SITE INFORMATION

| | | Report | Type: Clos | ure Rep | ort | |
|---------------------------------|---|--|--|---|---|---|
| General Site Info | mation: | 2018-10-54 (STA | Carry Carlos on the P | saita sad | | |
| Site: | | Showstoppe | r 7 Federal COM | #1H | · · · · · · · · · · · | |
| Company: | | COG Operat | ing LLC | • | | |
| Section. Townshi | ip and Range | Unit A | Sec 7 | T25S | R29E | |
| Lease Number: | <u>,</u> | API-30-015-3 | 6659 | | | • • • • • • • • • • • • • • • • • • • |
| County: | · · · · · · · · · · · · · · · · · · · | Eddy County | / | · · | | |
| GPS: | | 32.15077° N | | | 104.01644° W | |
| Surface Owner: | · · · · · · · · · · · · · · · · · · · | Federal | | | | |
| Mineral Owner: | | | | | | |
| Directions: | | South of Malag for 4.2 miles, tr mile stay to the and travel for 2 left (south) and | ga at the intersection urn left (northeast) a e right and travel for 2.1 miles, turn left (v I travel 0.2 miles to | n of Hwy 285 and travel for 2 miles, sta vest) and tra- site. | 5 and Longhorn R 1.8 miles, turn le y left and travel fo vel 0.3 miles, sta | Rd., travel east on Longhorn Rd. eft (northwest) and travel for 0.2 or 1.2 miles, turn left (northwest) y right and travel 0.9 miles, turn |
| Release Data | | | e na serie | | | |
| Date Released: | anna 🦗 Agina ann an Anna ann an Anna Anna Anna An | 4/15/2013 | neneran eta tu na era gan a fati da | ar annous a recently of | nny synth i'r an gysgry, 1996 yn 1997 - 1997 yn 1997 yn Yn yr yn | anna an annan Bada ann, an anna annan a' cuile a' Bailtea Thara. Ba an 1966 a' Chail a' N |
| Type Release: | | Oil and Produ | ced Water | | · · · · · · · · · · · · · · · · · · · | |
| Source of Contam | ination: | Well Packing | | · | | |
| Fluid Released: | | 3 bbls oil 15 | bbls water | | | |
| Fluids Recovered: | | 2 bbls oil 12 | bbls water | | | |
| Official Commun | ication: | | | | | |
| Name: | Robert Mc Neill | | | | ike Tavarez | |
| Company: | COG Operating, LL | С | | | Tetra Tech | |
| Address: | One Concho Cente | | | | 4000 N Big Spri | ing |
| , 1447000. | 600 W Illinois Ave | | | | Suite 401 | |
| City: | Midland Toyas: 707 | 01 | | | Midland Toyog | |
| Chy. | | 01 | | | | |
| | (432) 000-3023 | | | | (432) 682-4559 | |
| Fax. | (432) 684-7137 | | | | | tests the second |
| Email: | | com | and the second | | <u>like.tavarez@te</u> | etratech.com |
| Ranking Criteria | | | | | | |
| Depth to Groundwa | ater: | | Ranking Score | | Si | te Data |
| <50 ft | | <u></u> | 20 | | | |
| 50-99 ft | | | 10 | | an a | 10 |
| >100 ft. | | | 0 | | | |
| WellHead Protectio | | | Panking Sooro | | 04 | to Data |
| Water Source <1.00 | 00 ft Private <200 ft | | 20 | | 5/1 | |
| Water Source >1,00 | 00 ft., Private >200 ft | | 0 | | | 0 |
| | · · · · · · · · · · · · · · · · · · · | | | | | |
| Surface Body of Wa | ater: | | Ranking Score | | Sit | te Data |
| <200 ft. | | | 20 | | | |
| 200 ft - 1,000 ft. >1 000 ft | | | 10 | | | . 0 |
| Tõta | I Ranking Score: | | 10 | | an a bhairean a bhile ann a bhile ann an an ann an Arraigh | |
| | | | | | | BECEIVEN |
| | | Accepta | ble Soil RRAL (n | ng/kg) 🤲 | | |
| | | Benzene | Total BTEX | TPH | | JAN 2 4 2014 |
| , | | 10 | 50 | 1,000 | | |
| : | an a | a f de se antique de la companya de | | | | NMOCD ARTERIA |



October 24, 2013

Mr. Mike Bratcher Environmental Engineer Specialist Oil Conservation Division, District 2 811 S. First Street Artesia, New Mexico 88210

