15-0143-01 (2)

Work Order: 15102313 Townsend 16" Pipeline Page Number: 8 of 17

Lea Co, NM

| | | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.73 | mg/Kg | 1 | 2.00 | 86 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.78 | mg/Kg | 1 | 2.00 | 89 | 70 - 130 |

Report Date: October 28, 2015 Work Order: 15102313 Page Number: 9 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Method Blanks

Method Blank (1) QC Batch: 125860

QC Batch: 125860 Date Analyzed: 2015-10-27 Analyzed By: AK Prep Batch: 106478 QC Preparation: 2015-10-26 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|-------------|-----------------------|------|--------|--------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 44.0 | ${ m mg/Kg}$ | 1 | 50.0 | 88 | 70 - 130 |

Method Blank (1) QC Batch: 125893

QC Batch: 125893 Date Analyzed: 2015-10-28 Analyzed By: AK Prep Batch: 106509 QC Preparation: 2015-10-27 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.80 | mg/Kg | 1 | 2.00 | 90 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.77 | mg/Kg | 1 | 2.00 | 88 | 70 - 130 |

Method Blank (1) QC Batch: 125928

QC Batch: 125928 Date Analyzed: 2015-10-28 Analyzed By: RL Prep Batch: 106539 QC Preparation: 2015-10-28 Prepared By: RL

Report Date: October 28, 2015 Work Order: 15102313 Page Number: 10 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 125860 Date Analyzed: 2015-10-27 Analyzed By: AK Prep Batch: 106478 QC Preparation: 2015-10-26 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 5 | 209 | mg/Kg | 1 | 250 | < 6.88 | 84 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 5 | 200 | mg/Kg | 1 | 250 | < 6.88 | 80 | 70 - 130 | 4 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 43.7 | 44.2 | mg/Kg | 1 | 50.0 | 87 | 88 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 125893 Date Analyzed: 2015-10-28 Analyzed By: AK Prep Batch: 106509 QC Preparation: 2015-10-27 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 5 | 23.3 | mg/Kg | 1 | 20.0 | < 2.32 | 116 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 21.7 | mg/Kg | 1 | 20.0 | < 2.32 | 108 | 70 - 130 | 7 | 20 |

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.94 | 1.88 | mg/Kg | 1 | 2.00 | 97 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.97 | 1.89 | mg/Kg | 1 | 2.00 | 98 | 94 | 70 - 130 |

Report Date: October 28, 2015 Work Order: 15102313 Page Number: 11 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Laboratory Control Spike (LCS-1)

QC Batch: 125928 Date Analyzed: 2015-10-28 Analyzed By: RL Prep Batch: 106539 QC Preparation: 2015-10-28 Prepared By: RL

LCS Spike Matrix Rec. F Param \mathbf{C} Result Units Dil. Amount Result Rec. Limit 90 - 110 Chloride 248 mg/Kg 250 < 8.34 99 3,4,6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|---|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 249 | mg/Kg | 1 | 250 | < 8.34 | 100 | 90 - 110 | 0 | 20 |

Report Date: October 28, 2015 Work Order: 15102313 Page Number: 12 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 406935

QC Batch: 125860 Date Analyzed: 2015-10-27 Analyzed By: AK Prep Batch: 106478 QC Preparation: 2015-10-26 Prepared By: AK

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|------------------------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 5 | 313 | mg/Kg | 1 | 250 | < 6.88 | 125 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | Qr | Qr | 5 | 214 | mg/Kg | 1 | 250 | < 6.88 | 86 | 70 - 130 | 38 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 51.7 | 42.3 | mg/Kg | 1 | 50 | 103 | 85 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 406935

QC Batch: 125893 Date Analyzed: 2015-10-28 Analyzed By: AK Prep Batch: 106509 QC Preparation: 2015-10-27 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | Qs | Qs | 5 | 9.71 | mg/Kg | 1 | 20.0 | < 2.32 | 48 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|-------|---------------|---|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | С | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | Qr,Qs | $_{ m Qr,Qs}$ | 5 | 13.5 | mg/Kg | 1 | 20.0 | < 2.32 | 68 | 70 - 130 | 33 | 20 |

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.59 | 1.90 | mg/Kg | 1 | 2 | 80 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.78 | 1.99 | mg/Kg | 1 | 2 | 89 | 100 | 70 - 130 |

Report Date: October 28, 2015 Work Order: 15102313 Page Number: 13 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spike (MS-1) Spiked Sample: 406935

QC Batch: 125928 Date Analyzed: 2015-10-28 Analyzed By: RL Prep Batch: 106539 QC Preparation: 2015-10-28 Prepared By: RL

MSSpike Matrix Rec. F Param \mathbf{C} Result Units Dil. Amount Result Limit Rec. 80 - 120 Chloride 349 mg/Kg 250 112 95 3,4,6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 353 | mg/Kg | 1 | 250 | 112 | 96 | 80 - 120 | 1 | 20 |

Report Date: October 28, 2015 Work Order: 15102313 Page Number: 14 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Calibration Standards

Standard (CCV-1)

| QC Batch: | 125860 | Date Analyzed: | 2015-10-27 | Analyzed By: | AK |
|-----------|--------|----------------|------------|--------------|----|
|-----------|--------|----------------|------------|--------------|----|

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 5 | mg/Kg | 250 | 225 | 90 | 80 - 120 | 2015-10-27 |

Standard (CCV-2)

| QC Batch: 125860 Date Analyzed: 2015-10-27 Analyzed By: | QC Batch: | 125860 | Date Analyzed: 2015-10-27 | Analyzed By: Al |
|---|-----------|--------|---------------------------|-----------------|
|---|-----------|--------|---------------------------|-----------------|

| | | | | $\begin{array}{c} { m CCVs} \\ { m True} \end{array}$ | $\begin{array}{c} { m CCVs} \\ { m Found} \end{array}$ | $\begin{array}{c} { m CCVs} \\ { m Percent} \end{array}$ | Percent Recovery | Date |
|-------|------|------|-------|---|--|--|---------------------|------------|
| | | | | rrue | round | rercent | necovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 5 | mg/Kg | 250 | 200 | 80 | 80 - 120 | 2015-10-27 |

Standard (CCV-1)

QC Batch: 125893 Date Analyzed: 2015-10-28 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-----------------|-----------------------|-----------------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 1.12 | 112 | 80 - 120 | 2015-10-28 |

Standard (CCV-2)

QC Batch: 125893 Date Analyzed: 2015-10-28 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.883 | 88 | 80 - 120 | 2015-10-28 |

Report Date: October 28, 2015 Work Order: 15102313 Page Number: 15 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Standard (CCV-1)

QC Batch: 125928 Date Analyzed: 2015-10-28 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-----------------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 24.8 | 99 | 90 - 110 | 2015-10-28 |

Standard (CCV-2)

QC Batch: 125928 Date Analyzed: 2015-10-28 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 25.1 | 100 | 90 - 110 | 2015-10-28 |

Report Date: October 28, 2015 Work Order: 15102313 Page Number: 16 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|---------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | L-A-B | L2418 | Lubbock |
| 2 | Kansas | Kansas E-10317 | Lubbock |
| 3 | LELAP | LELAP-02003 | Lubbock |
| 4 | NELAP | T104704219-15-11 | Lubbock |
| 5 | NELAP | T104704392-14-8 | Midland |
| 6 | | 2014-018 | Lubbock |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.

Report Date: October 28, 2015 Work Order: 15102313 Page Number: 17 of 17 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

F Description

Qsr Surrogate recovery outside of laboratory limits.

U The analyte is not detected above the SDL

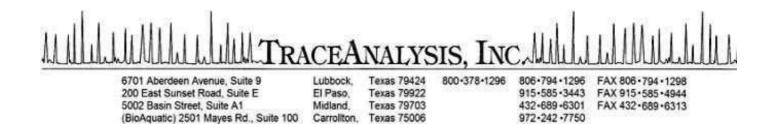
Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

WD#: 15102313

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| RELINGUISHED BY: (Signature) | ignature) | 2-01 | DATE/TIME | | RECEIVED BY: | BY: (S | Signature) | 5 | ì | NORMAL D | П | | RECEIVING TEMP:3. | 3.1 | THERM #: IR | 6 |
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Certifications

E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Report Date:

Work Order:

October 29, 2015

15102703

Mark Larson Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM

Project Name: Townsend 16" Pipeline

Project Number: 15-0143-01 (2)

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | 1 iiie | Date |
|--------|-------------|--------|------------|--------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 407044 | S. Wall 21' | soil | 2015-10-23 | 11:23 | 2015-10-27 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

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Case Narrative

Samples for project Townsend 16" Pipeline were received by TraceAnalysis, Inc. on 2015-10-27 and assigned to work order 15102703. Samples for work order 15102703 were received intact at a temperature of 4.4 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------------|------------|--------|-----------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| Chloride (IC) | E 300.0 | 106572 | 2015-10-29 at 08:30 | 125965 | 2015-10-29 at 09:33 |
| TPH DRO | S 8015 D | 106548 | 2015-10-28 at 11:00 | 125951 | 2015-10-29 at $12:49$ |
| TPH GRO | S 8015 D | 106509 | 2015-10-27 at $15:15$ | 125893 | 2015-10-28 at $07:33$ |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15102703 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: October 29, 2015 Work Order: 15102703 Page Number: 5 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Analytical Report

Sample: 407044 - S. Wall 21'

Laboratory: Lubbock

Prep Method: Analysis: Chloride (IC) Analytical Method: E 300.0 N/AQC Batch: 125965 Date Analyzed: 2015-10-29 Analyzed By: RL106572 Prep Batch: Sample Preparation: Prepared By: RL

Sample: 407044 - S. Wall 21'

Laboratory: Lubbock

TPH DRO Analysis: Analytical Method: S 8015 D Prep Method: N/AQC Batch: 125951Date Analyzed: 2015-10-29 Analyzed By: HJPrep Batch: 106548 Sample Preparation: 2015-10-28 Prepared By: HJ

Spike Percent Recovery Surrogate Flag Cert Result Units Dilution Amount Recovery Limits n-Tricosane 40.2 25.0 161 48.9 - 172 mg/Kg 1 5

Sample: 407044 - S. Wall 21'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 125893 Date Analyzed: 2015-10-28 Analyzed By: AK Prep Batch: 106509 Sample Preparation: 2015-10-27 Prepared By: AK

Percent Recovery Spike Surrogate Flag Cert Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 70 - 130 1.82 mg/Kg 2.00 91

 $continued \dots$

Report Date: October 29, 2015 15-0143-01 (2)

Work Order: 15102703 Townsend 16" Pipeline Page Number: 6 of 15

Lea Co, NM

 $sample\ continued\ \dots$

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| 4-Bromofluorobenzene (4-BFB) | | | 1.78 | mg/Kg | 1 | 2.00 | 89 | 70 - 130 |

Report Date: October 29, 2015 Work Order: 15102703 Page Number: 7 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Method Blanks

Method Blank (1) QC Batch: 125893

QC Batch: 125893 Date Analyzed: 2015-10-28 Analyzed By: AK Prep Batch: 106509 QC Preparation: 2015-10-27 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.80 | mg/Kg | 1 | 2.00 | 90 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.77 | mg/Kg | 1 | 2.00 | 88 | 70 - 130 |

Method Blank (1) QC Batch: 125951

QC Batch: 125951 Date Analyzed: 2015-10-29 Analyzed By: HJ Prep Batch: 106548 QC Preparation: 2015-10-28 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 5 | 34.5 | mg/Kg | 1 | 25.0 | 138 | 48.9 - 172 |

Method Blank (1) QC Batch: 125965

QC Batch: 125965 Date Analyzed: 2015-10-29 Analyzed By: RL Prep Batch: 106572 QC Preparation: 2015-10-29 Prepared By: RL

Report Date: October 29, 2015 Work Order: 15102703 Page Number: 8 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 125893 Date Analyzed: 2015-10-28 Analyzed By: AK Prep Batch: 106509 QC Preparation: 2015-10-27 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 8 | 23.3 | mg/Kg | 1 | 20.0 | < 2.32 | 116 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 8 | 21.7 | mg/Kg | 1 | 20.0 | < 2.32 | 108 | 70 - 130 | 7 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|--------|--------|---------------------------|------|------------------------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.94 | 1.88 | mg/Kg | 1 | 2.00 | 97 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.97 | 1.89 | mg/Kg | 1 | 2.00 | 98 | 94 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 125951 Date Analyzed: 2015-10-29 Analyzed By: HJ Prep Batch: 106548 QC Preparation: 2015-10-28 Prepared By: HJ

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 2,3,5,7 | 553 | mg/Kg | 1 | 500 | < 5.22 | 111 | 60.9 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 2,3,5,7 | 617 | mg/Kg | 1 | 500 | < 5.22 | 123 | 60.9 - 130 | 11 | 20 |

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 5 | 35.1 | 38.6 | mg/Kg | 1 | 25.0 | 140 | 154 | 48.9 - 172 |

Report Date: October 29, 2015 Work Order: 15102703 Page Number: 9 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Laboratory Control Spike (LCS-1)

QC Batch: 125965 Date Analyzed: 2015-10-29 Analyzed By: RL Prep Batch: 106572 QC Preparation: 2015-10-29 Prepared By: RL

LCS Spike Matrix Rec. F Param \mathbf{C} Result Units Dil. Amount Result Rec. Limit 90 - 110 Chloride 247 mg/Kg 250 < 8.34 99 5,7,9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|---|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 5,7,9 | 247 | mg/Kg | 1 | 250 | < 8.34 | 99 | 90 - 110 | 0 | 20 |

Report Date: October 29, 2015 Work Order: 15102703 Page Number: 10 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 406935

QC Batch: 125893 Date Analyzed: 2015-10-28 Analyzed By: AK Prep Batch: 106509 QC Preparation: 2015-10-27 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|----|--------------|--------|-------|------|------------------------|--------|------|------------------------|
| Param | | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | Qs | Qs | 8 | 9.71 | mg/Kg | 1 | 20.0 | < 2.32 | 48 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | | MSD | | | $_{\rm Spike}$ | Matrix | | Rec. | | RPD |
|-------|-------|--------------|--------------|--------|-------|------|----------------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | Qr,Qs | Qr,Qs | 8 | 13.5 | mg/Kg | 1 | 20.0 | < 2.32 | 68 | 70 - 130 | 33 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.59 | 1.90 | mg/Kg | 1 | 2 | 80 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.78 | 1.99 | mg/Kg | 1 | 2 | 89 | 100 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 407044

QC Batch: 125951 Date Analyzed: 2015-10-29 Analyzed By: HJ Prep Batch: 106548 QC Preparation: 2015-10-28 Prepared By: HJ

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|-----------------|--------|-------|------|--------|--------|------|------------|
| Param | \mathbf{F} | $^{\mathrm{C}}$ | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 2,3,5,7 | 552 | mg/Kg | 1 | 500 | < 5.22 | 110 | 47.9 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | $_{ m Spike}$ | Matrix | | Rec. | | RPD |
|-------|---|--------------|--------|-------|------|---------------|--------|------|------------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 2,3,5,7 | 607 | mg/Kg | 1 | 500 | < 5.22 | 121 | 47.9 - 130 | 10 | 20 |

| | | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 5 | 36.4 | 40.5 | mg/Kg | 1 | 25 | 146 | 162 | 48.9 - 172 |

Report Date: October 29, 2015 Work Order: 15102703 Page Number: 11 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spike (MS-1) Spiked Sample: 407044

QC Batch: 125965 Date Analyzed: 2015-10-29 Analyzed By: RL Prep Batch: 106572 QC Preparation: 2015-10-29 Prepared By: RL

MSSpike Matrix Rec. F Param \mathbf{C} Result Units Dil. Amount Result Limit Rec. 80 - 120 Chloride 268 mg/Kg 250 20.5 99 5,7,9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|---|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 5,7,9 | 266 | mg/Kg | 1 | 250 | 20.5 | 98 | 80 - 120 | 1 | 20 |

Report Date: October 29, 2015 Work Order: 15102703 Page Number: 12 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Calibration Standards

Standard (CCV-1)

| QC Batch: | 125893 | Date Analyzed: | 2015-10-28 | Analyzed By: | AK |
|-----------|--------|----------------|------------|--------------|----|
|-----------|--------|----------------|------------|--------------|----|

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 8 | mg/Kg | 1.00 | 1.12 | 112 | 80 - 120 | 2015-10-28 |

Standard (CCV-2)

| AN DATELLE LADOSO DATE A HALVEUL AUDITUEZO A HALVEU DV. AT | QC Batch: | 125893 | Date Analyzed: | 2015-10-28 | Analyzed By: | ΑK |
|--|-----------|--------|----------------|------------|--------------|----|
|--|-----------|--------|----------------|------------|--------------|----|

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|-----------------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 8 | mg/Kg | 1.00 | 0.883 | 88 | 80 - 120 | 2015-10-28 |

Standard (CCV-1)

QC Batch: 125951 Date Analyzed: 2015-10-29 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 2,3,5,7 | mg/Kg | 500 | 544 | 109 | 80 - 120 | 2015-10-29 |

Standard (CCV-2)

QC Batch: 125951 Date Analyzed: 2015-10-29 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 2,3,5,7 | mg/Kg | 500 | 533 | 107 | 80 - 120 | 2015-10-29 |

Report Date: October 29, 2015 Work Order: 15102703 Page Number: 13 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Standard (CCV-1)

QC Batch: 125965 Date Analyzed: 2015-10-29 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-----------------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 5,7,9 | mg/Kg | 25.0 | 25.0 | 100 | 90 - 110 | 2015-10-29 |

Standard (CCV-2)

QC Batch: 125965 Date Analyzed: 2015-10-29 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 5,7,9 | mg/Kg | 25.0 | 24.8 | 99 | 90 - 110 | 2015-10-29 |

Report Date: October 29, 2015 Work Order: 15102703 Page Number: 14 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|---------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | L-A-B | L2418.01 | El Paso |
| 2 | L-A-B | L2418 | Lubbock |
| 3 | Kansas | Kansas E-10317 | Lubbock |
| 4 | LELAP | LELAP-02002 | El Paso |
| 5 | LELAP | LELAP-02003 | Lubbock |
| 6 | NELAP | T104704221-15-6 | El Paso |
| 7 | NELAP | T104704219-15-11 | Lubbock |
| 8 | NELAP | T104704392-14-8 | Midland |
| 9 | | 2014-018 | Lubbock |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction

Report Date: October 29, 2015 Work Order: 15102703 Page Number: 15 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

| F | Description |
|-----|--|
| Qc | Calibration check outside of laboratory limits. |
| Qr | RPD outside of laboratory limits |
| Qs | Spike recovery outside of laboratory limits. |
| Qsr | Surrogate recovery outside of laboratory limits. |
| U | The analyte is not detected above the SDL |