Re: Closure Report for the COG Operating LLC., Showstopper 7 Federal COM #1H, Unit A, Section 7, Township 25 South, Range 29 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Showstopper 7 Federal COM #1H site located in Unit A, Section 7, Township 25 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.15077°, W 104.01644°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on April 15, 2013, and released approximately three (3) barrels of oil and fifteen (15) barrels of produced water from the packing on the wellhead. To alleviate the problem, COG personnel replaced the packing. Two (2) barrels of standing oil and twelve barrels of standing produced water were recovered. The spill initiated on the well pad affecting an area approximately 35' x 50', 65' X 200' and 20' x 185'. The final C-141 form is enclosed in Appendix A.

Groundwater

According to the Geology and Groundwater Resources of Eddy County, New Mexico (Report 3), the Rustler and Castile formation (Ochoa Series) is present west and east of the Pecos River. The Salado formation overlies the Castile formation east of the Pecos River and was removed by solution west of the river. The Rustler and Castile formations consist of anhydrite, gypsum, interbedded sandy clay and beds of dolomite. Groundwater from the Castile and Rustler formations west of the Pecos River is historically high in chloride and sulfate concentrations which increase towards the river.

According to the USGS, no water wells are listed in Section 7. One water well is reported in Section 6, with a depth to groundwater of 40.0' bgs. According to the NMOCD groundwater map the reported depth to groundwater in this area is approximately between 50.0' and 75.0' below surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 1,000 mg/kg.

Soil Assessment and Analytical Results

On May 30, 2013, Tetra Tech personnel inspected and sampled the spill area. Ten (10) auger holes (AH-1 through AH-10) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, AH-8 and AH-10 exceeded the TPH RRAL and was not vertically defined. None of the auger holes exceeded the regulatory limits for Benzene or Total BTEX. Elevated chloride concentrations were detected in auger holes (AH-1, AH-4, AH-7, AH-8, AH-9 and AH-10) with chloride highs of 4,240 mg/kg at 1.0', 3,600 mg/kg at 1.0', 5,710 mg/kg at 1.0', 2,300 mg/kg at 1.0', 17,900 mg/kg at 1.0' and 3,850 mg/kg at 1.0', respectively. None of the auger holes were vertically defined.

Site Remediation and Conclusion

From August 22 through 29, 2013, Tetra Tech personnel supervised the excavation of the impacted soils. In order to remove the chloride and TPH impacted soils, the area was excavated to a depth of 2.0' to 3.0' below grade. To define the extents, backhoe trenches were installed in some of the impacted area to define extents. In addition, a background trench was installed to evaluate the chlorides. Once excavated, Tetra Tech collected confirmation samples from the excavations. The confirmation sample results are shown in Table 1. The excavated areas are highlighted in Table 1 and shown on Figure 4.



Referring to Table 1, the east sidewalls showed elevated chlorides concentrations of 2,080 mg/kg (AH-1) and 5,850 mg/kg (AH-4) and additional excavation could not be completed due to the tank battery facility. In addition, the area of AH-4 (west sidewall) also showed a chloride of 2,480 mg/kg, however, a underground line was present in the west area. The areas of AH-4 and AH-7 did show a slight chloride concentrations in the bottom hole samples (approximately 2,000 mg/kg), as compared to the field chloride data.

Based on the background sampling data, a chloride high of 814 mg/kg was detected at 4.0' below surface. Deeper samples were not collected due to the dense formation. Some of the soils surrounding Malaga area have shown natural fluctuating chloride in the subsurface soils.

Based on the field data, BLM approved the backfilling of the excavations. The excavation was backfilled with clean material to surface grade. Approximately 860 cubic yards of soil were removed and transported to the R360 facility for proper disposal.

Based on the remediation activities performed at this location, COG requests closure for this site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted, TETRA TECH

Ike Tavarez, PG Senior Project Manager

CC:

Robert McNeill – COG Mike Burton – BLM Jennifer Van Curen - BLM . .

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Figures





Drawn By: Isabel Marmolej







Jrawn By: Isabel Marmolejo

Tables

| Sample ID | Sample | BEB E Sample | Excavation Bottom | Soil | Status | 1 | 「PH (mg/k | g) | Benzene | Toluene | Ethlybenzene | Xylene | Total | Chloride |
|-----------|-----------|-----------------|----------------------|---------|--|-------|-----------|-------|---------|---------|--------------|---------|---------|----------|
| Sample ID | Date | Depth (ft) | Depth (ft) | In-Situ | Removed | GRO | DRO | Total | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) |
| AH-1 | 5/30/2013 | 0-1 | 0 | | X | <4.00 | <50.0 | <50.0 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | 4,240 |
| | | 1-1.5 | | | X | | | 20 | | Super- | | | | ≥2,360 |
| | | 2-2.5 | | | X | | | | | | | | | 2,490 |
| | | | | | 6 104 1 104 1 10 10 10 10 10 10 10 10 10 10 10 10 10 | | | | | | | | | |
| T-6 | 8/27/2013 | 0 | 0 | | X | | | | | | | | | 7,870 |
| | | 2 | 2 | | X | | | | | | | | | 2,050 - |
| | " | 4 | n | Х | | - | - | - | - | - | - | - | - | 2,040 |
| | | 6 | U | Х | | - | - | - | - | - | - | - | - | 1,470 |
| | н | 8 | 11 | Х | | - | - | - | - | - | - | - | - | 896 |
| | n | 10 | 11 | Х | | - | - | - | - | - | - | - | - | 1,200 |
| | | | | | | | | | | | | | | |
| | 8/27/2013 | North SW | - | Х | | - | - | - | - | - | - | - | - | 2,400 |
| | . H | South SW | - | Х | | - | - | - | - | - | - | - | - | 1,860 |
| | 91 | East SW | - | Х | | - | - | - | - | - | - | - | - | 2,080 |
| | 99 | West SW | - | Х | | - | - | - | - | _ | - | - | - | 1,190 |
| | n | Bottom hole | 2 | Х | | - | - | - | - | - | - | | - | 1,060 |
| AH-2 | 5/30/2013 | 0-1 | 0 | Х | | <4.00 | <50.0 | <50.0 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | 667 |
| AH-3 | 5/30/2013 | 0-1 | 0 | X | | <4.00 | <50.0 | <50.0 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | 493 |

| Samala ID | Sample | BEB | Excavation | Soil | Status | - | TPH (mg/k | g) | Benzene | Toluene | Ethlybenzene | Xylene | Total | Chloride |
|-----------|------------|------------|------------|----------------|---------|--|-----------|----------------|---------|---------|--------------|---------|---------|----------|
| Sample ID | Date | Depth (ft) | Depth (ft) | In-Situ | Removed | GRO | DRO | Total | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | .(mg/kg) |
| AH-4 | \$/30/2013 | 0-1 | 0 | | X | <4.00 | <50.0 | <50.0 - | <0.0200 | <0.0200 | ≥<0.0200 | <0.0200 | <0.0200 | 3,600 |
| | | | | and the second | | | | | | | | | | |
| T-2 | 8/27/2013 | 0 | . 0 | | X | 5 5 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | and the second | | | | | | 1,960 |
| | | 2 | 2 | | X | | | | | | | | | 2,190 |
| | 11 | 4 | 11 | Х | | - | ~ | - | - | - | - | - | - | 1,840 |
| | " | 6 | 11 | Х | | - | - | - | - | - | - | - | - | 1,410 |
| | U | 8 | " | Х | | - | - | - | - | - | - | - | - | 1,520 |
| | 11 | 10 | " | X | | - | - | - | - | - | - | - | - | 1,830 |
| | 8/27/2013 | North SW | - | x | | _ | - | _ | - | - | - | | - | 1,850 |
| | " | South SW | - | Х | | - | - | - | - | - | · _ | - | - | 1,230 |
| | " | East SW | - | Х | 1 | _ | - | - | - | - | - | - | - | 5,850 |
| | " | West SW | - | Х | | - | - | - | - | | - - | - | - | 2,480 |
| AH-5 | 5/30/2013 | 0-1 | 0 | Х | | <4.00 | <50.0 | <50.0 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | 599 |
| AH-6 | 5/30/2013 | 0-1 | 0 | X | | <4.00 | <50.0 | <50.0 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | 629 |