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

20101010 HOM

CHAIN-OF-CUSTODY

COLLECTOR: Michael Cant CUSTODY SEALS - D BROKEN D INTACT D NOT USED PROJECT LOCATION OR NAME: TOWNS enol 6" Pipeline PAGE / OF FIELD NOTES THERM #: T 407044 LAB WORK ORDER #: LABORATORY USE ONLY: RECEIVING TEMP: 4. C HAND DELIVERED CARRIER BILL # LAI PROJECT #: 15-0143-0 TURN AROUND TIME DATE: 10/23/2015 NORMAL 🗔 OTHER 🗓 2 DAY 🔯 1 DAY W 10-27-15 8:50 PO #: 507 N. Marienfeld, Ste. 200 RECEIVED BY: (Signature) RECEIVED BY: (Signature) RECEIVED BY: (Signature) NNPRESERVED Midland, TX 79701 **PRESERVATION** 432-687-0901 ICE □ HOPN □ POSTH [€]GNH HCI # of Containers Matrix DATE/TIME DATE/TIME Time SL=SLUDGE OT=OTHER P=PAINT 0/23 Date A Grson & Ssociates, Inc. Environmental Consultants W=WATER RELINQUISHED BY:(Signature) RELINQUISHED BY (Signature) RELINQUISHED BY: (Signature) S=SOIL Lab# A=AIR Data Reported to: □ Yes □ No TIME ZONE: Time zone/State: S. Wall 21 TRRP report? Field Sample I.D. ANSTAWA. TOTAL

| ORK ORDER #: VN S end 6" Pipeline COLLECTOR: Michael Cant | 101001 | 01-113/11 | | | LABORATORY USE ONLY: RECEIVING TEMP: 4. 4. THERM #: 1. CUSTODY SEALS - 1. BROKEN 1. INTACT 1. NOT USED 1. CARRIER BILL # |
|--|--|---|--|---|--|
| 2015 VOR NAME -0143 | \$ 200 (1) 15 16 (2) 16 | | | | TURN AROUND TIME LABORATORY USE TURN AROUND TIME RECEIVING TEMP: 2 DAY OTHER OTHER HAND DELIVERE |
| 507 N. Marienfeld, Ste. 200 Midland, TX 79701 432-687-0901 | PRESERVATION | NNPRESERVE ICE H₂SO₄□ NaO HNO₃ HCI | | | TIME RECEIVED BY: (Signature) TIME RECEIVED BY: (Signature) TIME RECEIVED BY: (Signature) TIME RECEIVED BY: (Signature) |
| SON & SON & Sociates, Inc. | port? S=SOIL N=WATER SL=SLUDGE A=AIR OT=OTHER | ////////////////////////////////////// | 71. | | RELINQUISHED BY: (Signature) RELINQUISHED BY: (Signature) RELINQUISHED BY: (Signature) DATE/ |
| | 8 LAB WORK ORDER #: A32-687-0901 LAI PROJECT LOCATION OR NAME: TOWN Send 16" Pipeli LAI PROJECT #: 15-0143-01 COLLECTOR: Michael | Solution Consultants Solution Colored Colored | Second Participation of the Pa | 1 | Control Cont |



E-Mail: lab@traceanalysis.com WEB www.traceanalysis.com Certifications

Texas 75006

972-242-7750

Report Date: November 4, 2015

15110202

Work Order:

Carroliton,

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Mark Larson Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM

Project Name: Townsend 16" Pipeline

(BioAquatic) 2501 Mayes Rd., Suite 100

Project Number: 15-0143-01 (2)

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | 1 IIIIe | Date |
|--------|-------------|--------|------------|---------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 407383 | W. Side 21' | soil | 2015-10-30 | 11:25 | 2015-11-02 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

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Case Narrative

Samples for project Townsend 16" Pipeline were received by TraceAnalysis, Inc. on 2015-11-02 and assigned to work order 15110202. Samples for work order 15110202 were received intact at a temperature of 2.8 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------------|------------|--------|---------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| Chloride (IC) | E 300.0 | 106670 | 2015-11-03 at 08:15 | 126078 | 2015-11-04 at 09:01 |
| TPH DRO | S 8015 D | 106653 | 2015-11-03 at 12:00 | 126062 | 2015-11-04 at $05:52$ |
| TPH GRO | S 8015 D | 106654 | 2015-11-03 at 07:16 | 126064 | 2015-11-04 at $07:58$ |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 15110202 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: November 4, 2015 Work Order: 15110202 Page Number: 5 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Analytical Report

Sample: 407383 - W. Side 21'

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: Chloride (IC) E 300.0N/AQC Batch: 126078 Date Analyzed: 2015-11-04 Analyzed By: RLPrep Batch: 106670 Sample Preparation: Prepared By: RL

Sample: 407383 - W. Side 21'

Laboratory: Lubbock

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 28.3 | mg/Kg | 1 | 25.0 | 113 | 48.9 - 172 |

Sample: 407383 - W. Side 21'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 126064 Date Analyzed: 2015-11-04 Analyzed By: AKPrep Batch: 106654 Sample Preparation: 2015 - 11 - 03Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.85 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |

 $continued \dots$

Report Date: November 4, 2015 15-0143-01 (2)

Work Order: 15110202 Townsend 16" Pipeline Page Number: 6 of 15

Lea Co, NM

sample continued ...

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| 4-Bromofluorobenzene (4-BFB) | | | 1.82 | mg/Kg | 1 | 2.00 | 91 | 70 - 130 |

Report Date: November 4, 2015 Work Order: 15110202 Page Number: 7 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Method Blanks

Method Blank (1) QC Batch: 126062

QC Batch: 126062 Date Analyzed: 2015-11-04 Analyzed By: HJ Prep Batch: 106653 QC Preparation: 2015-11-03 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|-----------------------|-----------------------|--------|--------------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 38.2 | ${ m mg/Kg}$ | 1 | 25.0 | 153 | 48.9 - 172 |

Method Blank (1) QC Batch: 126064

QC Batch: 126064 Date Analyzed: 2015-11-04 Analyzed By: AK Prep Batch: 106654 QC Preparation: 2015-11-03 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 2.00 | mg/Kg | 1 | 2.00 | 100 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.83 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |

Method Blank (1) QC Batch: 126078

QC Batch: 126078 Date Analyzed: 2015-11-04 Analyzed By: RL Prep Batch: 106670 QC Preparation: 2015-11-03 Prepared By: RL

Report Date: November 4, 2015 Work Order: 15110202 Page Number: 8 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 126062 Date Analyzed: 2015-11-04 Analyzed By: HJ Prep Batch: 106653 QC Preparation: 2015-11-03 Prepared By: HJ

| | | | LCS | | | $_{\mathrm{Spike}}$ | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|---------------------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 407 | mg/Kg | 1 | 500 | < 5.22 | 81 | 60.9 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | $_{\mathrm{Spike}}$ | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|---------------------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 427 | mg/Kg | 1 | 500 | < 5.22 | 85 | 60.9 - 130 | 5 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 29.5 | 29.5 | mg/Kg | 1 | 25.0 | 118 | 118 | 48.9 - 172 |

Laboratory Control Spike (LCS-1)

QC Batch: 126064 Date Analyzed: 2015-11-04 Analyzed By: AK Prep Batch: 106654 QC Preparation: 2015-11-03 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 5 | 23.9 | mg/Kg | 1 | 20.0 | < 2.32 | 120 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 25.2 | mg/Kg | 1 | 20.0 | < 2.32 | 126 | 70 - 130 | 5 | 20 |

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.90 | 1.99 | mg/Kg | 1 | 2.00 | 95 | 100 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.77 | 1.87 | mg/Kg | 1 | 2.00 | 88 | 94 | 70 - 130 |

Report Date: November 4, 2015 Work Order: 15110202 Page Number: 9 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Laboratory Control Spike (LCS-1)

QC Batch: 126078 Date Analyzed: 2015-11-04 Analyzed By: RL Prep Batch: 106670 QC Preparation: 2015-11-03 Prepared By: RL

LCS Spike Matrix Rec. F Param \mathbf{C} Result Units Dil. Amount Result Limit Rec. 90 - 110 Chloride 251 mg/Kg 250 < 8.34 100 3,4,6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|---|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 249 | mg/Kg | 1 | 250 | < 8.34 | 100 | 90 - 110 | 1 | 20 |

Report Date: November 4, 2015 Work Order: 15110202 Page Number: 10 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 407383

QC Batch: 126062 Date Analyzed: 2015-11-04 Analyzed By: HJ Prep Batch: 106653 QC Preparation: 2015-11-03 Prepared By: HJ

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|------------------------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 362 | mg/Kg | 1 | 500 | < 5.22 | 72 | 47.9 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|---|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 377 | mg/Kg | 1 | 500 | < 5.22 | 75 | 47.9 - 130 | 4 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 28.7 | 28.9 | mg/Kg | 1 | 25 | 115 | 116 | 48.9 - 172 |

Matrix Spike (MS-1) Spiked Sample: 407381

QC Batch: 126064 Date Analyzed: 2015-11-04 Analyzed By: AK Prep Batch: 106654 QC Preparation: 2015-11-03 Prepared By: AK

| | | | | MS | | | Spike | Matrix | | Rec. |
|-------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | Qs | Qs | 5 | 12.8 | mg/Kg | 1 | 20.0 | < 2.32 | 64 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 14.2 | mg/Kg | 1 | 20.0 | < 2.32 | 71 | 70 - 130 | 10 | 20 |

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.83 | 1.81 | mg/Kg | 1 | 2 | 92 | 90 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.84 | 1.83 | mg/Kg | 1 | 2 | 92 | 92 | 70 - 130 |

Report Date: November 4, 2015 Work Order: 15110202 Page Number: 11 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Matrix Spike (MS-1) Spiked Sample: 407383

Chloride

QC Batch: 126078 Date Analyzed: 2015-11-04 Analyzed By: RL Prep Batch: 106670 QC Preparation: 2015-11-03 Prepared By: RL

mg/Kg

250

8.68

98

80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

3,4,6

253

MSD Spike Matrix RPD Rec. \mathbf{F} \mathbf{C} Param Result Units Dil. Amount Result Rec. Limit RPD Limit 8.68 80 - 120 Chloride 254 mg/Kg 1 250 98 0 20 3,4,6

Report Date: November 4, 2015 Work Order: 15110202 Page Number: 12 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Calibration Standards

Standard (CCV-1)

| QC Batch: | 126062 | Date Analyzed: | 2015-11-04 A | Analyzed | Bv: | $_{\mathrm{HJ}}$ |
|-----------|--------|----------------|--------------|----------|-----|------------------|
| | | | | | | |

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 409 | 82 | 80 - 120 | 2015-11-04 |

Standard (CCV-2)

| QC Batch: 126062 | Date Analyzed: 2015-11-04 | Analyzed By: HJ |
|------------------|---------------------------|-----------------|
|------------------|---------------------------|-----------------|

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 417 | 83 | 80 - 120 | 2015-11-04 |

Standard (CCV-1)

QC Batch: 126064 Date Analyzed: 2015-11-04 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-----------------------|-----------------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 1.04 | 104 | 80 - 120 | 2015-11-04 |

Standard (CCV-2)

QC Batch: 126064 Date Analyzed: 2015-11-04 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|--------------------------|----------|------------|
| | | | | True | Found | $\operatorname{Percent}$ | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 1.08 | 108 | 80 - 120 | 2015-11-04 |

Report Date: November 4, 2015 Work Order: 15110202 Page Number: 13 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Standard (CCV-1)

QC Batch: 126078 Date Analyzed: 2015-11-04 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 25.1 | 100 | 90 - 110 | 2015-11-04 |

Standard (CCV-2)

QC Batch: 126078 Date Analyzed: 2015-11-04 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-----------------------|-------|-------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 25.0 | 100 | 90 - 110 | 2015-11-04 |

Report Date: November 4, 2015 Work Order: 15110202 Page Number: 14 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|---------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | L-A-B | L2418 | Lubbock |
| 2 | Kansas | Kansas E-10317 | Lubbock |
| 3 | LELAP | LELAP-02003 | Lubbock |
| 4 | NELAP | T104704219-15-11 | Lubbock |
| 5 | NELAP | T104704392-14-8 | Midland |
| 6 | | 2015-066 | Lubbock |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.

Report Date: November 4, 2015 Work Order: 15110202 Page Number: 15 of 15 15-0143-01 (2) Townsend 16" Pipeline Lea Co, NM

F Description

Qsr Surrogate recovery outside of laboratory limits.

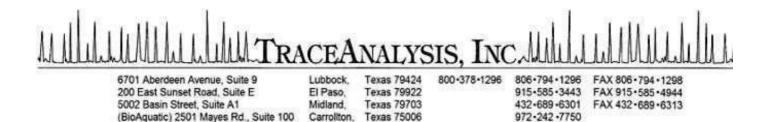
U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

| THERM #: [K-1] EN [] INTACT [] NOT USED 2708 8973 | LABORATORY USE ONLY: RECEIVING TEMP: 2.9 THERM #: [R-1] CUSTODY SEALS - DROKEN DINTACT DNOT USED CARRIER BILL # 2270 8 8973 | TURN AROUND TIME NORMAL 1 DAY 2 DAY COTHER | 4 "/zhr 8:35 | RECEIVED BY: (Signature) RECEIVED BY: (Signature) PRECEIVED BY: (Signature) PRECEIVED BY: (Signature) 3.23.0 | | DATE/TIME DATE/TIME (1/2/15/8/32 DATE/TIME (1/2/15/8/32 DATE/TIME | fure) ture) | TOTAL RELINQUISHED BY: (Signature) RELINQUISHED BY: (Signature) RELINQUISHED BY: (Signature) |
|--|--|--|--|--|------------------------|---|------------------|--|
| | | | | | | | | |
| 407383 | | | × | × | S | 10/30 11:25 | 10/30 | W, Side 21' |
| FIELD NOTES | | \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | CARLANDOS OS TONOS CONTRACTOR OS TONOS CONTRAC | NN SESER ICE H³20° □ N° HNO³ HCI | Matrix # of Contain | Time | | WST/NM Field Sample I.D. Lab # |
| CAININSTRACTOR | 130 1 10 00 10 00 00 00 00 00 00 00 00 00 | 1000 | | ATION ATION | ers | P=PAINT SL=SLUDGE OT=OTHER | ER | TRRP report? TRRP report? W=WAT W=WAT TIME ZONE: Time zone/State: |
| ORDER#: PAGE 1 OF 1 END 16" COLLECTOR: Michael Gant | AB WO | 10/30/20 | | 507 N. Marienfeld, Ste. 200 Midland, TX 79701 432-687-0901 | 507 | | Inc. soutants | A Grson & SSOCIOTES, Inc. Environmental Consultants Data Reported to: |
| CHAIN-OF-CUSTODY | CHAIN | | | | | | | 15110202 |



E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Report Date: May 18, 2016

16051615

Work Order:

Michael Gant Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Location: Lea Co, NM

Project Name: Townsend 16" Pipeline

Project Number: 15-0143-01

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| | | | Date | Time | Date |
|--------|--------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 419207 | N Wall E 4' | soil | 2016-05-13 | 11:20 | 2016-05-16 |
| 419208 | N Wall E 8' | soil | 2016-05-13 | 11:15 | 2016-05-16 |
| 419209 | N Wall E 10' | soil | 2016-05-13 | 11:10 | 2016-05-16 |
| 419210 | N Wall E 14' | soil | 2016-05-13 | 11:06 | 2016-05-16 |
| 419211 | N Wall E 18' | soil | 2016-05-13 | 12.55 | 2016-05-16 |
| 419212 | N Wall W 4' | soil | 2016-05-13 | 10:57 | 2016-05-16 |
| 419213 | N Wall W 8' | soil | 2016-05-13 | 10:53 | 2016-05-16 |
| 419214 | N Wall W 10' | soil | 2016-05-13 | 10:44 | 2016-05-16 |
| 419215 | N Wall W 14' | soil | 2016-05-13 | 10:45 | 2016-05-16 |
| 419216 | N Wall W 18' | soil | 2016-05-13 | 10:40 | 2016-05-16 |
| 419217 | S Wall E 4' | soil | 2016-05-13 | 13:24 | 2016-05-16 |
| 419218 | S Wall E 8' | soil | 2016-05-13 | 13:12 | 2016-05-16 |
| 419219 | S Wall E 10' | soil | 2016-05-13 | 12:32 | 2016-05-16 |
| 419220 | S Wall E 14' | soil | 2016-05-13 | 12:28 | 2016-05-16 |
| 419221 | S Wall E 18' | soil | 2016-05-13 | 12:24 | 2016-05-16 |
| 419222 | S Wall W 4' | soil | 2016-05-13 | 13:40 | 2016-05-16 |
| 419223 | S Wall W 8' | soil | 2016-05-13 | 13:31 | 2016-05-16 |

| | | | Date | Time | Date |
|--------|--------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 419224 | S Wall W 10' | soil | 2016-05-13 | 12:48 | 2016-05-16 |
| 419225 | S Wall W 14' | soil | 2016-05-13 | 12:43 | 2016-05-16 |
| 419226 | S Wall W 18' | soil | 2016-05-13 | 12:40 | 2016-05-16 |
| 419227 | E Wall 4' | soil | 2016-05-13 | 12:05 | 2016-05-16 |
| 419228 | E Wall 8' | soil | 2016-05-13 | 11:57 | 2016-05-16 |
| 419229 | E Wall 10' | soil | 2016-05-13 | 11:50 | 2016-05-16 |
| 419230 | E Wall 14' | soil | 2016-05-13 | 11:42 | 2016-05-16 |
| 419231 | E Wall 18' | soil | 2016-05-13 | 11:35 | 2016-05-16 |
| 419232 | W Wall 4' | soil | 2016-05-13 | 14:04 | 2016-05-16 |
| 419233 | W Wall 8' | soil | 2016-05-13 | 14:01 | 2016-05-16 |
| 419234 | W Wall 10' | soil | 2016-05-13 | 13:58 | 2016-05-16 |
| 419235 | W Wall 14' | soil | 2016-05-13 | 13:44 | 2016-05-16 |
| 419236 | W Wall 18' | soil | 2016-05-13 | 13:48 | 2016-05-16 |
| 419237 | Bottom 24' | soil | 2016-05-13 | 13:20 | 2016-05-16 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 70 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Johnny Grindstaff, Operations Manager

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| QC Batch 130159 - MS (1 | | |
| QC Batch 130160 - MS (1 | <i>'</i> | |
| QC Batch 130164 - MS (1 | <i>'</i> | |
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| QC Batch 130152 - CCV | | |
| QC Batch 130157 - CCV | | |
| QC Batch 130157 - CCV | | |
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Case Narrative

Samples for project Townsend 16" Pipeline were received by TraceAnalysis, Inc. on 2016-05-16 and assigned to work order 16051615. Samples for work order 16051615 were received intact at a temperature of -3.1 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------------|------------|--------|-----------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| Chloride (IC) | E 300.0 | 110258 | 2016-05-17 at 09:30 | 130148 | 2016-05-17 at 10:34 |
| Chloride (IC) | E 300.0 | 110271 | 2016-05-17 at 14:00 | 130164 | 2016-05-17 at $15:43$ |
| Chloride (IC) | E 300.0 | 110272 | 2016-05-17 at 14:00 | 130165 | 2016-05-17 at $15:43$ |
| Chloride (IC) | E 300.0 | 110273 | 2016-05-17 at 14:00 | 130166 | 2016-05-17 at $15:43$ |
| TPH DRO | S 8015 D | 110264 | 2016-05-17 at 15:00 | 130157 | 2016-05-18 at $09:07$ |
| TPH DRO | S 8015 D | 110266 | 2016-05-17 at 16:00 | 130159 | 2016-05-18 at 09:10 |
| TPH GRO | S 8015 D | 110233 | 2016-05-16 at 14:00 | 130118 | 2016-05-17 at $08:20$ |
| TPH GRO | S 8015 D | 110234 | 2016-05-17 at 08:59 | 130152 | 2016-05-18 at $07:28$ |
| TPH ORO | S 8015 D | 110265 | 2016-05-17 at 15:00 | 130158 | 2016-05-18 at $09:09$ |
| TPH ORO | S 8015 D | 110267 | 2016-05-17 at $16:00$ | 130160 | 2016-05-18 at $09:11$ |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 16051615 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

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Analytical Report

Sample: 419207 - N Wall E 4'

Laboratory: Lubbock

Chloride (IC) Analytical Method: Prep Method: Analysis: E 300.0N/AQC Batch: 130148 Date Analyzed: 2016-05-17 Analyzed By: RLPrep Batch: 110258 Sample Preparation: 2016-05-17 Prepared By: RL

Sample: 419207 - N Wall E 4'

Laboratory: Lubbock

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 28.7 | mg/Kg | 1 | 25.0 | 115 | 58.2 - 150 |

Sample: 419207 - N Wall E 4'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130118 Date Analyzed: 2016-05-17 Analyzed By: AKPrep Batch: 110233 Sample Preparation: 2016 - 05 - 16Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 2.00 | mg/Kg | 1 | 2.00 | 100 | 70 - 130 |

 $continued \dots$

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sample continued ...

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| 4-Bromofluorobenzene (4-BFB) | | | 1.98 | mg/Kg | 1 | 2.00 | 99 | 70 - 130 |

Sample: 419207 - N Wall E 4'

Laboratory: Lubbock

Analysis: TPH ORO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130158 Date Analyzed: 2016 - 05 - 18Analyzed By: HJPrep Batch: 110265Sample Preparation: 2016-05-17 Prepared By: HJ

MDLMQLPQLRLParameter Flag Cert Result Result Result Result Units Dilution MDLMQL PQL RLORO < 7.48< 50.0 < 50.0 < 50.0 7.48 50.0 50.0 50.0 mg/Kg

| | | | | | | Spike | Percent | Recovery |
|---------------|------|------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 28.7 | mg/Kg | 1 | 25.0 | 115 | 70 - 130 |
| n-Triacontane | | | 31.1 | mg/Kg | 1 | 25.0 | 124 | 70 - 130 |

Sample: 419208 - N Wall E 8'

Laboratory: Lubbock

Sample: 419208 - N Wall E 8'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJ2016-05-17 Prepared By: Prep Batch: 110264 Sample Preparation: HJ

15-0143-01 Townsend 16" Pipeline

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 25.1 | mg/Kg | 1 | 25.0 | 100 | 58.2 - 150 |

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Sample: 419208 - N Wall E 8'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130118 Date Analyzed: 2016-05-17 Analyzed By: AK Prep Batch: 110233 Sample Preparation: 2016-05-16 Prepared By: AK

| | | | RL | | | |
|-----------|------|------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | U | 5 | < 4.00 | mg/Kg | 1 | 4.00 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.98 | mg/Kg | 1 | 2.00 | 99 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.89 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |

Sample: 419208 - N Wall E 8'

Laboratory: Lubbock

Analysis: TPH ORO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJ Prep Batch: 110265 Sample Preparation: 2016-05-17 Prepared By: HJ

| | | | MDL | MQL | $_{ m PQL}$ | RL | | | | | | |
|-----------|------|------|--------|--------|-------------|--------|-------|----------|------|------|------|------|
| Parameter | Flag | Cert | Result | Result | Result | Result | Units | Dilution | MDL | MQL | PQL | RL |
| ORO | U | | < 7.48 | < 50.0 | < 50.0 | < 50.0 | mg/Kg | 1 | 7.48 | 50.0 | 50.0 | 50.0 |

| | | | | | | Spike | Percent | Recovery |
|---------------|------|------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 25.1 | mg/Kg | 1 | 25.0 | 100 | 70 - 130 |
| n-Triacontane | | | 27.8 | mg/Kg | 1 | 25.0 | 111 | 70 - 130 |

Sample: 419209 - N Wall E 10'

Laboratory: Lubbock

Report Date: May 18, 2016 Work Order: 16051615 Page Number: 9 of 70 15-0143-01 Townsend 16" Pipeline Lea Co, NM

| | | | RL | | | |
|-----------|------|-------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,6 | 36.6 | mg/Kg | 1 | 25.0 |

Sample: 419209 - N Wall E 10'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D QC Batch: 130157 Date Analyzed: 2016-05-18 Prep Batch: 110264 Sample Preparation: 2016-05-17

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 25.4 | mg/Kg | 1 | 25.0 | 102 | 58.2 - 150 |

Sample: 419209 - N Wall E 10'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130118 Date Analyzed: 2016-05-17 Analyzed By: AK Prep Batch: 110233 Sample Preparation: 2016-05-16 Prepared By: AK

| | | | | | | $_{\mathrm{Spike}}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.99 | mg/Kg | 1 | 2.00 | 100 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.87 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |

Sample: 419209 - N Wall E 10

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110265 Sample Preparation: 2016-05-17 Prepared By: HJ

 $continued \dots$

Prep Method:

Analyzed By:

Prepared By:

N/A

HJ

HJ

Report Date: May 18, 2016 Work Order: 16051615 Page Number: 10 of 70 15-0143-01 Townsend 16" Pipeline Lea Co, NM

sample 419209 continued ...

| Parameter | Flag | Cert | MDL Result | MQL Result | PQL Result | RL Result | Units | Dilution | MDL | MQL | PQL | RL |
|---------------|------|--------|---------------|---------------|---------------|---------------|----------|----------------|------|---------------------|------|--------|
| | | | MDL | MQL | PQL | RL | | | | | | |
| Parameter | Flag | Cert | Result | Result | Result | Result | Units | Dilution | MDL | MQL | PQL | RL |
| ORO | U | | <7.48 | < 50.0 | < 50.0 | < 50.0 | mg/Kg | 1 | 7.48 | 50.0 | 50.0 | 50.0 |
| Surrogate | | Flag | Cert | Resu | lt. I | Units | Dilution | Spike Amour | | Percent Recovery | | covery |
| n-Tricosane | | 1 1005 | | 25 | | g/Kg | 1 | 25.0 | 10 1 | $\frac{102}{}$ | | - 130 |
| n-Triacontane | | | | 28 | | $_{ m ig/Kg}$ | 1 | 25.0 | | 112 | | - 130 |

Sample: 419210 - N Wall E 14'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: Prep Method: N/A E 300.0 QC Batch: Analyzed By: RL130148Date Analyzed: 2016-05-17Prep Batch: 110258 Sample Preparation: 2016-05-17 Prepared By: RL

Sample: 419210 - N Wall E 14'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110264 Sample Preparation: 2016-05-17 Prepared By: HJ

| Surrogate n-Tricosane | Oar | Flag | Cert | Result 49.8 | Units mg/Kg | Dilution 1 | $\frac{\text{Amount}}{25.0}$ | Recovery 199 | $\frac{\text{Limits}}{58.2 - 150}$ |
|--------------------------|-----|------|------|----------------|----------------|---------------|------------------------------|-----------------|------------------------------------|
| C | | T21 | C | D14 | TT :4 | D:1+: | Spike | Percent | Recovery |

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Sample: 419210 - N Wall E 14'

Laboratory: Midland

TPH GRO S 5035 Analysis: Analytical Method: S 8015 D Prep Method: QC Batch: 130118 Date Analyzed: 2016-05-17 Analyzed By: AK Sample Preparation: Prep Batch: 110233 2016-05-16 Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.85 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.82 | mg/Kg | 1 | 2.00 | 91 | 70 - 130 |

Sample: 419210 - N Wall E 14'

Laboratory: Lubbock

Analysis: TPH ORO Prep Method: Analytical Method: S 8015 D N/AQC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110265 Sample Preparation: 2016-05-17 Prepared By: HJ

MDL MQL PQL RLParameter Flag Cert Result Result Result Result Units Dilution MDL MQLPQL RL< 7.48< 50.0 7.48 50.0 ORO < 50.0 < 50.0 50.0 50.0 mg/Kg

| | | | | | | | $_{ m Spike}$ | Percent | Recovery |
|---------------|-------------------|-------------------|------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 49.8 | mg/Kg | 1 | 25.0 | 199 | 70 - 130 |
| n-Triacontane | $_{\mathrm{Qsr}}$ | $_{\mathrm{Qsr}}$ | | 47.2 | mg/Kg | 1 | 25.0 | 189 | 70 - 130 |

Sample: 419211 - N Wall E 18'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: RL130148 Date Analyzed: 2016-05-17 Analyzed By: Prep Batch: 110258 Sample Preparation: Prepared By: RL2016-05-17

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Sample: 419211 - N Wall E 18'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110264 Sample Preparation: Prepared By: 2016-05-17 HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 25.6 | mg/Kg | 1 | 25.0 | 102 | 58.2 - 150 |

Sample: 419211 - N Wall E 18'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 DPrep Method: S 5035 QC Batch: Date Analyzed: Analyzed By: 130118 2016-05-17 AKPrep Batch: 110233 Sample Preparation: 2016-05-16 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.84 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.83 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |

Sample: 419211 - N Wall E 18'

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110265 Sample Preparation: Prepared By: 2016-05-17 HJ

MDLMQL PQLRLResult MDLPQL RLParameter Flag Cert Result Result Result Units Dilution MQL7.48 50.0 ORO <7.48 < 50.0 < 50.0 < 50.0 mg/Kg 50.0 50.0 U

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 25.6 | mg/Kg | 1 | 25.0 | 102 | 70 - 130 |

 $continued \dots$

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 $sample\ continued\ \dots$

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| | | | | | | Spike | Percent | Recovery |
|---------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Triacontane | | | 28.1 | mg/Kg | 1 | 25.0 | 112 | 70 - 130 |

Sample: 419212 - N Wall W 4'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 130148Date Analyzed: 2016-05-17Analyzed By: RLPrep Batch: 110258 Sample Preparation: 2016-05-17 Prepared By: RL

Sample: 419212 - N Wall W 4'

Laboratory: Lubbock

TPH DRO Analytical Method: S 8015 D Prep Method: N/A Analysis: QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110264 Sample Preparation: 2016-05-17 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 30.8 | mg/Kg | 1 | 25.0 | 123 | 58.2 - 150 |

Sample: 419212 - N Wall W 4'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 130118 2016-05-17 Analyzed By: AKDate Analyzed: Prep Batch: 110233 Sample Preparation: 2016-05-16 Prepared By: AK

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| Surrogate | Flag | Cert | Result | Units | Dilution | $\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$ | Percent Recovery | Recovery Limits |
|------------------------------|------|------|--------|---------------------------|----------|--|---------------------|--------------------|
| Trifluorotoluene (TFT) | | | 1.87 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.77 | mg/Kg | 1 | 2.00 | 88 | 70 - 130 |

Sample: 419212 - N Wall W 4'

Laboratory: Lubbock

Analysis: TPH ORO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130158 Date Analyzed: 2016 - 05 - 18Analyzed By: HJPrep Batch: 110265 Sample Preparation: 2016-05-17 Prepared By: HJ

MDLMQLPQLRLParameter Flag Cert Result Result Result Result Units Dilution MDLMQL PQL RLORO < 7.48< 50.0 < 50.0 < 50.0 7.48 50.0 50.0 50.0 mg/Kg

| | | | | | | | Spike | Percent | Recovery |
|---------------|-------------|-------------------|-----------------------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | | 30.8 | mg/Kg | 1 | 25.0 | 123 | 70 - 130 |
| n-Triacontane | $_{ m Qsr}$ | $_{\mathrm{Qsr}}$ | | 34.1 | mg/Kg | 1 | 25.0 | 136 | 70 - 130 |

Sample: 419213 - N Wall W 8'

Laboratory: Lubbock

Sample: 419213 - N Wall W 8'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJ2016-05-17 Prepared By: Prep Batch: 110264 Sample Preparation: HJ

Work Order: 16051615 Townsend 16" Pipeline

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C : 1 D A D

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 27.1 | mg/Kg | 1 | 25.0 | 108 | 58.2 - 150 |

Sample: 419213 - N Wall W 8'

Laboratory: Midland

Analysis: TPH GRO QC Batch: 130118 Prep Batch: 110233 Analytical Method:S 8015 DPrep Method:Date Analyzed:2016-05-17Analyzed By:Sample Preparation:2016-05-16Prepared By:

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.96 | mg/Kg | 1 | 2.00 | 98 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 70 - 130 |

Sample: 419213 - N Wall W 8'

Laboratory: Lubbock

Analysis: TPH ORO Analytical Method: S 8015 D QC Batch: 130158 Date Analyzed: 2016-05-18 Prep Batch: 110265 Sample Preparation: 2016-05-17 Prep Method: N/A
Analyzed By: HJ
Prepared By: HJ

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S 5035

AK

AK

MDL MQL PQL RLParameter Flag Cert Result Result Result Result ${\rm Units}$ Dilution MDL MQLPQL RL< 7.48 50.0 ORO < 50.0 < 50.0 7.48 50.0 < 50.0mg/Kg 50.0

| | | | | | | Spike | Percent | Recovery |
|---------------|------|------|--------|-------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 27.1 | mg/Kg | 1 | 25.0 | 108 | 70 - 130 |
| n-Triacontane | | | 30.0 | mg/Kg | 1 | 25.0 | 120 | 70 - 130 |

Sample: 419214 - N Wall W 10'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 130148 Date Analyzed: 2016 - 05 - 17Analyzed By: RLPrep Batch: 110258 Sample Preparation: 2016-05-17 Prepared By: RL

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| | | | RL | | | |
|-----------|------|-------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,6 | 97.9 | mg/Kg | 1 | 25.0 |

Sample: 419214 - N Wall W 10'

Laboratory: Lubbock

Analysis: TPH DRO QC Batch: 130157 Prep Batch: 110264 Analytical Method: S 8015 D Prep Method: N/A
Date Analyzed: 2016-05-18 Analyzed By: HJ
Sample Preparation: 2016-05-17 Prepared By: HJ

| | | | RL | | | |
|-----------|------|-----------------------|--------|---------------------------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | U | 1,2,3,4 | < 50.0 | mg/Kg | 1 | 50.0 |

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 27.9 | mg/Kg | 1 | 25.0 | 112 | 58.2 - 150 |

Sample: 419214 - N Wall W 10'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D QC Batch: 130118 Date Analyzed: 2016-05-17 Prep Batch: 110233 Sample Preparation: 2016-05-16

Prep Method: S 5035 Analyzed By: AK Prepared By: AK

| | | | RL | | | |
|-----------|-----------------------|-----------------------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | U | 5 | < 4.00 | m mg/Kg | 1 | 4.00 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.91 | mg/Kg | 1 | 2.00 | 96 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.87 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |

Sample: 419214 - N Wall W 10'

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110265 Sample Preparation: 2016-05-17 Prepared By: HJ

 $continued \dots$

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sample 419214 continued ...

| Parameter | Flag | Cert | MDL Result | MQL Result | PQL Result | RL Result | Units | Dilution | MDL | MQL | PQL | RL |
|---------------|------|-----------------------|-----------------------|---------------|---------------|--------------------|----------|----------|------|----------|------|--------------|
| | | | MDL | MQL | PQL | RL | | | | | | |
| Parameter | Flag | Cert | Result | Result | Result | Result | Units | Dilution | MDL | MQL | PQL | RL |
| ORO | Qs,U | | <7.48 | < 50.0 | < 50.0 | < 50.0 | mg/Kg | 1 | 7.48 | 50.0 | 50.0 | 50.0 |
| | | | | | | | | Spike | | Percent | | covery |
| Surrogate | | Flag | Cert | Resu | ılt I | Jnits | Dilution | Amour | nt F | Recovery | Li | $_{ m mits}$ |
| n-Tricosane | | | | 27 | 7.9 m | ıg/Kg | 1 | 25.0 | | 112 | 70 | - 130 |
| n-Triacontane | | | | 31 | .2 m | $_{ m ig}/{ m Kg}$ | 1 | 25.0 | | 125 | 70 | - 130 |

Sample: 419215 - N Wall W 14'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: Prep Method: N/A E 300.0 QC Batch: Analyzed By: RL130148Date Analyzed: 2016-05-17Prep Batch: 110258 Sample Preparation: 2016-05-17 Prepared By: RL

Sample: 419215 - N Wall W 14'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110264 Sample Preparation: 2016-05-17 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|--------------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 25.3 | ${ m mg/Kg}$ | 1 | 25.0 | 101 | 58.2 - 150 |

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Sample: 419215 - N Wall W 14'

Laboratory: Midland

TPH GRO S 5035 Analysis: Analytical Method: S 8015 D Prep Method: QC Batch: 130118 Date Analyzed: 2016-05-17 Analyzed By: AK Sample Preparation: Prep Batch: 110233 2016-05-16 Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.89 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.82 | mg/Kg | 1 | 2.00 | 91 | 70 - 130 |

Sample: 419215 - N Wall W 14'

Laboratory: Lubbock

Analysis: TPH ORO Prep Method: Analytical Method: S 8015 D N/AQC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110265 Sample Preparation: 2016-05-17 Prepared By: HJ

MDL MQL PQL RLParameter Flag Cert Result Result Result Result Units Dilution MDL MQLPQL RL< 7.48< 50.0 7.48 50.0 ORO < 50.0 < 50.0 50.0 50.0 mg/Kg

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|---------------|------|------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 25.3 | mg/Kg | 1 | 25.0 | 101 | 70 - 130 |
| n-Triacontane | | | 27.5 | mg/Kg | 1 | 25.0 | 110 | 70 - 130 |

Sample: 419216 - N Wall W 18'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: RL130164 Date Analyzed: 2016-05-17 Analyzed By: Prep Batch: 110271 Sample Preparation: 2016-05-17 Prepared By: RL

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Sample: 419216 - N Wall W 18'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110264 Sample Preparation: Prepared By: 2016-05-17 HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 26.8 | mg/Kg | 1 | 25.0 | 107 | 58.2 - 150 |

Sample: 419216 - N Wall W 18'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 DPrep Method: S 5035 QC Batch: Date Analyzed: Analyzed By: 130118 2016-05-17 AKPrep Batch: 110233 Sample Preparation: 2016-05-16 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 2.00 | mg/Kg | 1 | 2.00 | 100 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 70 - 130 |

Sample: 419216 - N Wall W 18'

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110265 Sample Preparation: Prepared By: 2016-05-17 HJ

MDLMQL PQLRLResult MDLPQL RLParameter Flag Cert Result Result Result Units Dilution MQL7.48 50.0 ORO <7.48 < 50.0 < 50.0 < 50.0 mg/Kg 50.0 50.0 U