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| Sample ID | Sample | BEB | Excavation | Soil | Status | - | TPH (mg/k | g) | Benzene | Toluene | Ethlybenzene | Xylene | Total | Chloride |
|-----------|-----------|-------------|------------|---------|-------------|-------|-----------|-------|---|---|--------------|------------|--|----------|
| Sample ID | Date | Depth (ft) | Depth (ft) | In-Situ | Removed | GRO | DRO | Total | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) |
| AH-7 | 5/30/2013 | -0-1 | 0 0 | | . ∀X | <8.00 | 63.8 | 63.8 | <0.0200* | <0.0200 | <0.0200 | <0.0200 | <0.0200 | 5,710- |
| | | | | | | | | | | | | | | |
| T-1 | 8/27/2013 | | 0 | | ् X | | | | | | | | | 7;800 🖇 |
| | | 2 | 2 | | - X - | | | | | | | | | 2-170 |
| | 8/27/2013 | North SW | - | | x | - | - | - | - | - | - | - | - | 1,080 |
| | 11 | South SW | - | | X | - | - | - | - | - | - | - | - | 2,260 |
| | " | Bottom hole | 2 | | X | - | | - | - | - | - | | - | 2,270 |
| AH-8 | 5/30/2013 | 0-1 | 0 | | : X | 198 | 4,540 | 4,738 | <0.0400 | <0.0400 | 0.292 | - 1.51 | 51 80 | 2,300 |
| | | | | | | | | | | 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / | | | and street by a second street by | |
| T-3 | 8/27/2013 | 2 | 3 | | Χ. | | | | 19 - 19 - 19 - 19 - 19 - 19 - 19 - 19 - | | | terester i | | 3,980 |
| | " | 4 | 11 | X | | - | - | - | | - | - | - | _ | 729 |
| | 11 | 8 | 11 | Х | | - | - | - | - | - | - | - | - | 803 |
| | | | | | | | | | | | | L | | |
| | 8/27/2013 | East SW | - | | X | - | - | - | | - | - | - | - | 1,470 |
| | " | North SW | - | | X | - | - | - | - | - | - | - | - | 597 |
| | n | West SW | - | | X | - | - | - | - | - | - | - | - | 604 |
| | " | South SW | - | | X | - | - | - | - | - | - | - | - | 706 |
| | " | Bottom hole | 3 | | X | <10.0 | <10.0 | <10.0 | - | - | - | - | - | 624 |

| Sample ID | Sample BEB Sample | Excavation | Soil | Status | - | TPH (mg/k | g) | Benzene | Toluene | Ethlybenzene | Xylene | Total | Chloride | |
|------------|-------------------|-------------|------------|--|----------|-------------|-------|---------|-----------|--------------|---------|---------|----------|---------|
| Sample ID | Date | Depth (ft) | Depth (ft) | ,In-Situ | Removed | GRO | DRO | Total | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) |
| AH-9 | 5/30/2013 | 0-1 | 0 | RE T | X | <4.00 | 99.7 | 99 7 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | 17,900 |
| | | | | | | | | | | | | | | |
| T-4 | 8/27/2013 | 2 | 3 | 1997 - 1992 - 19 | X | | | | San de la | | | | | 5,380 |
| | " | 4 | н | Х | | - | ~ | - | - | - | - | - | - | 1,160 |
| | 11 | 6 | 11 | Х | | - | - | - | - | - | - | - | - | 282 |
| | 11 | 8 | ,1 | Х | | - | - | - | - | - | - | - | - | 215 |
| | | | | | | | | | | | | ļ | | |
| | 8/27/2013 | Bottom hole | 3 | | <u> </u> | - | - | - | <u> </u> | | - | - | - | 49.0 |
| AH-10 | 5/30/2013 | .0-1 | 0 | | X | 91.7 | 1,560 | 1,652 | <0.0400 | <0.0400 | <0.0400 | <0.0400 | <0.0400 | 3,850 |
| | | | | 0 | : Jos | م معنی ا | | | | | | | 1 | |
| T-5 | 8/27/2013 | 2 | 3 | | X | | | | | | | | | 2,640 |
| | " | 4 | " | Х | | - | - | - | - | - | - | - | - | 430 |
| | " | 6 | 31 | Х | | - | - | - | - | - | - | - | - | 239 |
| | " | 8 | " | X | | - | - | - | - | - | - | - | - | 23.9 |
| | | | | | | | | | | | | | ļ | |
| | 8/28/2013 | Bottom hole | 3 | L | X | <10.0 | <10.0 | <10.0 | | | - | | - | 1,500 |
| T-7 (BG) | 8/27/2013 | 0 | 0 | X | | - | - | - | - | - | _ | - | - | <20.0 |
| Background | ц | 2 | " | X | | - | - | - | - | - | - | - | - | 771 |
| | 11 | 4 | " | X | | - | - | - | - | - | - | - | - | 814 |