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 26.8 | mg/Kg | 1 | 25.0 | 107 | 70 - 130 |

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 $sample\ continued\ \dots$

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| | | | | | | Spike | Percent | Recovery |
|---------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Triacontane | | | 29.8 | mg/Kg | 1 | 25.0 | 119 | 70 - 130 |

Sample: 419217 - S Wall E 4'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 130164Date Analyzed: 2016-05-17Analyzed By: RLPrep Batch: 110271 Sample Preparation: 2016-05-17 Prepared By: RL

Sample: 419217 - S Wall E 4'

Laboratory: Lubbock

TPH DRO Analytical Method: S 8015 D Prep Method: N/A Analysis: QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110264 Sample Preparation: 2016-05-17 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 22.9 | mg/Kg | 1 | 25.0 | 92 | 58.2 - 150 |

Sample: 419217 - S Wall E 4'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 130118 2016-05-17 Analyzed By: AKDate Analyzed: Prep Batch: 110233 Sample Preparation: 2016-05-16 Prepared By: AK

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| | | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.89 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.76 | mg/Kg | 1 | 2.00 | 88 | 70 - 130 |

Sample: 419217 - S Wall E 4'

Laboratory: Lubbock

Analysis: TPH ORO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130158 Date Analyzed: 2016 - 05 - 18Analyzed By: HJ110265Prep Batch: Sample Preparation: 2016-05-17 Prepared By: HJ

MDLMQLPQLRLParameter Flag Cert Result Result Result Result Units Dilution MDLMQL PQL RLORO < 7.48< 50.0 < 50.0 < 50.0 7.48 50.0 50.0 50.0 mg/Kg

| | | | | | | Spike | Percent | Recovery |
|---------------|------|------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 22.9 | mg/Kg | 1 | 25.0 | 92 | 70 - 130 |
| n-Triacontane | | | 25.5 | mg/Kg | 1 | 25.0 | 102 | 70 - 130 |

Sample: 419218 - S Wall E 8'

Laboratory: Lubbock

Sample: 419218 - S Wall E 8'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJSample Preparation: 2016-05-17 Prepared By: Prep Batch: 110264 HJ

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| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 24.5 | mg/Kg | 1 | 25.0 | 98 | 58.2 - 150 |

Sample: 419218 - S Wall E 8'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130118 Date Analyzed: 2016-05-17 Analyzed By: AKPrep Batch: 110233 Sample Preparation: 2016-05-16 Prepared By: AK

RLParameter Flag Cert Result Units Dilution RL \overline{GRO} < 4.00mg/Kg 4.00

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.96 | mg/Kg | 1 | 2.00 | 98 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.87 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |

Sample: 419218 - S Wall E 8'

Laboratory: Lubbock

TPH ORO Analysis: Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110265 Sample Preparation: 2016-05-17 Prepared By: HJ

MDL MQL PQL RLParameter Flag Cert Result Result Result Result ${\rm Units}$ Dilution MDL MQLPQL RL< 7.48 50.0 ORO < 50.0 < 50.0 7.48 50.0 < 50.0mg/Kg 50.0

| Surrogate | Flag | Cert | Result | Units | Dilution | ${ m Spike} \ { m Amount}$ | Percent Recovery | Recovery Limits |
|---------------|------|------|--------|-------|----------|----------------------------|---------------------|--------------------|
| n-Tricosane | | | 24.5 | mg/Kg | 1 | 25.0 | 98 | 70 - 130 |
| n-Triacontane | | | 27.1 | mg/Kg | 1 | 25.0 | 108 | 70 - 130 |

Sample: 419219 - S Wall E 10

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 130164 Date Analyzed: 2016 - 05 - 17Analyzed By: RLPrep Batch: 110271 Sample Preparation: 2016-05-17 Prepared By: RL

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| | | | RL | | | |
|-----------|------|-------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,6 | <25.0 | m mg/Kg | 1 | 25.0 |

Sample: 419219 - S Wall E 10

Laboratory: Lubbock

TPH DRO Analysis: Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110264 Sample Preparation: Prepared By: 2016-05-17 HJ

| | | | RL | | | |
|-----------|------|-----------------------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | U | 1,2,3,4 | < 50.0 | mg/Kg | 1 | 50.0 |

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 23.0 | mg/Kg | 1 | 25.0 | 92 | 58.2 - 150 |

Sample: 419219 - S Wall E 10'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130118 Date Analyzed: 2016-05-17 Analyzed By: AK Prep Batch: 110233 Sample Preparation: 2016-05-16 Prepared By: AK

| | | | RL | | | |
|-----------|------|------|---------------------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | U | 5 | < 4.00 | mg/Kg | 1 | 4.00 |

| | | | | | | $_{\mathrm{Spike}}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|---------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.90 | mg/Kg | 1 | 2.00 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.85 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |

Sample: 419219 - S Wall E 10

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110265 Sample Preparation: 2016-05-17 Prepared By: HJ

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sample 419219 continued ...

| Parameter | Flag | Cert | MDL Result | MQL Result | PQL Result | RL Result | Units | Dilution | MDL | MQL | PQL | RL |
|---------------|------|-------|---------------|----------------|---------------|---------------|----------|----------------|------|---------------------|------|--------|
| | | | MDL | MQL | PQL | RL | | | | | | |
| Parameter | Flag | Cert | Result | Result | Result | Result | Units | Dilution | MDL | MQL | PQL | RL |
| ORO | U | | <7.48 | < 50.0 | < 50.0 | < 50.0 | mg/Kg | 1 | 7.48 | 50.0 | 50.0 | 50.0 |
| Surrogate | | Flag | Cert | Resu | lt. I | Units | Dilution | Spike Amour | | Percent Recovery | | covery |
| n-Tricosane | | 1 145 | CCIT | 23 | | g/Kg | 1 | 25.0 | 10 1 | 92 | | - 130 |
| n-Triacontane | | | | $\frac{1}{25}$ | | $_{ m ig/Kg}$ | 1 | 25.0 | | 103 | | - 130 |

Sample: 419220 - S Wall E 14'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: Prep Method: N/A E 300.0 QC Batch: RL130164Date Analyzed: 2016-05-17Analyzed By: Prep Batch: 110271 Sample Preparation: 2016-05-17 Prepared By: RL

Sample: 419220 - S Wall E 14

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110264 Sample Preparation: 2016-05-17 Prepared By: HJ

| n-Tricosane | | 3 | 24.9 | mg/Kg | 1 | 25.0 | 100 | 58.2 - 150 |
|-------------|------|------|--------|-------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| | | | | | | Spike | Percent | Recovery |

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Sample: 419220 - S Wall E 14

Laboratory: Midland

TPH GRO S 5035 Analysis: Analytical Method: S 8015 D Prep Method: QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK Sample Preparation: Prep Batch: 110234 2016-05-17 Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 2.02 | mg/Kg | 1 | 2.00 | 101 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.68 | mg/Kg | 1 | 2.00 | 84 | 70 - 130 |

Sample: 419220 - S Wall E 14'

Laboratory: Lubbock

Analysis: TPH ORO Prep Method: Analytical Method: S 8015 D N/AQC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110265 Sample Preparation: 2016-05-17 Prepared By: HJ

MDL MQL PQL RLParameter Flag Cert Result Result Result Result Units Dilution MDL MQLPQL RL< 7.48< 50.0 7.48 50.0 ORO < 50.0 < 50.0 50.0 50.0 mg/Kg

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|---------------|------|------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 24.9 | mg/Kg | 1 | 25.0 | 100 | 70 - 130 |
| n-Triacontane | | | 28.1 | mg/Kg | 1 | 25.0 | 112 | 70 - 130 |

Sample: 419221 - S Wall E 18'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: RL130164 Date Analyzed: 2016-05-17 Analyzed By: Prep Batch: 110271 Sample Preparation: Prepared By: RL2016-05-17

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Sample: 419221 - S Wall E 18'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110264 Sample Preparation: Prepared By: 2016-05-17 HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 23.0 | mg/Kg | 1 | 25.0 | 92 | 58.2 - 150 |

Sample: 419221 - S Wall E 18'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130152 Date Analyzed: Analyzed By: 2016-05-18 AKPrep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.88 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.77 | mg/Kg | 1 | 2.00 | 88 | 70 - 130 |

Sample: 419221 - S Wall E 18'

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110265 Sample Preparation: Prepared By: 2016-05-17 HJ

MDLMQL PQLRLResult MDLPQL RLParameter Flag Cert Result Result Result Units Dilution MQL7.48 50.0 ORO <7.48 < 50.0 < 50.0 < 50.0 mg/Kg 50.0 50.0 U

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 23.0 | mg/Kg | 1 | 25.0 | 92 | 70 - 130 |

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 $sample\ continued\ \dots$

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| | | | | | | Spike | Percent | Recovery |
|---------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Triacontane | | | 25.3 | mg/Kg | 1 | 25.0 | 101 | 70 - 130 |

Sample: 419222 - S Wall W 4'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 130164Date Analyzed: 2016-05-17Analyzed By: RLPrep Batch: 110271 Sample Preparation: 2016-05-17 Prepared By: RL

Sample: 419222 - S Wall W 4'

Laboratory: Lubbock

TPH DRO Analytical Method: S 8015 D Prep Method: N/A Analysis: QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110264 Sample Preparation: 2016-05-17 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 36.5 | mg/Kg | 1 | 25.0 | 146 | 58.2 - 150 |

Sample: 419222 - S Wall W 4'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 1301522016-05-18 Analyzed By: AKDate Analyzed: Prep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

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| Surrogate | Flag | Cert | Result | Units | Dilution | $\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$ | Percent Recovery | Recovery Limits |
|------------------------------|------|------|--------|-------|----------|--|---------------------|--------------------|
| Trifluorotoluene (TFT) | | | 1.93 | mg/Kg | 1 | 2.00 | 96 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.71 | mg/Kg | 1 | 2.00 | 86 | 70 - 130 |

Sample: 419222 - S Wall W 4'

Laboratory: Lubbock

Analysis: TPH ORO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130158 Date Analyzed: 2016 - 05 - 18Analyzed By: HJPrep Batch: 110265 Sample Preparation: 2016-05-17 Prepared By: HJ

MDLMQLPQLRLParameter Flag Cert Result Result Result Result Units Dilution MDLMQL PQL RLORO < 7.48< 50.0 < 50.0 < 50.0 mg/Kg 7.48 50.0 50.0 50.0

| | | | | | | | Spike | Percent | Recovery |
|---------------|-------------------|-------------------|-----------------------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 36.5 | mg/Kg | 1 | 25.0 | 146 | 70 - 130 |
| n-Triacontane | $_{\mathrm{Qsr}}$ | $_{\mathrm{Qsr}}$ | | 41.9 | mg/Kg | 1 | 25.0 | 168 | 70 - 130 |

Sample: 419223 - S Wall W 8'

Laboratory: Lubbock

Sample: 419223 - S Wall W 8'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJSample Preparation: 2016-05-17 Prepared By: Prep Batch: 110264 HJ

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| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 25.5 | mg/Kg | 1 | 25.0 | 102 | 58.2 - 150 |

Sample: 419223 - S Wall W 8'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AKPrep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.91 | mg/Kg | 1 | 2.00 | 96 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.85 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |

Sample: 419223 - S Wall W 8'

Laboratory: Lubbock

TPH ORO Analysis: Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110265 Sample Preparation: 2016-05-17 Prepared By: HJ

MDL MQL PQL RLParameter Flag Cert Result Result Result Result ${\rm Units}$ Dilution MDL MQLPQL RL< 7.48 50.0 ORO < 50.0 < 50.0 7.48 50.0 < 50.0mg/Kg 50.0

| | | | | | | Spike | Percent | Recovery |
|---------------|------|------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 25.5 | mg/Kg | 1 | 25.0 | 102 | 70 - 130 |
| n-Triacontane | | | 28.4 | mg/Kg | 1 | 25.0 | 114 | 70 - 130 |

Sample: 419224 - S Wall W 10'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 130164 Date Analyzed: 2016 - 05 - 17Analyzed By: RLPrep Batch: 110271 Sample Preparation: 2016-05-17 Prepared By: RL

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| | | | RL | | | |
|-----------|------|-------|---------------------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,6 | <25.0 | mg/Kg | 1 | 25.0 |

Sample: 419224 - S Wall W 10'

Laboratory: Lubbock

TPH DRO Analysis: Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110266 Sample Preparation: Prepared By: 2016-05-17 HJ

| | | | RL | | | |
|-----------|------|-----------------------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | U | 1,2,3,4 | < 50.0 | mg/Kg | 1 | 50.0 |

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 24.8 | mg/Kg | 1 | 25.0 | 99 | 58.2 - 150 |

Sample: 419224 - S Wall W 10'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK Prep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

| | | | RL | | | |
|-----------|------|------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | II | 5 | <4.00 | mg/Kg | 1 | 4 00 |

| C | D1 | O | Dl4 | TT:4 | D:1+: | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.99 | mg/Kg | 1 | 2.00 | 100 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.99 | mg/Kg | 1 | 2.00 | 100 | 70 - 130 |

Sample: 419224 - S Wall W 10

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110267 Sample Preparation: 2016-05-17 Prepared By: HJ

 $continued \dots$

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sample 419224 continued ...

| Parameter | Flag | Cert | MDL Result | MQL Result | PQL Result | RL Result | Units | Dilution | MDL | MQL | PQL | RL |
|---------------|------|-----------------------|---------------|-----------------|---------------|----------------|----------|----------------|------|---------------------|------|--------|
| | | | MDL | MQL | PQL | RL | | | | | | |
| Parameter | Flag | Cert | Result | Result | Result | Result | Units | Dilution | MDL | MQL | PQL | RL |
| ORO | Qs,U | | < 7.48 | < 50.0 | < 50.0 | < 50.0 | mg/Kg | 1 | 7.48 | 50.0 | 50.0 | 50.0 |
| Surrogate | | Flag | Cert | Resu | ıl+ 1 | Units | Dilution | Spike Amoun | | Percent Recovery | | covery |
| n-Tricosane | | Tag | Cert | 24 | | ig/Kg | 1 | 25.0 | 10 1 | 99 | | - 130 |
| n-Triacontane | | | | $\frac{24}{27}$ | | ıg/Kg ıg/Kg | 1 | 25.0 25.0 | | 108 | | - 130 |

Sample: 419225 - S Wall W 14'

Laboratory: Lubbock

Analysis: Chloride (IC)

QC Batch: 130164

Prep Method: N/A

Date Analyzed: 2016-05-17

Prep Batch: 110271

Analyzed By: RL

Sample Preparation: 2016-05-17

Prepared By: RL

| | | | RL | | | |
|-----------|------|-------|--------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,6 | 124 | m mg/Kg | 1 | 25.0 |

Sample: 419225 - S Wall W 14'

Laboratory: Lubbock

| | | | RL | | | |
|-----------|------|---------|--------|------------------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | U | 1,2,3,4 | < 50.0 | $\mathrm{mg/Kg}$ | 1 | 50.0 |

| n-Tricosane | | 3 | 24.6 | mg/Kg | 1 | 25.0 | 98 | 58.2 - 150 |
|-------------|------|------|--------|-------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| | | | | | | Spike | Percent | Recovery |

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Sample: 419225 - S Wall W 14'

Laboratory: Midland

TPH GRO S 5035 Analysis: Analytical Method: S 8015 D Prep Method: QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK Sample Preparation: Prep Batch: 110234 2016-05-17 Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.62 | mg/Kg | 1 | 2.00 | 81 | 70 - 130 |

Sample: 419225 - S Wall W 14'

Laboratory: Lubbock

Analysis: TPH ORO Prep Method: Analytical Method: S 8015 D N/AQC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110267 Sample Preparation: 2016-05-17 Prepared By: HJ

MDL MQL PQL RLParameter Flag Cert Result Result Result Result Units Dilution MDL MQLPQL RL< 7.48< 50.0 7.48 50.0 ORO < 50.0 < 50.0 50.0 50.0 mg/Kg

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|---------------|------|-----------------------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 24.6 | mg/Kg | 1 | 25.0 | 98 | 70 - 130 |
| n-Triacontane | | | 26.7 | mg/Kg | 1 | 25.0 | 107 | 70 - 130 |

Sample: 419226 - S Wall W 18'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: RL130165 Date Analyzed: 2016-05-17 Analyzed By: Prep Batch: 110272Sample Preparation: Prepared By: RL2016-05-17

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Sample: 419226 - S Wall W 18'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110266 Sample Preparation: Prepared By: 2016-05-17 HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 23.2 | mg/Kg | 1 | 25.0 | 93 | 58.2 - 150 |

Sample: 419226 - S Wall W 18'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130152 Date Analyzed: Analyzed By: 2016-05-18 AKPrep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.65 | mg/Kg | 1 | 2.00 | 82 | 70 - 130 |

Sample: 419226 - S Wall W 18'

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110267 Sample Preparation: Prepared By: 2016-05-17 HJ

MDLMQL PQLRLResult MDLPQL RLParameter Flag Cert Result Result Result Units Dilution MQL7.48 50.0 ORO <7.48 < 50.0 < 50.0 < 50.0 mg/Kg 50.0 50.0 U

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 23.2 | mg/Kg | 1 | 25.0 | 93 | 70 - 130 |

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Prep Method: N/A

RL

RL

N/A

HJ

HJ

Analyzed By:

Prepared By:

Prep Method:

Analyzed By:

Prepared By:

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sample continued ...

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| | | | | | | Spike | Percent | Recovery |
|---------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Triacontane | | | 25.1 | mg/Kg | 1 | 25.0 | 100 | 70 - 130 |

Sample: 419227 - E Wall 4'

Laboratory: Lubbock

Prep Batch: 110272

Analysis: Chloride (IC) Analytical Method: QC Batch: 130165 Date Analyzed:

Analytical Method: E 300.0 Date Analyzed: 2016-05-17 Sample Preparation: 2016-05-17

Sample: 419227 - E Wall 4'

Laboratory: Lubbock

Analysis:TPH DROAnalytical Method:S 8015 DQC Batch:130159Date Analyzed:2016-05-18Prep Batch:110266Sample Preparation:2016-05-17

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 26.8 | mg/Kg | 1 | 25.0 | 107 | 58.2 - 150 |

Sample: 419227 - E Wall 4'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 1301522016-05-18 Analyzed By: AKDate Analyzed: Prep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

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| | | ~ | | | | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.92 | mg/Kg | 1 | 2.00 | 96 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.82 | mg/Kg | 1 | 2.00 | 91 | 70 - 130 |

Sample: 419227 - E Wall 4'

Laboratory: Lubbock

Analysis: TPH ORO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130160 Date Analyzed: 2016 - 05 - 18Analyzed By: HJPrep Batch: 110267Sample Preparation: 2016-05-17 Prepared By: HJ

 MDL MQLPQLRLParameter Flag Cert Result Result Result Result Units Dilution MDLMQL PQL RLORO < 7.48< 50.0 < 50.0 < 50.0 mg/Kg 7.48 50.0 50.0 50.0

| | | | | | | Spike | Percent | Recovery |
|---------------|------|-----------------------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 26.8 | mg/Kg | 1 | 25.0 | 107 | 70 - 130 |
| n-Triacontane | | | 28.6 | mg/Kg | 1 | 25.0 | 114 | 70 - 130 |

Sample: 419228 - E Wall 8'

Laboratory: Lubbock

Sample: 419228 - E Wall 8'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJSample Preparation: 2016-05-17 Prepared By: Prep Batch: 110266 HJ

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| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 23.3 | mg/Kg | 1 | 25.0 | 93 | 58.2 - 150 |

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Sample: 419228 - E Wall 8'

Laboratory: Midland

Prep Method: S 5035 Analysis: TPH GRO Analytical Method: S 8015 D QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AKPrep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

| | | | RL | | | |
|-----------|------|------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | U | 5 | < 4.00 | mg/Kg | 1 | 4.00 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.91 | mg/Kg | 1 | 2.00 | 96 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.74 | mg/Kg | 1 | 2.00 | 87 | 70 - 130 |

Sample: 419228 - E Wall 8'

Laboratory: Lubbock

TPH ORO Analysis: Analytical Method: Prep Method: N/A S 8015 D QC Batch: Analyzed By: 130160 Date Analyzed: 2016-05-18 HJPrep Batch: 110267 Sample Preparation: 2016-05-17 Prepared By: HJ

| | | | MDL | MQL | $_{\mathrm{PQL}}$ | RL | | | | | | |
|-----------|------|------|--------|--------|-------------------|--------|-------|----------|------|------|------|------|
| Parameter | Flag | Cert | Result | Result | Result | Result | Units | Dilution | MDL | MQL | PQL | RL |
| ORO | U | | < 7.48 | < 50.0 | < 50.0 | < 50.0 | mg/Kg | 1 | 7.48 | 50.0 | 50.0 | 50.0 |

| Surrogate | Flag | Cert | Result | Units | Dilution | $egin{array}{c} 	ext{Spike} \ 	ext{Amount} \end{array}$ | Percent Recovery | Recovery Limits |
|---------------|------|------|--------|-------|----------|---|---------------------|--------------------|
| n-Tricosane | | | 23.3 | mg/Kg | 1 | 25.0 | 93 | 70 - 130 |
| n-Triacontane | | | 25.9 | mg/Kg | 1 | 25.0 | 104 | 70 - 130 |

Sample: 419229 - E Wall 10'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: RL130165Date Analyzed: 2016-05-17Analyzed By: Prep Batch: 110272 Sample Preparation: 2016-05-17 Prepared By: RL

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| | | | RL | | | |
|-----------|------|-------|---------------------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,6 | <25.0 | mg/Kg | 1 | 25.0 |

Sample: 419229 - E Wall 10'

Laboratory: Lubbock

TPH DRO Analysis: Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110266 Sample Preparation: Prepared By: 2016-05-17 HJ

| | | | RL | | | |
|-----------|------|-----------------------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | U | 1,2,3,4 | < 50.0 | mg/Kg | 1 | 50.0 |

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 26.5 | mg/Kg | 1 | 25.0 | 106 | 58.2 - 150 |

Sample: 419229 - E Wall 10'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK Prep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

| | | | RL | | | |
|-----------|------|------|---------------------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | U | 5 | < 4.00 | mg/Kg | 1 | 4.00 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.82 | mg/Kg | 1 | 2.00 | 91 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.68 | mg/Kg | 1 | 2.00 | 84 | 70 - 130 |

Sample: 419229 - E Wall 10'

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110267 Sample Preparation: 2016-05-17 Prepared By: HJ

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sample 419229 continued ...

| Parameter | Flag | Cert | MDL Result | MQL Result | PQL Result | RL Result | Units | Dilution | MDL | MQL | PQL | RL |
|---------------|------|-----------------------|---------------|---------------|---------------|--------------|----------|----------------|------|---------------------|------|--------|
| | | | MDL | MQL | PQL | RL | | | | | | |
| Parameter | Flag | Cert | Result | Result | Result | Result | Units | Dilution | MDL | MQL | PQL | RL |
| ORO | U | | < 7.48 | < 50.0 | < 50.0 | < 50.0 | mg/Kg | 1 | 7.48 | 50.0 | 50.0 | 50.0 |
| Surrogate | | Flag | Cert | Resu | lt I | Units | Dilution | Spike Amour | | Percent Recovery | | covery |
| n-Tricosane | | | | 26 | .5 m | ıg/Kg | 1 | 25.0 | | 106 | 70 | - 130 |
| n-Triacontane | | | | 28 | .6 m | ıg/Kg | 1 | 25.0 | | 114 | 70 | - 130 |

Sample: 419230 - E Wall 14'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: Prep Method: N/A E 300.0 QC Batch: Analyzed By: RL130165Date Analyzed: 2016-05-17Prep Batch: 110272 Sample Preparation: 2016-05-17 Prepared By: RL

Sample: 419230 - E Wall 14'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110266 Sample Preparation: 2016-05-17 Prepared By: HJ

| n-Tricosane | | 3 | 22.5 | mg/Kg | 1 | 25.0 | 90 | 58.2 - 150 |
|-------------|------|------|--------|-------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| | | | | | | Spike | Percent | Recovery |

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Sample: 419230 - E Wall 14'

Laboratory: Midland

TPH GRO S 5035 Analysis: Analytical Method: S 8015 D Prep Method: QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK Sample Preparation: Prep Batch: 110234 2016-05-17 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.84 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.75 | mg/Kg | 1 | 2.00 | 88 | 70 - 130 |

Sample: 419230 - E Wall 14'

Laboratory: Lubbock

Analysis: TPH ORO Prep Method: Analytical Method: S 8015 D N/AQC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110267 Sample Preparation: 2016-05-17 Prepared By: HJ

MDL MQL PQL RLParameter Flag Cert Result Result Result Result Units Dilution MDL MQLPQL RL< 7.48< 50.0 7.48 50.0 ORO < 50.0 < 50.0 50.0 50.0 mg/Kg

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|---------------|------|-----------------------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 22.5 | mg/Kg | 1 | 25.0 | 90 | 70 - 130 |
| n-Triacontane | | | 24.6 | mg/Kg | 1 | 25.0 | 98 | 70 - 130 |

Sample: 419231 - E Wall 18'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: RL130165 Date Analyzed: 2016-05-17 Analyzed By: Prep Batch: 110272Sample Preparation: Prepared By: RL2016-05-17

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Sample: 419231 - E Wall 18'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110266 Sample Preparation: Prepared By: 2016-05-17 HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 26.6 | mg/Kg | 1 | 25.0 | 106 | 58.2 - 150 |

Sample: 419231 - E Wall 18'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130152 Date Analyzed: Analyzed By: 2016-05-18 AKPrep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.97 | mg/Kg | 1 | 2.00 | 98 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 70 - 130 |

Sample: 419231 - E Wall 18'

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110267 Sample Preparation: Prepared By: 2016-05-17 HJ

MDLMQL PQLRLResult MDLPQL RLParameter Flag Cert Result Result Result Units Dilution MQL7.48 50.0 ORO <7.48 < 50.0 < 50.0 < 50.0 mg/Kg 50.0 50.0 U

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 26.6 | mg/Kg | 1 | 25.0 | 106 | 70 - 130 |

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| sample | continued | |
|--------|-----------|--|

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| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|---------------|------|------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Triacontane | | | 29.0 | mg/Kg | 1 | 25.0 | 116 | 70 - 130 |

Sample: 419232 - W Wall 4'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 130165Date Analyzed: 2016-05-17Analyzed By: RLPrep Batch: 110272 Sample Preparation: 2016-05-17 Prepared By: RL

Sample: 419232 - W Wall 4'

Laboratory: Lubbock

TPH DRO Analytical Method: S 8015 D Prep Method: N/A Analysis: QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110266 Sample Preparation: 2016-05-17 Prepared By: HJ

| | | | | | | | Spike | Percent | Recovery |
|-------------|-----|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | 3 | 217 | mg/Kg | 2 | 25.0 | 868 | 58.2 - 150 |

Sample: 419232 - W Wall 4'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 1301522016-05-18 Analyzed By: AKDate Analyzed: Prep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

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| Surrogate | Flag | Cert | Result | Units | Dilution | $\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$ | Percent Recovery | Recovery Limits |
|------------------------------|------|------|--------|---------------------------|----------|--|---------------------|--------------------|
| Trifluorotoluene (TFT) | | | 18.0 | mg/Kg | 10 | 20.0 | 90 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 22.8 | mg/Kg | 10 | 20.0 | 114 | 70 - 130 |

Sample: 419232 - W Wall 4'

Laboratory: Lubbock

Analysis: TPH ORO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130160 Date Analyzed: 2016 - 05 - 18Analyzed By: HJ110267Prep Batch: Sample Preparation: 2016-05-17 Prepared By: HJ

 MDL MQLPQLRLParameter Flag Cert Result Result Result Result Units Dilution MDLMQL PQL RLORO 1080 1080 1080 1080 mg/Kg 7.48 50.0 50.0 50.0

| | | | | | | | Spike | Percent | Recovery |
|---------------|-------------------|-------------|-----------------------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | Qsr | Qsr | | 217 | mg/Kg | 2 | 25.0 | 868 | 70 - 130 |
| n-Triacontane | $_{\mathrm{Qsr}}$ | $_{ m Qsr}$ | | 168 | mg/Kg | 2 | 25.0 | 672 | 70 - 130 |

Sample: 419233 - W Wall 8'

Laboratory: Lubbock

Sample: 419233 - W Wall 8'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJSample Preparation: 2016-05-17 Prepared By: Prep Batch: 110266 HJ

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| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 23.2 | mg/Kg | 1 | 25.0 | 93 | 58.2 - 150 |

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Sample: 419233 - W Wall 8'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AKPrep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

RLParameter Flag Cert Result Units Dilution RL \overline{GRO} < 4.00mg/Kg 4.00

| a | E) | a . | D 1 | TT • | Dil | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.89 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.74 | mg/Kg | 1 | 2.00 | 87 | 70 - 130 |

Sample: 419233 - W Wall 8'

Laboratory: Lubbock

TPH ORO Analysis: Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110267 Sample Preparation: 2016-05-17 Prepared By: HJ

MDL MQL PQL RLParameter Flag Cert Result Result Result Result ${\rm Units}$ Dilution MDL MQLPQL RL< 7.48 50.0 ORO < 50.0 < 50.0 7.48 50.0 < 50.0mg/Kg 50.0

| | | | | | | Spike | Percent | Recovery |
|---------------|-----------------------|------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 23.2 | mg/Kg | 1 | 25.0 | 93 | 70 - 130 |
| n-Triacontane | | | 25.2 | mg/Kg | 1 | 25.0 | 101 | 70 - 130 |

Sample: 419234 - W Wall 10'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 130165 Date Analyzed: 2016 - 05 - 17Analyzed By: RLPrep Batch: 110272Sample Preparation: 2016-05-17 Prepared By: RL

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| | | | RL | | | |
|-----------|------|-------|---------------------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 3,4,6 | <25.0 | mg/Kg | 1 | 25.0 |

Sample: 419234 - W Wall 10'

Laboratory: Lubbock

TPH DRO Analysis: Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110266 Sample Preparation: Prepared By: 2016-05-17 HJ

| | | | RL | | | |
|-----------|------|-----------------------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | U | 1,2,3,4 | < 50.0 | mg/Kg | 1 | 50.0 |

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 23.7 | mg/Kg | 1 | 25.0 | 95 | 58.2 - 150 |

Sample: 419234 - W Wall 10'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK Prep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

| | | | RL | | | |
|-----------|------|------|---------------------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | U | 5 | < 4.00 | mg/Kg | 1 | 4.00 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.97 | mg/Kg | 1 | 2.00 | 98 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 70 - 130 |

Sample: 419234 - W Wall 10'

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110267 Sample Preparation: 2016-05-17 Prepared By: HJ

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sample 419234 continued ...

| Parameter | Flag | Cert | MDL Result | MQL Result | PQL Result | RL Result | Units | Dilution | MDL | MQL | PQL | RL |
|---------------|------|-----------------------|---------------|---------------|---------------|--------------|----------|----------------|------|---------------------|------|----------------|
| | | | MDL | MQL | PQL | RL | | | | | | |
| Parameter | Flag | Cert | Result | Result | Result | Result | Units | Dilution | MDL | MQL | PQL | RL |
| ORO | U | | < 7.48 | < 50.0 | < 50.0 | < 50.0 | mg/Kg | 1 | 7.48 | 50.0 | 50.0 | 50.0 |
| Surrogate | | Flag | Cert | Resu | ılt (| Units | Dilution | Spike Amour | | Percent Recovery | | covery mits |
| n-Tricosane | | | | 23 | .7 m | ıg/Kg | 1 | 25.0 | | 95 | 70 | - 130 |
| n-Triacontane | | | | 26 | .0 m | ng/Kg | 1 | 25.0 | | 104 | 70 | - 130 |

Sample: 419235 - W Wall 14'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: Prep Method: N/A E 300.0 QC Batch: Analyzed By: RL130165Date Analyzed: 2016-05-17Prep Batch: 110272 Sample Preparation: 2016-05-17 Prepared By: RL

Sample: 419235 - W Wall 14'

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110266 Sample Preparation: 2016-05-17 Prepared By: HJ

| n-Tricosane | | 3 | 25.3 | mg/Kg | 1 | 25.0 | 101 | 58.2 - 150 |
|-------------|------|------|--------|-------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| | | | | | | Spike | Percent | Recovery |

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Sample: 419235 - W Wall 14

Laboratory: Midland

TPH GRO S 5035 Analysis: Analytical Method: S 8015 D Prep Method: QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK Sample Preparation: Prep Batch: 110234 2016-05-17 Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.89 | mg/Kg | 1 | 2.00 | 94 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.64 | mg/Kg | 1 | 2.00 | 82 | 70 - 130 |

Sample: 419235 - W Wall 14'

Laboratory: Lubbock

Analysis: TPH ORO Prep Method: Analytical Method: S 8015 D N/AQC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110267 Sample Preparation: 2016-05-17 Prepared By: HJ

MDL MQL PQL RLParameter Flag Cert Result Result Result Result Units Dilution MDL MQLPQL RL< 7.48< 50.0 7.48 50.0 ORO < 50.0 < 50.0 50.0 50.0 mg/Kg

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|---------------|------|-----------------------|--------|---------------------------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 25.3 | mg/Kg | 1 | 25.0 | 101 | 70 - 130 |
| n-Triacontane | | | 26.9 | mg/Kg | 1 | 25.0 | 108 | 70 - 130 |

Sample: 419236 - W Wall 18'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: RL130166 Date Analyzed: 2016-05-17 Analyzed By: Prep Batch: 110273 Sample Preparation: 2016-05-17 Prepared By: RL

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Sample: 419236 - W Wall 18

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110266 Sample Preparation: Prepared By: 2016-05-17 HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 28.0 | mg/Kg | 1 | 25.0 | 112 | 58.2 - 150 |

Sample: 419236 - W Wall 18'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 130152 Date Analyzed: Analyzed By: 2016-05-18 AKPrep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.91 | mg/Kg | 1 | 2.00 | 96 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.78 | mg/Kg | 1 | 2.00 | 89 | 70 - 130 |

Sample: 419236 - W Wall 18'

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110267 Sample Preparation: Prepared By: 2016-05-17 HJ

MDLMQL PQLRLResult MDLPQL RLParameter Flag Cert Result Result Result Units Dilution MQL7.48 50.0 ORO < 7.48 < 50.0 < 50.0 < 50.0 mg/Kg 50.0 50.0 U

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 28.0 | mg/Kg | 1 | 25.0 | 112 | 70 - 130 |

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sample continued ...

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| | | | | | | Spike | Percent | Recovery |
|---------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Triacontane | | | 30.7 | mg/Kg | 1 | 25.0 | 123 | 70 - 130 |

Sample: 419237 - Bottom 24'

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 130166Date Analyzed: 2016-05-17Analyzed By: RLPrep Batch: 110273 Sample Preparation: 2016-05-17 Prepared By: RL

Sample: 419237 - Bottom 24'

Laboratory: Lubbock

TPH DRO Analytical Method: S 8015 D Prep Method: N/A Analysis: QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJPrep Batch: 110266 Sample Preparation: 2016-05-17 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 25.3 | mg/Kg | 1 | 25.0 | 101 | 58.2 - 150 |

Sample: 419237 - Bottom 24'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 1301522016-05-18 Analyzed By: AKDate Analyzed: Prep Batch: 110234 Sample Preparation: 2016-05-17 Prepared By: AK

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| | | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|------------------------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.84 | mg/Kg | 1 | 2.00 | 92 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.71 | mg/Kg | 1 | 2.00 | 86 | 70 - 130 |

Sample: 419237 - Bottom 24'

Laboratory: Lubbock

 MDL MQL PQL RLParameter Flag Cert Result Result Result Result Units Dilution MDLMQLPQLRL $\overline{\text{ORO}}$ < 7.48 < 50.0 < 50.0 < 50.0 7.48 50.0 50.0 50.0 mg/Kg

| | | | | | | Spike | Percent | Recovery |
|---------------|------|------|--------|---------------------------|----------|------------------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 25.3 | mg/Kg | 1 | 25.0 | 101 | 70 - 130 |
| n-Triacontane | | | 27.5 | mg/Kg | 1 | 25.0 | 110 | 70 - 130 |

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Method Blanks

Method Blank (1) QC Batch: 130118

QC Batch: 130118 Date Analyzed: 2016-05-17 Analyzed By: AK Prep Batch: 110233 QC Preparation: 2016-05-16 Prepared By: AK

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.97 | mg/Kg | 1 | 2.00 | 98 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.56 | mg/Kg | 1 | 2.00 | 78 | 70 - 130 |

Method Blank (1) QC Batch: 130148

QC Batch: 130148 Date Analyzed: 2016-05-17 Analyzed By: RL Prep Batch: 110258 QC Preparation: 2016-05-17 Prepared By: RL

| | | | MDL | | |
|-----------|------|-------|----------------|---------|----|
| Parameter | Flag | Cert | Result | Units | RL |
| Chloride | | 3,4,6 | < 4.44 | m mg/Kg | 25 |

Method Blank (1) QC Batch: 130152

QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK Prep Batch: 110234 QC Preparation: 2016-05-17 Prepared By: AK

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.99 | mg/Kg | 1 | 2.00 | 100 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.59 | mg/Kg | 1 | 2.00 | 80 | 70 - 130 |

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Method Blank (1) QC Batch: 130157

QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJ Prep Batch: 110264 QC Preparation: 2016-05-17 Prepared By: HJ

Percent Recovery Spike Flag Dilution Amount Limits Cert Result Units Recovery Surrogate 58.2 - 150 n-Tricosane 25.0 24.8 mg/Kg 99 3

Method Blank (1) QC Batch: 130158

QC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJ Prep Batch: 110265 QC Preparation: 2016-05-17 Prepared By: HJ

| Surrogate | Flag | Cert | Result | Units | Dilution | $\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$ | Percent Recovery | Recovery Limits |
|---------------|------|------|--------|-------|----------|--|---------------------|--------------------|
| n-Tricosane | | | 24.8 | mg/Kg | 1 | 25.0 | 99 | 70 - 130 |
| n-Triacontane | | | 26.6 | mg/Kg | 1 | 25.0 | 106 | 70 - 130 |

Method Blank (1) QC Batch: 130159

QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJ Prep Batch: 110266 QC Preparation: 2016-05-17 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|--------------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | 3 | 21.0 | ${ m mg/Kg}$ | 1 | 25.0 | 84 | 58.2 - 150 |

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Method Blank (1) QC Batch: 130160

QC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJ Prep Batch: 110267 QC Preparation: 2016-05-17 Prepared By: HJ

Spike Percent Recovery Flag Cert Units Dilution Amount Limits Surrogate Result Recovery 70 - 130 n-Tricosane 21.0 mg/Kg 1 25.0 84 n-Triacontane 22.7 mg/Kg1 25.091 70 - 130

Method Blank (1) QC Batch: 130164

QC Batch: 130164 Date Analyzed: 2016-05-17 Analyzed By: RL Prep Batch: 110271 QC Preparation: 2016-05-17 Prepared By: RL

Method Blank (1) QC Batch: 130165

QC Batch: 130165 Date Analyzed: 2016-05-17 Analyzed By: RL Prep Batch: 110272 QC Preparation: 2016-05-17 Prepared By: RL

Method Blank (1) QC Batch: 130166

QC Batch: 130166 Date Analyzed: 2016-05-17 Analyzed By: RL Prep Batch: 110273 QC Preparation: 2016-05-17 Prepared By: RL

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| | | | MDL | | |
|-----------|------|-------|--------|---------|----|
| Parameter | Flag | Cert | Result | Units | RL |
| Chloride | | 3,4,6 | < 4.44 | m mg/Kg | 25 |

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 130118 Date Analyzed: 2016-05-17 Analyzed By: AK Prep Batch: 110233 QC Preparation: 2016-05-16 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 5 | 22.3 | mg/Kg | 1 | 20.0 | < 1.76 | 112 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 22.0 | mg/Kg | 1 | 20.0 | < 1.76 | 110 | 70 - 130 | 1 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|--------|--------|---------------------------|------|------------------------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.96 | 1.94 | mg/Kg | 1 | 2.00 | 98 | 97 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.80 | 1.76 | mg/Kg | 1 | 2.00 | 90 | 88 | 70 - 130 |

Laboratory Control Spike (LCS-1)

| | | | LCS | | | Spike | Matrix | | Rec. |
|----------|--------------|-----------------|--------|-------|------|------------------------|--------|------|----------|
| Param | \mathbf{F} | $^{\mathrm{C}}$ | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 3,4,6 | 244 | mg/Kg | 1 | 250 | < 4.44 | 98 | 90 - 110 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 244 | mg/Kg | 1 | 250 | < 4.44 | 98 | 90 - 110 | 0 | 20 |

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Laboratory Control Spike (LCS-1)

QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK
Prep Batch: 110234 QC Preparation: 2016-05-17 Prepared By: AK

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 5 | 22.0 | mg/Kg | 1 | 20.0 | < 1.76 | 110 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 22.5 | mg/Kg | 1 | 20.0 | < 1.76 | 112 | 70 - 130 | 2 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | $_{ m Spike}$ | LCS | LCSD | Rec. |
|------------------------------|--------|--------|-------|------|---------------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.92 | 1.96 | mg/Kg | 1 | 2.00 | 96 | 98 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.79 | 1.84 | mg/Kg | 1 | 2.00 | 90 | 92 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJ
Prep Batch: 110264 QC Preparation: 2016-05-17 Prepared By: HJ

| | | | LCS | | | $_{\mathrm{Spike}}$ | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|---------------------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 535 | mg/Kg | 1 | 500 | < 8.47 | 107 | 68.5 - 136 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 584 | mg/Kg | 1 | 500 | < 8.47 | 117 | 68.5 - 136 | 9 | 20 |

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 23.0 | 24.1 | mg/Kg | 1 | 25.0 | 92 | 96 | 58.2 - 150 |

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Laboratory Control Spike (LCS-1)

QC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJ
Prep Batch: 110265 QC Preparation: 2016-05-17 Prepared By: HJ

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|---------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 23.0 | 23.0 | mg/Kg | 1 | 25.0 | 92 | 92 | 70 - 130 |
| n-Triacontane | 21.5 | 22.0 | mg/Kg | 1 | 25.0 | 86 | 88 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJ
Prep Batch: 110266 QC Preparation: 2016-05-17 Prepared By: HJ

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|------------------------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 555 | mg/Kg | 1 | 500 | < 8.47 | 111 | 68.5 - 136 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | $_{ m Spike}$ | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|---------------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 550 | mg/Kg | 1 | 500 | < 8.47 | 110 | 68.5 - 136 | 1 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 24.1 | 23.5 | mg/Kg | 1 | 25.0 | 96 | 94 | 58.2 - 150 |

Laboratory Control Spike (LCS-1)

QC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJ Prep Batch: 110267 QC Preparation: 2016-05-17 Prepared By: HJ

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|---------------|--------|--------|---------------------------|------|--------|------|------|------------------------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 24.1 | 23.5 | mg/Kg | 1 | 25.0 | 96 | 94 | 70 - 130 |
| n-Triacontane | 21.5 | 21.0 | mg/Kg | 1 | 25.0 | 86 | 84 | 70 - 130 |

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Laboratory Control Spike (LCS-1)

QC Batch: 130164 Date Analyzed: 2016-05-17 Analyzed By: RL Prep Batch: 110271 QC Preparation: 2016-05-17 Prepared By: RL

LCS Spike Matrix Rec. F Param \mathbf{C} Result Units Dil. Amount Result Rec. Limit Chloride 90 - 110 3,4,6 248mg/Kg 250< 4.4499

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 249 | mg/Kg | 1 | 250 | < 4.44 | 100 | 90 - 110 | 0 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 130165 Date Analyzed: 2016-05-17 Analyzed By: RL Prep Batch: 110272 QC Preparation: 2016-05-17 Prepared By: RL

| | | | LCS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 3,4,6 | 248 | mg/Kg | 1 | 250 | < 4.44 | 99 | 90 - 110 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 263 | mg/Kg | 1 | 250 | < 4.44 | 105 | 90 - 110 | 6 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 130166 Date Analyzed: 2016-05-17 Analyzed By: RL Prep Batch: 110273 QC Preparation: 2016-05-17 Prepared By: RL

| | | | LCS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 3,4,6 | 246 | mg/Kg | 1 | 250 | < 4.44 | 98 | 90 - 110 |

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| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 249 | mg/Kg | 1 | 250 | < 4.44 | 100 | 90 - 110 | 1 | 20 |

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Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 419152

QC Batch: 130118 Date Analyzed: 2016-05-17 Analyzed By: AK Prep Batch: 110233 QC Preparation: 2016-05-16 Prepared By: AK

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 5 | 18.0 | mg/Kg | 2 | 20.0 | < 3.52 | 90 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 20.6 | mg/Kg | 2 | 20.0 | < 3.52 | 103 | 70 - 130 | 14 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 3.83 | 4.01 | mg/Kg | 2 | 4 | 96 | 100 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 3.88 | 4.11 | mg/Kg | 2 | 4 | 97 | 103 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 419212

| | | | MS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|------------------------|--------|------|----------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 3,4,6 | 264 | mg/Kg | 1 | 250 | 7.13 | 103 | 80 - 120 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 256 | mg/Kg | 1 | 250 | 7.13 | 100 | 80 - 120 | 3 | 20 |

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Matrix Spike (MS-1) Spiked Sample: 419220

QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK
Prep Batch: 110234 QC Preparation: 2016-05-17 Prepared By: AK

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|------------------------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 5 | 17.6 | mg/Kg | 1 | 20.0 | < 1.76 | 88 | 70 - 130 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 5 | 15.2 | mg/Kg | 1 | 20.0 | < 1.76 | 76 | 70 - 130 | 15 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | $_{ m Spike}$ | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|---------------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.77 | 1.80 | mg/Kg | 1 | 2 | 88 | 90 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.80 | 1.83 | mg/Kg | 1 | 2 | 90 | 92 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 419214

QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJ
Prep Batch: 110264 QC Preparation: 2016-05-17 Prepared By: HJ

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|------------------------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1,2,3,4 | 610 | mg/Kg | 1 | 500 | < 8.47 | 122 | 49.3 - 138 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 585 | mg/Kg | 1 | 500 | < 8.47 | 117 | 49.3 - 138 | 4 | 20 |

| | | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 32.6 | 33.0 | mg/Kg | 1 | 25 | 130 | 132 | 58.2 - 150 |

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Matrix Spike (MS-1) Spiked Sample: 419214

QC Batch: 130158 Date Analyzed: 2016-05-18 Analyzed By: HJ
Prep Batch: 110265 QC Preparation: 2016-05-17 Prepared By: HJ

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|---------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 30.9 | 30.6 | mg/Kg | 1 | 25 | 124 | 122 | 70 - 130 |
| n-Triacontane | 29.7 | 27.6 | mg/Kg | 1 | 25 | 119 | 110 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 419224

QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJ
Prep Batch: 110266 QC Preparation: 2016-05-17 Prepared By: HJ

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 1.2.3.4 | 672 | mg/Kg | 1 | 500 | < 8.47 | 134 | 49.3 - 138 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | $_{ m Spike}$ | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|---------------|--------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| DRO | | 1,2,3,4 | 690 | mg/Kg | 1 | 500 | < 8.47 | 138 | 49.3 - 138 | 3 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 3 | 32.9 | 35.6 | mg/Kg | 1 | 25 | 132 | 142 | 58.2 - 150 |

Matrix Spike (MS-1) Spiked Sample: 419224

QC Batch: 130160 Date Analyzed: 2016-05-18 Analyzed By: HJ Prep Batch: 110267 QC Preparation: 2016-05-17 Prepared By: HJ

| | MS | MSD | | | $_{ m Spike}$ | MS | MSD | Rec. |
|---------------|--------|--------|---------------------------|------|---------------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 25.1 | 28.1 | mg/Kg | 1 | 25 | 100 | 112 | 70 - 130 |
| n-Triacontane | 23.5 | 24.3 | mg/Kg | 1 | 25 | 94 | 97 | 70 - 130 |

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Matrix Spike (MS-1) Spiked Sample: 419225

QC Batch: 130164 Date Analyzed: 2016-05-17 Analyzed By: RL Prep Batch: 110271 QC Preparation: 2016-05-17 Prepared By: RL

MSSpike Matrix Rec. F Param \mathbf{C} Result Units Dil. Amount Result Rec. Limit Chloride 80 - 120 3,4,6 380 mg/Kg 250124 102

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 382 | mg/Kg | 1 | 250 | 124 | 103 | 80 - 120 | 0 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 419235

QC Batch: 130165 Date Analyzed: 2016-05-17 Analyzed By: RL Prep Batch: 110272 QC Preparation: 2016-05-17 Prepared By: RL

| | | | MS | | | $_{\mathrm{Spike}}$ | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|---------------------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 3,4,6 | 229 | mg/Kg | 1 | 250 | 19.3 | 84 | 80 - 120 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3.4.6 | 274 | mg/Kg | 1 | 250 | 19.3 | 102 | 80 - 120 | 18 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 419237

QC Batch: 130166 Date Analyzed: 2016-05-17 Analyzed By: RL Prep Batch: 110273 QC Preparation: 2016-05-17 Prepared By: RL

| | | | MS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 3,4,6 | 313 | mg/Kg | 1 | 250 | 57.5 | 102 | 80 - 120 |

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| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3,4,6 | 324 | mg/Kg | 1 | 250 | 57.5 | 107 | 80 - 120 | 3 | 20 |

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Calibration Standards

Standard (CCV-1)

| QC Batch: | 130118 | Date Analyzed: | 2016-05-17 | | Analyzed By: AK | | |
|-----------|--------|----------------|---------------|-----------------|---------------------|------|--|
| | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date | |

| | | | | True | Found | Percent | Recovery | Date |
|-------|------|------|------------------|-----------------------|-------|----------|----------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | $\mathrm{mg/Kg}$ | 1.00 | 1.14 | 114 | 80 - 120 | 2016-05-17 |

Standard (CCV-2)

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.993 | 99 | 80 - 120 | 2016-05-17 |

Standard (CCV-3)

| QC Batch: 130118 | Date Analyzed: 2016-05-17 | Analyzed By: AK |
|------------------|---------------------------|-----------------|
|------------------|---------------------------|-----------------|

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-----------------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.972 | 97 | 80 - 120 | 2016-05-17 |

Standard (CCV-1)

QC Batch: 130148 Date Analyzed: 2016-05-17 Analyzed By: RL

| | | | | CCVs True | $\begin{array}{c} {\rm CCVs} \\ {\rm Found} \end{array}$ | $\begin{array}{c} { m CCVs} \\ { m Percent} \end{array}$ | Percent Recovery | Date |
|----------|------|-------|-------|--------------|--|--|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 25.5 | 102 | 90 - 110 | 2016-05-17 |

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Standard (CCV-2)

QC Batch: 130148 Date Analyzed: 2016-05-17 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 24.3 | 97 | 90 - 110 | 2016-05-17 |

Standard (CCV-1)

QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.972 | 97 | 80 - 120 | 2016-05-18 |

Standard (CCV-2)

QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.984 | 98 | 80 - 120 | 2016-05-18 |

Standard (CCV-3)

QC Batch: 130152 Date Analyzed: 2016-05-18 Analyzed By: AK

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 5 | mg/Kg | 1.00 | 0.945 | 94 | 80 - 120 | 2016-05-18 |

Standard (CCV-1)

QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJ

Report Date: May 18, 2016 Work Order: 16051615 Page Number: 66 of 70 15-0143-01 Townsend 16" Pipeline Lea Co, NM

| | | | | ${ m CCVs} \ { m True}$ | CCVs Found | CCVs Percent | Percent Recovery | Date |
|-------|------|---------|-------|-------------------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 561 | 112 | 80 - 120 | 2016-05-18 |

Standard (CCV-2)

QC Batch: 130157 Date Analyzed: 2016-05-18 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 582 | 116 | 80 - 120 | 2016-05-18 |

Standard (CCV-1)

QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|---------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1.2.3.4 | mg/Kg | 500 | 582 | 116 | 80 - 120 | 2016-05-18 |

Standard (CCV-2)

QC Batch: 130159 Date Analyzed: 2016-05-18 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 1,2,3,4 | mg/Kg | 500 | 523 | 105 | 80 - 120 | 2016-05-18 |

Standard (CCV-1)

QC Batch: 130164 Date Analyzed: 2016-05-17 Analyzed By: RL

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| | | | | CCVs True | CCVs Found | $\begin{array}{c} { m CCVs} \\ { m Percent} \end{array}$ | Percent Recovery | Date |
|----------|------|-------|-------|--------------|---------------|--|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 25.0 | 100 | 90 - 110 | 2016-05-17 |

Standard (CCV-2)

QC Batch: 130164 Date Analyzed: 2016-05-17 Analyzed By: RL

| D. | T. | | . | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|----------|-----------------------|-----------------------|------------------------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 25.0 | 100 | 90 - 110 | 2016-05-17 |

Standard (CCV-1)

QC Batch: 130165 Date Analyzed: 2016-05-17 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 25.0 | 100 | 90 - 110 | 2016-05-17 |

Standard (CCV-2)

QC Batch: 130165 Date Analyzed: 2016-05-17 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-----------------------|-------|-------|-----------------|-----------------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 24.6 | 98 | 90 - 110 | 2016-05-17 |

Standard (CCV-1)

QC Batch: 130166 Date Analyzed: 2016-05-17 Analyzed By: RL

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| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 24.6 | 98 | 90 - 110 | 2016-05-17 |

Standard (CCV-2)

QC Batch: 130166 Date Analyzed: 2016-05-17 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 3,4,6 | mg/Kg | 25.0 | 24.9 | 100 | 90 - 110 | 2016-05-17 |

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Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|---------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | L-A-B | L2418 | Lubbock |
| 2 | Kansas | Kansas E-10317 | Lubbock |
| 3 | LELAP | LELAP-02003 | Lubbock |
| 4 | NELAP | T104704219-16-12 | Lubbock |
| 5 | NELAP | T104704392-14-8 | Midland |
| 6 | | 2015-066 | Lubbock |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
 - Qc Calibration check outside of laboratory limits.
 - Qr RPD outside of laboratory limits
 - Qs Spike recovery outside of laboratory limits.

Report Date: May 18, 2016 Work Order: 16051615 Page Number: 70 of 70 15-0143-01 Townsend 16" Pipeline Lea Co, NM

F Description

Qsr Surrogate recovery outside of laboratory limits.

U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

wall

NWA

V

A HAND DELIVERED

CARRIER BILL#

OTHER []

RECEIVED BY: (Signature)

DATE/TIME 5//7/16

S/POTE IVING

QUISHED BY(Signature)

RELINQUISHED BY:(Signature)

2 DAY X 1 DAY

CUSTODY SEALS - D BROKEN DINTACT D NOT USED CLOADER RILL # 25 ZT M341

THERM #: IR-

RECEIVING TEMP: 3 LABORATORY USE ONLY:

TURN AROUND TIME

NORMAL []

000

RECEIVED BY: (Signature) RECEIVED BY: (Signature)

5/16/16 10:06

RELINQUISHED BY (Signature)

TOTAL

Swal

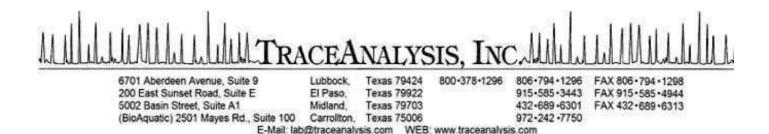
N WAL MA

400 His 1605/615

CHAIN-OF-CUSTODY PAGE 3 OF 3 DATE: 5/16/2016 PO#:

| ORDER#: enclie" Levington, NM collector: Michael Cart | | FIELD NOTES | | | LABORATORY USE ONLY: RECEIVING TEMP: 7-3. THERM #: 10. CUSTODY SEALS - DROKEN DINTACT DNOT USED D CARRIER BILL # XS ZT748941 CHAND DELIVERED |
|---|--|--|--------|-------|--|
| B WORK | 2012 1.00 1.00 1.00 | | | | |
| 0 0 | A 10 | 2 5 1 0 2 1 5 2 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | X | | TURN AROUND TIME NORMAL 1 DAY 2 DAY OTHER OTHER |
| | | NAPRESERVE ICE | | | signature) SIMB Signature) M Mand |
| 507 N. Marienfeld, Ste. 200 Midland, TX 79701 432-687-0901 | PRES | # of Containers HOI HNO ₃ P ₂ SO ₄ □ NaOH | | | RECEIVED BY: (Signature) RECEIVED BY: (Signature) RECEIVED BY: (Signature) Anemody A. S. 13.5 |
|) | P=PAINT SL=SLUDGE OT=OTHER | Time Matrix | 230 | | 16/16 10:07 DATE/TIME DATE/TIME DATE/TIME S/17/16 |
|) Simples | | Date | | | 7 0 |
| A Grson & Ssociates, Inc. Environmental Consultants Data Reported to: | eport? S=SOIL W=WATER W=MATER A=AIR | e/State: | M 74 | | RELINQUISHED BY: (Signature) RELINQUISHED BY: (Signature) RELINQUISHED BY: (Signature) |
| SS En Data Rep | TRRP report? Yes No | Time zone/State: Field Sample I.D. | Martan | TOTAL | RELINOU RELINOU |





Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Report Date: October 5, 2016

16100304

Work Order:

Michael Gant Larson and Associates, Inc.

P. O. Box 50685 Midland, TX, 79710

Project Name: Townsend 16" Pipeline

Project Number: 15-0143-01

| | | | Date | Time | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 429494 | SP-1 | soil | 2016-09-30 | 10:00 | 2016-09-30 |
| 429495 | SP-2 | soil | 2016-09-30 | 10:05 | 2016-09-30 |
| 429496 | SP-3 | soil | 2016-09-30 | 10:10 | 2016-09-30 |
| 429497 | SP-4 | soil | 2016-09-30 | 10:15 | 2016-09-30 |

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 20 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director

Johnny Grindstaff, Operations Manager

Report Contents

| Case Narrative | 4 |
|---|----------------------------|
| Sample 429495 (SP-2) | 5 5 6 7 9 |
| QC Batch 133096 - Method Blank (1) 1 QC Batch 133097 - Method Blank (1) 1 | 11 11 11 11 |
| | 13 |
| Matrix Spikes 1 QC Batch 133096 - xMS (1) 1 QC Batch 133097 - xMS (1) 1 QC Batch 133117 - MS (1) 1 QC Batch 133124 - MS (1) 1 | 15 15 |
| QC Batch 133096 - CCV (1) 1 QC Batch 133096 - CCV (2) 1 QC Batch 133117 - CCV (1) 1 QC Batch 133117 - CCV (2) 1 QC Batch 133124 - CCV (1) 1 | 17 17 17 17 17 |
| Report Definitions | 19 19 19 |

Case Narrative

Samples for project Townsend 16" Pipeline were received by TraceAnalysis, Inc. on 2016-09-30 and assigned to work order 16100304. Samples for work order 16100304 were received intact at a temperature of 14.8 C.

Samples were analyzed for the following tests using their respective methods.

| | | Prep | Prep | QC | Analysis |
|---------------|------------|--------|---------------------|--------|-----------------------|
| Test | Method | Batch | Date | Batch | Date |
| Chloride (IC) | E 300.0 | 112843 | 2016-10-04 at 08:00 | 133117 | 2016-10-04 at 10:27 |
| TPH DRO | S 8015 D | 112824 | 2016-10-03 at 14:00 | 133096 | 2016-10-04 at 12:28 |
| TPH GRO | S 8015 D | 112848 | 2016-10-04 at 13:00 | 133124 | 2016-10-04 at $13:48$ |
| TPH ORO | S 8015 D | 112824 | 2016-10-03 at 14:00 | 133097 | 2016-10-04 at 12:29 |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 16100304 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 5 of 20

15-0143-01 Townsend 16" Pipeline

Analytical Report

Sample: 429494 - SP-1

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: Chloride (IC) E 300.0N/AQC Batch: 133117 Date Analyzed: 2016-10-04 Analyzed By: RLPrep Batch: 112843 Sample Preparation: 2016-10-04 Prepared By: RL

Sample: 429494 - SP-1

Laboratory: Lubbock

TPH DRO Prep Method: Analysis: Analytical Method: S 8015 D N/AQC Batch: 133096 Date Analyzed: 2016-10-04 Analyzed By: HJPrep Batch: 112824 Sample Preparation: 2016-10-03 Prepared By: HJ

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 23.5 | mg/Kg | 1 | 25.0 | 94 | 58.2 - 150 |

Sample: 429494 - SP-1

Laboratory: Lubbock

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 133124 Date Analyzed: 2016-10-04 Analyzed By: MTPrep Batch: 112848 Sample Preparation: 2016-10-04 Prepared By: MT

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------|------|-----------------------|--------|-------|----------|---------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 76.4 - 123 |

 $continued \dots$

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 6 of 20 15-0143-01 Townsend 16" Pipeline

| $sample\ continued\ \dots$ | | |
|----------------------------|--|--|

| sample continued | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| 4-Bromofluorobenzene (4-BFB) | | | 1.79 | mg/Kg | 1 | 2.00 | 90 | 69.4 - 120 |

Sample: 429494 - SP-1

Laboratory: Lubbock

Analysis: TPH ORO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 133097 Date Analyzed: 2016-10-04 Analyzed By: HJ112824 Prep Batch: Sample Preparation: 2016-10-03 Prepared By: HJ

 MDL MQLPQLRLParameter Flag Cert Result Result Result Result Units Dilution MDLMQL PQL RLORO < 7.48< 50.0 < 50.0 < 50.0 mg/Kg 7.48 50.0 50.0 50.0

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 23.5 | mg/Kg | 1 | 25.0 | 94 | 70 - 130 |

Sample: 429495 - SP-2

Laboratory: Lubbock

Analysis: Analytical Method: Prep Method: Chloride (IC) E 300.0N/A QC Batch: 133117 Date Analyzed: 2016-10-04 Analyzed By: RL2016-10-04 Prepared By: Prep Batch: 112843 Sample Preparation: RL

Sample: 429495 - SP-2

Laboratory: Lubbock

TPH DRO Analytical Method: S 8015 D Prep Method: N/AAnalysis: QC Batch: 133096 Analyzed By: HJDate Analyzed: 2016-10-04 Prep Batch: 112824 Sample Preparation: 2016-10-03 Prepared By: HJ

Report Date: October 5, 2016

15 - 0143 - 01

Work Order: 16100304 Townsend 16" Pipeline

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 20.5 | mg/Kg | 1 | 25.0 | 82 | 58.2 - 150 |

Sample: 429495 - SP-2

Laboratory: Lubbock

Analysis: TPH GRO QC Batch: 133124 Prep Batch: 112848 Analytical Method:S 8015 DPrep Method:Date Analyzed:2016-10-04Analyzed By:Sample Preparation:2016-10-04Prepared By:

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------------|--------|---------------------------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.99 | mg/Kg | 1 | 2.00 | 100 | 76.4 - 123 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.97 | mg/Kg | 1 | 2.00 | 98 | 69.4 - 120 |

Sample: 429495 - SP-2

Laboratory: Lubbock

Analysis: TPH ORO QC Batch: 133097 Prep Batch: 112824 Analytical Method: S 8015 D
Date Analyzed: 2016-10-04
Sample Preparation: 2016-10-03

RL

Prepared By: HJ

N/A

HJ

Prep Method:

Analyzed By:

Page Number: 7 of 20

S 5035

MT

MT

Parameter Flag Cert Result Result Result Result ${\rm Units}$ Dilution MDLMQLPQL RL< 7.48 50.0 ORO < 50.0 < 50.0 7.48 50.0 < 50.0mg/Kg 50.0

PQL

MDL

MQL

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|-------------|------|------|--------|--------------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 20.5 | ${ m mg/Kg}$ | 1 | 25.0 | 82 | 70 - 130 |

Sample: 429496 - SP-3

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 133117 Date Analyzed: 2016-10-04 Analyzed By: RL Prep Batch: 112843 Sample Preparation: 2016-10-04 Prepared By: RL

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 8 of 20

15-0143-01 Townsend 16" Pipeline

| | | | RL | | | |
|-----------|------|------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 5,6 | <25.0 | mg/Kg | 1 | 25.0 |

Sample: 429496 - SP-3

Laboratory: Lubbock

TPH DRO Analysis: Analytical Method: S 8015 D Prep Method: N/A QC Batch: 133096 Date Analyzed: 2016-10-04 Analyzed By: HJPrep Batch: 112824 Sample Preparation: Prepared By: 2016-10-03 HJ

| | | | RL | | | |
|-----------|------|-------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| DRO | | 2,3,5 | 162 | mg/Kg | 1 | 50.0 |

| | | | | | | Spike | Percent | Recovery |
|-------------|------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 37.3 | mg/Kg | 1 | 25.0 | 149 | 58.2 - 150 |

Sample: 429496 - SP-3

Laboratory: Lubbock

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 133124 Date Analyzed: 2016-10-04 Analyzed By: MT Prep Batch: 112848 Sample Preparation: 2016-10-04 Prepared By: MT

| | | | RL | | | |
|-----------|------|-------|---------------------|---------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| GRO | U | 2,3,5 | < 4.00 | m mg/Kg | 1 | 4.00 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|---------------------------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 76.4 - 123 |
| 4-Bromofluorobenzene (4-BFB) | | | 1.89 | mg/Kg | 1 | 2.00 | 94 | 69.4 - 120 |

Sample: 429496 - SP-3

Laboratory: Lubbock

TPH ORO Prep Method: N/A Analysis: Analytical Method: S 8015 D QC Batch: 133097 Date Analyzed: 2016-10-04 Analyzed By: HJPrep Batch: 112824 Sample Preparation: 2016-10-03 Prepared By: HJ

 $continued \dots$

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 9 of 20 15-0143-01 Townsend 16" Pipeline

sample 429496 continued ...

| Parameter | Flag | Cert | MDL Result | MQL Result | PQL Result | RL Result | Units | Dilution | MDL | MQL | PQL | RL |
|-------------|------|-----------------------|-----------------------|---------------|---------------|--------------|----------|----------|------|----------|------------|--------|
| | | | MDL | MQL | PQL | RL | | | | | | |
| Parameter | Flag | Cert | Result | Result | Result | Result | Units | Dilution | MDL | MQL | PQL | RL |
| ORO | U | | <7.48 | < 50.0 | < 50.0 | < 50.0 | mg/Kg | 1 | 7.48 | 50.0 | 50.0 | 50.0 |
| | | | | | | | | Spike |] | Percent | Rec | covery |
| Surrogate | | Flag | Cert | Resu | ılt (| Jnits | Dilution | Amount | | Recovery | $_{ m Li}$ | mits |
| n-Tricosane | Oer | Oer | | 37 | 3 m | σ/Κσ | 1 | 25.0 | | 149 | 70 | - 130 |

Sample: 429497 - SP-4

Laboratory: Lubbock

Analysis: Chloride (IC)

QC Batch: 133117

Date Analyzed: 2016-10-04

Prep Method: N/A

Analyzed By: RL

Prep Batch: 112843

RL

| | | | RL | | | |
|-----------|------|-----------------------|--------|---------------------------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 5,6 | <25.0 | mg/Kg | 1 | 25.0 |

Sample: 429497 - SP-4

Laboratory: Lubbock

Analysis: TPH DRO Analytical Method: S 8015 D Prep Method: N/A QC Batch: 133096 Date Analyzed: 2016-10-04 Analyzed By: HJ Prep Batch: 112824 Sample Preparation: 2016-10-03 Prepared By: HJ

| m RL | | | | | | | | | | |
|-----------|------|-----------------------|--------|-------|----------|------|--|--|--|--|
| Parameter | Flag | Cert | Result | Units | Dilution | RL | | | | |
| DRO | U | 2,3,5 | < 50.0 | mg/Kg | 1 | 50.0 | | | | |

| | | | | | | Spike | Percent | Recovery |
|-------------|------|------|--------|-------|----------|------------------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 20.9 | mg/Kg | 1 | 25.0 | 84 | 58.2 - 150 |

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 10 of 20

15-0143-01 Townsend 16" Pipeline

Sample: 429497 - SP-4

Laboratory: Lubbock

Analysis: TPH GRO Analytical Method: Prep Method: S 5035 S 8015 D QC Batch: 133124 Date Analyzed: 2016-10-04 Analyzed By: MTPrep Batch: 112848 Sample Preparation: Prepared By: MT2016-10-04

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|---------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 2.05 | mg/Kg | 1 | 2.00 | 102 | 76.4 - 123 |
| 4-Bromofluorobenzene (4-BFB) | | | 2.02 | mg/Kg | 1 | 2.00 | 101 | 69.4 - 120 |

Sample: 429497 - SP-4

Laboratory: Lubbock

Analysis: TPH ORO Analytical Method: S 8015 D Prep Method: N/AQC Batch: 133097 Date Analyzed: Analyzed By: HJ2016-10-04 Prep Batch: 112824 Sample Preparation: 2016-10-03 Prepared By: HJ

MDL MQLPQL RLParameter Flag Cert Result Result ${\bf Units}$ MDLMQL PQLRLResult Result Dilution <7.48 $\overline{\text{ORO}}$ < 50.0 < 50.0 7.48 50.0 50.0 < 50.0 mg/Kg 50.0 U

| | | | | | | $_{ m Spike}$ | Percent | Recovery |
|-------------|------|------|--------|-------|----------|---------------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| n-Tricosane | | | 20.9 | mg/Kg | 1 | 25.0 | 84 | 70 - 130 |

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 11 of 20

15-0143-01 Townsend 16" Pipeline

Method Blanks

Method Blank (1) QC Batch: 133096

QC Batch: 133096 Date Analyzed: 2016-10-04 Analyzed By: HJ Prep Batch: 112824 QC Preparation: 2016-10-03 Prepared By: HJ

Spike Percent Recovery Surrogate Units Dilution Amount Recovery Limits Flag Cert Result n-Tricosane 20.5 25.0 82 58.2 - 150 mg/Kg

Method Blank (1) QC Batch: 133097

QC Batch: 133097 Date Analyzed: 2016-10-04 Analyzed By: HJ
Prep Batch: 112824 QC Preparation: 2016-10-03 Prepared By: HJ

Spike Percent Recovery Surrogate Flag Cert Result Units Dilution Amount Recovery Limits 70 - 130 n-Tricosane 23.6 mg/Kg25.0 94

Method Blank (1) QC Batch: 133117

QC Batch: 133117 Date Analyzed: 2016-10-04 Analyzed By: RL Prep Batch: 112843 QC Preparation: 2016-10-04 Prepared By: RL

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 12 of 20

15-0143-01 Townsend 16" Pipeline

Method Blank (1) QC Batch: 133124

QC Batch: 133124 Date Analyzed: 2016-10-04 Analyzed By: MT

Prep Batch: 112848 QC Preparation: 2016-10-04 Prepared By: MT

| | | a . | | | D.1 | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|---------------------------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 2.03 | mg/Kg | 1 | 2.00 | 102 | 76.4 - 123 |
| 4-Bromofluorobenzene (4-BFB) | | | 2.04 | mg/Kg | 1 | 2.00 | 102 | 69.4 - 120 |

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 13 of 20

Townsend 16" Pipeline

15-0143-01

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 133096 Date Analyzed: 2016-10-04 Analyzed By: HJ
Prep Batch: 112824 QC Preparation: 2016-10-03 Prepared By: HJ

| | | | LCS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 2,3,5 | 438 | mg/Kg | 1 | 500 | < 8.47 | 88 | 68.5 - 136 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD | |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|---|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit | |
| DRO | | 2.3.5 | 423 | mg/Kg | 1 | 500 | < 8.47 | 85 | 68.5 - 136 | 4 | 20 | - |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 26.8 | 25.0 | mg/Kg | 1 | 25.0 | 107 | 100 | 58.2 - 150 |

Laboratory Control Spike (LCS-1)

QC Batch: 133097 Date Analyzed: 2016-10-04 Analyzed By: HJ Prep Batch: 112824 QC Preparation: 2016-10-03 Prepared By: HJ

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 30.6 | 28.6 | mg/Kg | 1 | 25.0 | 122 | 114 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch: 133117 Date Analyzed: 2016-10-04 Analyzed By: RL Prep Batch: 112843 QC Preparation: 2016-10-04 Prepared By: RL

 $continued \dots$

Report Date: October 5, 2016

15-0143-01

Work Order: 16100304 Townsend 16" Pipeline

control spikes continued ... LCS Spike Matrix Rec. \mathbf{F} \mathbf{C} Result Units Dil. Amount Result Limit Param Rec. LCS Spike Matrix Rec. Param F \mathbf{C} Result Units Dil. Amount Result Limit Rec. 90 - 110 Chloride 234 mg/Kg 250 < 4.4494

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 5,6 | 235 | mg/Kg | 1 | 250 | < 4.44 | 94 | 90 - 110 | 0 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 133124 Prep Batch: 112848

Param

 $\overline{\text{GRO}}$

Date Analyzed: 2016-10-04 QC Preparation: 2016-10-04

LCS Spike Rec. Matrix \mathbf{C} Result Units Dil. Amount Result Rec. Limit 16.1 mg/Kg 20.0 < 0.271 80 64.2 - 120

Page Number: 14 of 20

Analyzed By: MT

Prepared By: MT

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|-------|---|--------------|--------|-------|------|--------|---------|------|------------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 2.3.5 | 16.9 | mg/Kg | 1 | 20.0 | < 0.271 | 84 | 64.2 - 120 | 5 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|--------|--------|-------|------|------------------------|------|------|------------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 2.05 | 1.66 | mg/Kg | 1 | 2.00 | 102 | 83 | 76.4 - 123 |
| 4-Bromofluorobenzene (4-BFB) | 2.26 | 2.10 | mg/Kg | 1 | 2.00 | 113 | 105 | 69.4 - 120 |

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 15 of 20

15-0143-01 Townsend 16" Pipeline

Matrix Spikes

Matrix Spike (xMS-1) Spiked Sample: 429469

QC Batch: 133096 Date Analyzed: 2016-10-04 Analyzed By: HJ Prep Batch: 112824 QC Preparation: 2016-10-03 Prepared By: HJ

| | | | MS | | | Spike | Matrix | | Rec. |
|-------|--------------|--------------|--------|-------|------|------------------------|--------|------|------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| DRO | | 2,3,5 | 423 | mg/Kg | 1 | 500 | < 8.47 | 85 | 49.3 - 138 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD | |
|-------|--------------|--------------|--------|-------|------|--------|--------|------|------------|-----|-------|---|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit | |
| DRO | | 2.3.5 | 420 | mg/Kg | 1 | 500 | < 8.47 | 84 | 49.3 - 138 | 1 | 20 | - |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 26.1 | 25.8 | mg/Kg | 1 | 25 | 104 | 103 | 58.2 - 150 |

Matrix Spike (xMS-1) Spiked Sample: 429469

QC Batch: 133097 Date Analyzed: 2016-10-04 Analyzed By: HJ
Prep Batch: 112824 QC Preparation: 2016-10-03 Prepared By: HJ

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|-------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| n-Tricosane | 26.1 | 25.8 | mg/Kg | 1 | 25 | 104 | 103 | 70 - 130 |

Matrix Spike (MS-1) Spiked Sample: 429497

QC Batch: 133117 Date Analyzed: 2016-10-04 Analyzed By: RL Prep Batch: 112843 QC Preparation: 2016-10-04 Prepared By: RL

 $continued \dots$

Report Date: October 5, 2016

15-0143-01

Work Order: 16100304 Townsend 16" Pipeline Page Number: 16 of 20

10wilselid 10 Tipelilie

| matrix spikes continued | | | $_{ m MS}$ | | | Spike | Matrix | | Rec. |
|-------------------------|--------------|--------------|------------|-------|------|--------|--------|------|----------|
| Param | F | С | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| | | | MS | | | Spike | Matrix | | Rec. |
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 5.6 | 245 | mg/Kg | 1 | 250 | 9.71 | 94 | 80 - 120 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 5,6 | 240 | mg/Kg | 1 | 250 | 9.71 | 92 | 80 - 120 | 2 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 429342

QC Batch: 133124 Date Analyzed: 2016-10-04 Analyzed By: MT Prep Batch: 112848 QC Preparation: 2016-10-04 Prepared By: MT

| | | | MS | | | $_{ m Spike}$ | Matrix | | $\mathrm{Rec}.$ |
|-------|--------------|-----------------|--------|-------|------|---------------|---------|------|-----------------|
| Param | \mathbf{F} | $^{\mathrm{C}}$ | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| GRO | | 2,3,5 | 12.6 | mg/Kg | 1 | 20.0 | < 0.271 | 63 | 35.3 - 129 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | | | MSD | | | $_{ m Spike}$ | Matrix | | Rec. | | RPD |
|-------|--------------|--------------|--------|-------|------|---------------|---------|------|------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| GRO | | 2,3,5 | 14.2 | mg/Kg | 1 | 20.0 | < 0.271 | 71 | 35.3 - 129 | 12 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1.73 | 1.68 | mg/Kg | 1 | 2 | 86 | 84 | 76.4 - 123 |
| 4-Bromofluorobenzene (4-BFB) | 2.02 | 2.15 | mg/Kg | 1 | 2 | 101 | 108 | 69.4 - 120 |

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 17 of 20

Townsend 16" Pipeline

15-0143-01

Calibration Standards

Standard (CCV-1)

| QC Batch: 1 | 33096 | Date Analyzed: | 2016-10-04 | Analyzed | By: | $_{\mathrm{HJ}}$ |
|-------------|-------|----------------|------------|----------|-----|------------------|
| | | | | | | |

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 2,3,5 | mg/Kg | 500 | 480 | 96 | 80 - 120 | 2016-10-04 |

Standard (CCV-2)

QC Batch: 133096 Date Analyzed: 2016-10-04 Analyzed By: HJ

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | 2,3,5 | mg/Kg | 500 | 491 | 98 | 80 - 120 | 2016-10-04 |

Standard (CCV-1)

QC Batch: 133117 Date Analyzed: 2016-10-04 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-----------------------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 5,6 | mg/Kg | 25.0 | 23.9 | 96 | 90 - 110 | 2016-10-04 |

Standard (CCV-2)

QC Batch: 133117 Date Analyzed: 2016-10-04 Analyzed By: RL

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-----------------------|-------|-----------------|-----------------|-----------------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 5,6 | mg/Kg | 25.0 | 23.3 | 93 | 90 - 110 | 2016-10-04 |

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 18 of 20

15-0143-01 Townsend 16" Pipeline

Standard (CCV-1)

QC Batch: 133124 Date Analyzed: 2016-10-04 Analyzed By: MT

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-------|-------|-------|-----------------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 2,3,5 | mg/Kg | 1.00 | 1.00 | 100 | 80 - 120 | 2016-10-04 |

Standard (CCV-2)

QC Batch: 133124 Date Analyzed: 2016-10-04 Analyzed By: MT

| | | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-------|-------|-------|-----------------|-----------------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | 2,3,5 | mg/Kg | 1.00 | 0.923 | 92 | 80 - 120 | 2016-10-04 |

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 19 of 20

Townsend 16" Pipeline

15-0143-01

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| MQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|--------------|------------|---------------------|---------------|
| \mathbf{C} | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |
| 1 | L-A-B | L2418.01 | El Paso |
| 2 | L-A-B | L2418 | Lubbock |
| 3 | Kansas | Kansas E-10317 | Lubbock |
| 4 | NELAP | T104704221-15-6 | El Paso |
| 5 | NELAP | T104704219-16-12 | Lubbock |
| 6 | | 2015-066 | Lubbock |

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
 - Qc Calibration check outside of laboratory limits.
 - Qr RPD outside of laboratory limits
 - Qs Spike recovery outside of laboratory limits.

Report Date: October 5, 2016 Work Order: 16100304 Page Number: 20 of 20 15-0143-01 Townsend 16" Pipeline

F Description

Qsr Surrogate recovery outside of laboratory limits.

U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

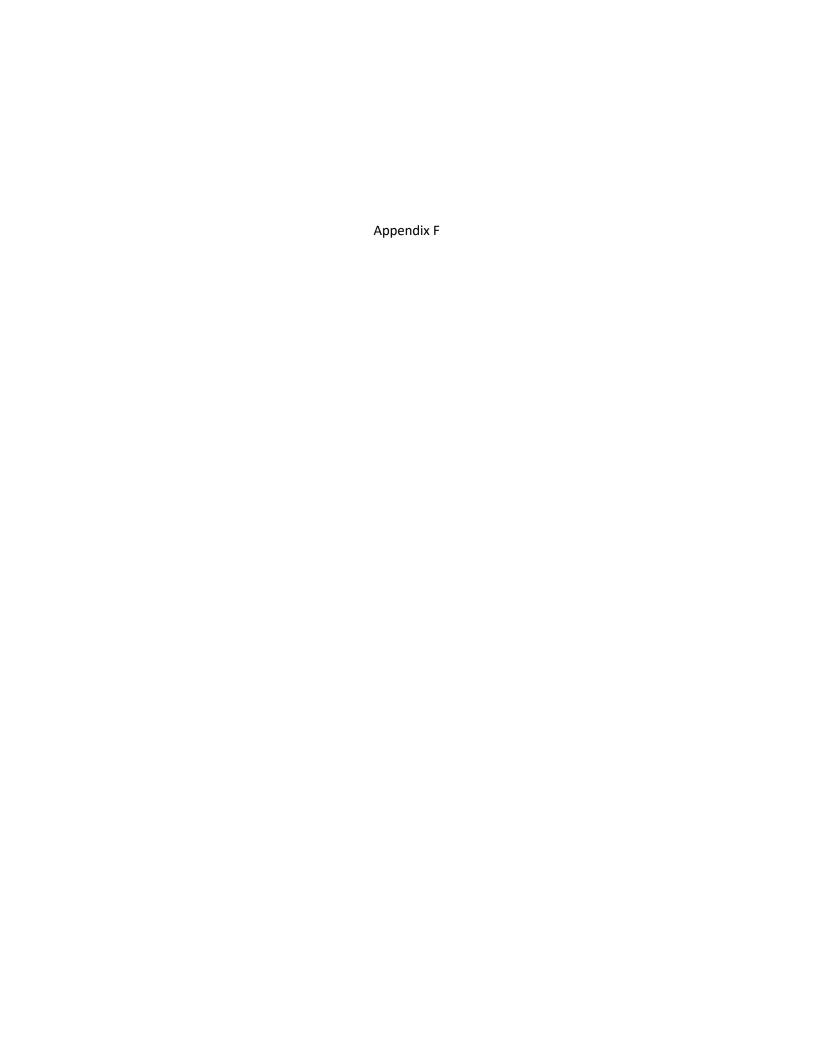
Please note, each attachment may consist of more than one page.

160100304

CHAIN-OF-CUSTODY

| LABWORK ORDER #: !: TOWNSEND IS! PPETINE COLLECTOR: Michael Can | C 3 (1 N 1 N 2 N 2 N 2 N 2 N 2 N 2 N 2 N 2 N | 50 0 10 | | | | 2.0 | LABORATORY USE ONLY: RECEIVING TEMP: 4.6 THERM #: 6.7 3.5 4 6 CUSTODY SEALS - BROKEN KINTACT BNOT USED BOARRIER BILL # 6.50 2.350290b QHAND DELIVERED |
|---|--|---|----------|----------|--|-----------------------------------|---|
| 16 N OR NAME -0143-0 | \$ 10 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | No. No. | XX | | | | TURN AROUND TIME LABORA. NORMAL CONTROL 1 DAY CONTROL 2 DAY CONTROL OTHER CONTROL QHAND |
| 507 N. Marienfeld, Ste. 200 Midland, TX 79701 A32-687-0901 LA | ontainers PRESERVATION Uach Uach Uach Uach Uach Uach Uach Uach | NNFR H2SO4 H1O3 H1O3 | | | | RECEIVED BY: (Signature) | 1 10 1 |
| | P=PAINT SL=SLUDGE OT=OTHER | Date Time Matrix (7/36 16:00 S | _ | 3/30 | | IME | 2 |
| A CITSON & SSOCICITES, INC. Environmental Consultants Data Reported to: | TRRP report? Tres No A=AIR Time zone/State: | Sample I.D. Lab # SP-1 N94N94 | SP-3 195 | 15h H-45 | | TOTAL RELINGUISHED PM:(Signature) | RELINQUISHED BY: (Signature) |

Armin in Knin.



District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Re

RECEIVED By JKeyes at 8:30 am, Jun 20, 2016

Oil Conservation Divisi 1220 South St. Francis Dr. Santa Fe, NM 87505

accordance with 19.13.29 NMAC.

pJXK1617230580

| | | | | | | OPERA' | FOR | \boxtimes | Initia | al Report Final | Report |
|--|--|--|--|--|---|--|--|--|---|--|--------------|
| Name of Co | ompany T | arga Midstre | eam Serv | ices, LLC | | Contact Ralph England | | | | | |
| | | 689, Lovingto | | 88260 | | Telephone No. 575-441-4653 | | | | | |
| Facility Na | me Town | send 16" Pip | eline | | | Facility Typ | e Natural Gas | Pipeline | | | |
| Surface Ov | vner Dan | Fields | | Mineral (| Owner | | | | API No | | |
| | | | | 1.00 | ATIO | N OF RE | FASE | | | | |
| Unit Letter | Section | Township | Range | Feet from the | | South Line | Feet from the | East/Wes | st Line | County | |
| I | 3 | 16S | 35E | 1360 | South | | 682 | East | ., | Lea | |
| | | | | | | | | | | | |
| | | | | Latitude 32°56 | 551.14" | N Longitude | 103°26'20.45" | W | | | |
| | | | | NAT | TURE | OF REL | EASE | | | | |
| Type of Rele | ease Natura | al Gas Conder | isate | 1122 | · · | | Release Unkno | wn V | olume I | Recovered 0 bbl | |
| Source of Re | | | | | | | | | | Hour of Discovery | |
| *** | | 21 2 | | | | Unknown | | 7 | /14/15 | 10:00am | |
| Was Immed | iate Notice | | Yes D | No □ Not R | equired | If YES, To | Whom? | | | | |
| By Whom? | | | | 🗀 | | Date and I | Ionr | | | | |
| Was a Wate | rcourse Rea | ched? | | | | | olume Impacting | the Waterc | ourse. | | |
| | | | Yes 2 | No | | | | | | | |
| If a Waterco | urse was Im | pacted, Descr | ibe Fully. | * | | | | | _ | | |
| The release Associates, drilled 5 bor down to abo Describe Ar Contaminate samples coll the pipe on to | was caused lnc. to delin ings (SB-1) out 15 feet by the a Affected and soil was elected on Mathe west side | eate horizonta to SB-5) down gs. The remain and Cleanup excavated down ay 13, 2016 are of the excava | of a 16" st I and vert in to 10 fee ning soil v Action Ta in to approad sample: ation that | eel line transportical impacts. Scart and 25 feet, response excavated to a scart excavated to | borough pectively about 25 bgs and igure 3). following | Drilling Con c. Soil sample feet bgs. disposed at J Lab results s g backfilling t | pany, Inc., under s were collected of Dan Landfarm (Nathow residual hyd the main excavation | r supervision every 5 feet NM1-45-0). Irocarbons on to provi | . Lab re: . Please above the de support | ly 16, 2015 by Larson & Larson & Associates, Inc., sults indicated contamination see attached lab results from RRAL (1,000 mg/Kg) boot for the exposed pipe. | om eneath |
| regulations a public health should their or the environment | all operators of or the envi operations lonment. In a | are required to fronment. The nave failed to | o report a acceptan adequatel OCD acce | nd/or file certain ce of a C-141 rep investigate and | release n ort by th remediat | notifications a ne NMOCD made contaminat | nd perform correct arked as "Final R on that pose a thi | ctive action Report" doe reat to grou | s for rel s not rel and wate | eases which may endanger ieve the operator of liabilit r, surface water, human he ompliance with any other | r ty |
| Signature: Ralph England | | | | | OIL CONSERVATION DIVISION Approved by Environmental Specialists | | | | | | |
| Printed Nam | e: Ralph E | England | | | | Approved by | Environmental S | specialist: | 1 | | |
| Title: Field | Supervisor | | | | | Approval Da | te: 06/20/201 | 6 _{Ex} | piration | Date: 08/20/2016 | |
| E-mail Addr | | land@targares | | -441-4653 | I | Conditions o Discrete samp per NMOCD | les only. Delinear | te and reme | ediate | Attached 1RP 4312 | |
| Attach Add | itional She | ets If Necess | | | | | | | | nIVK1617230387 | |

District I
1625 N. French Dr., Hobbs, NM 88240
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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

| Name of C | | | | | | OPERA | TOR | | M Initi | al Report |
|--|--|--|--|--|--|--|--|--|---|--|
| | | arga Midstr | | | | | alph England | | | |
| | | 689, Lovingt | | 88260 | | | No. 575-441-4 | | | |
| Facility Na | me Town | send 16" Pip | oeline | | | Facility Typ | oe Natural Gas | Pipelin | ne | |
| Surface Ow | ner Dan | Fields | | Mineral (| Owner | | | | API No |). |
| Sui luce Si | | 110100 | | | | | | | 111111 | |
| | | | | | | N OF RE | 4 | r | | |
| Unit Letter I | Section 3 | Township | Range | Feet from the | | South Line | Feet from the | | West Line | County |
| | 3 | 16S | 35E | 1360 | South | | 682 | East | | Lea |
| | - | | | I -4:4 J - 2205.6 | 15 1 1 4 117 | NI T | 102026120 4611 | 117 | | |
| | | | 1 | Latitude 32°36 | 031.14" | N Longitude | e <u>103°26'20.45"</u> | <u>W</u> | | |
| | | | | NAT | TURE | OF REL | EASE | | | |
| | | ıl Gas Conder | isate | | | Volume of | Release Unkno | wn | | Recovered 0 bbl |
| Source of Re | elease 16" | Steel Line | | | | Date and H | Hour of Occurrence | e | Date and | Hour of Discovery |
| Was Immedi | ate Notice (| Given? | | | | If YES, To | Whom? | | | |
| rv as minnicul | are monee (| | Yes 🗵 | No □ Not R | equired | II 1E3, 10 | , 44 HOIII; | | | |
| 3v Whom? | | | | | 1 | Date and H | Hour | | | |
| Was a Water | course Read | ched? | | | | | olume Impacting | the Wate | ercourse. | |
| | | | Yes 🛚 | No | | , | | | | |
| f a Waterco | urce was Im | pacted, Descr | ihe Fully * | k | | | | | | |
| The release v | vas caused b | | f a 16" ste | el line transportir | | | | | | ly 16, 2015 by Larson & |
| The release v Associates, Indrilled 5 bori | vas caused b nc. to deline ngs (SB-1 te | oy corrosion o eate horizontal o SB-5) down | of a 16" ste I and vertice to 10 feet | el line transporting cal impacts. Scart and 25 feet, resp | borough ectively. | Drilling Com Soil samples | pany, Inc., under | supervi | sion from I | ly 16, 2015 by Larson & Larson & Associates, Inc sults indicated contamina |
| The release v Associates, In Irilled 5 bori Iown to abou | vas caused b nc. to deline ngs (SB-1 to at 15 feet bg | by corrosion of ate horizontal of SB-5) down is. The remain | of a 16" ste I and vertice to 10 feet sing soil wa | tel line transporting all impacts. Scart and 25 feet, respass excavated to a | borough ectively. | Drilling Com Soil samples | pany, Inc., under | supervi | sion from I | Larson & Associates, Inc |
| The release values of Associates, In Itilled 5 borion to about the Associates of the | vas caused b nc. to deline ngs (SB-1 to at 15 feet bg | oy corrosion of eate horizontal of SB-5) down is. The remain and Cleanup A | of a 16" ste I and vertion to 10 feet using soil was Action Tak | tel line transporting cal impacts. Scard and 25 feet, respass excavated to a ten.* | borough ectively. bout 25 f | Drilling Com Soil samples feet bgs. | npany, Inc., under s were collected e | supervi | sion from I eet. Lab res | Larson & Associates, Inc sults indicated contamina |
| The release van Associates, In Italied 5 bori lown to about the Arecontaminate (1019). Please | vas caused b nc. to deline ngs (SB-1 to at 15 feet bg a Affected a d soil was en e see attache | by corrosion of the cor | of a 16" stell and vertice to 10 feet wing soil was Action Taken to approximately appr | rel line transporting al impacts. Scarl and 25 feet, resp as excavated to a ren.* ximately 25 feet les collected on N | borough bectively. bout 25 f bgs and c | Drilling Com Soil samples feet bgs. disposed at J 2016 and sam | npany, Inc., unders were collected e Dan Landfarm (N ples location map | very 5 fo | sion from I eet. Lab res 0) and Gane 3). Partial | Larson & Associates, Inc sults indicated contamina and Marley Landfill (NM l backfilling was perform |
| The release van Associates, In Irilled 5 borillown to about the Contaminater (1919). Please the tween September 1919 in Please the tween September 1919 in Association (1919). Please the tween September 1919 in Associates (1919). Please the tween September 1919 in Associates (1919). | vas caused bene. to deline ngs (SB-1 to at 15 feet bg a Affected a d soil was exe executable. | by corrosion of the cor | of a 16" step I and vertice to 10 feet thing soil was a Action Taken to approximate to approxima | tel line transporting al impacts. Scarl and 25 feet, resp as excavated to a serie.* ximately 25 feet less collected on Milection of soil sa | borough bectively. bout 25 f bgs and c May 13, 2 imples at | Drilling Com Soil samples feet bgs. disposed at J 2016 and sam the west side | npany, Inc., unders were collected e Dan Landfarm (Number of the excavation mage of the excavation | very 5 fo | sion from I eet. Lab res 0) and Gane 3). Partial | Larson & Associates, Inc sults indicated contamina and Marley Landfill (NM |
| The release versions of the content | vas caused bene. to deline ngs (SB-1 to at 15 feet bg a Affected a d soil was exe executable. | by corrosion of the cor | of a 16" step I and vertice to 10 feet thing soil was a Action Taken to approximate to approxima | rel line transporting al impacts. Scarl and 25 feet, resp as excavated to a ren.* ximately 25 feet les collected on N | borough bectively. bout 25 f bgs and c May 13, 2 imples at | Drilling Com Soil samples feet bgs. disposed at J 2016 and sam the west side | npany, Inc., unders were collected e Dan Landfarm (Number of the excavation mage of the excavation | very 5 fo | sion from I eet. Lab res 0) and Gane 3). Partial | Larson & Associates, Inc sults indicated contamina and Marley Landfill (NM l backfilling was perform |
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