(-) Not Analyzed

(BEB) Below Excavation Bottom

SW Sidewall

Excavation Depths

Photos



View Southwest - Excavation Area and Soil Stockpile



View East - Excavation Area of AH-1



View Northwest – Well and Excavation Area of AH-8, 9 and 10



View West - Excavation Area and Soil Stockpile

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View North - Well and Backfilled Excavation



View Northeast - Backfilled Excavation

Appendix A

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State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

| Dalagso Notification and Corrective Action | | | | | | | | | | |
|---|--|---|--|--|--|--|--|--|--|--|
| Kelease Ivollicatio | on and Corrective Act | | | | | | | | | |
| | OPERATOR Contact | Initial Report Final Report | | | | | | | | |
| Address 600 West Illinois Avenue Midland TX 79701 | Contact Pare Telephone No 432-230 | -0077 | | | | | | | | |
| Facility Name SHOWSTOPPER 7 FEDERAL COM #001H | Facility Type WELL | PAD | | | | | | | | |
| Surface Owner FEDERAL Mineral Owner | | Lease No. (API#) 30-015-36659 | | | | | | | | |
| LOCATI | ON OF RELEASE | | | | | | | | | |
| Unit LetterSectionTownshipRangeFeet from theNorA0725S29E29E | th/South Line Feet from the Ea | st/West Line County EDDY | | | | | | | | |
| Latitude 32.15112 | Longitude 104.01676 | | | | | | | | | |
| NATUR | E OF RELEASE | | | | | | | | | |
| Type of Release Oil and Produced water | Volume of Release 3bbls of 15bbls produced wate | il Volume Recovered 2bbls oil er 12bbls produced water | | | | | | | | |
| Source of Release Well packing | Date and Hour of Occurrence 04-15-2013 | Date and Hour of Discovery 04-15-2013 6:45am | | | | | | | | |
| Was Immediate Notice Given? | If YES, To Whom? | | | | | | | | | |
| By Whom? | Date and Hour | | | | | | | | | |
| Was a Watercourse Reached? | If YES, Volume Impacting the V | Vatercourse. | | | | | | | | |
| If a Watercourse was Impacted, Describe Fully.* | | | | | | | | | | |
| Describe Cause of Problem and Remedial Action Taken.* | | | | | | | | | | |
| Well packing failed due to high flowline pressure caused by a compress | sor shutting down. We have replaced | the well packing. | | | | | | | | |
| Describe Area Affected and Cleanup Action Taken.* | | | | | | | | | | |
| Initially 3bbls of oil and 15bbls of produced water were released due to of oil and 12bbls produced water with a vacuum truck. The spill was co sample the spill site area to delineate any possible contamination from to to any significant remediation work. | high pressure in flowline causing the impletely contained on location. All fi the release and we will present a work | packing to fail. We were able to recover 2bbls ree fluid has been recovered. Tetra Tech will plan to the NMOCD/BLM for approval prior | | | | | | | | |
| I hereby certify that the information given above is true and complete to regulations all operators are required to report and/or file certain release public health or the environment. The acceptance of a C-141 report by should their operations have failed to adequately investigate and remed or the environment. In addition, NMOCD acceptance of a C-141 report federal, state, or local laws and/or regulations. | the best of my knowledge and under e notifications and perform corrective the NMOCD marked as "Final Repor iate contamination that pose a threat t t does not relieve the operator of resp | stand that pursuant to NMOCD rules and actions for releases which may endanger t" does not relieve the operator of liability o ground water, surface water, human health onsibility for compliance with any other | | | | | | | | |
| | OIL CONSE | RVATION DIVISION | | | | | | | | |
| Signature: Kalut Idee / | | | | | | | | | | |
| Printed Name: Robert Grubbs Jr. | Approved by District Supervisor: | | | | | | | | | |
| Title: Senior Environmental Coordinator | Approval Date: | Expiration Date: | | | | | | | | |
| E-mail Address: rgrubbs@concho.com | Conditions of Approval: | Attached | | | | | | | | |
| Date: 04-29-2013 Phone: 432-661-6601 | | | | | | | | | | |

Attach Additional Sheets If Necessary

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

| | | OPERATOR | | Initial Report | \square | Final Report |
|-----------------------------------|----------------------|---------------|----------------|----------------|-----------|--------------|
| Name of Company COG Oper | ating LLC | Contact | Pat Ellis | | | |
| Address 600 West Illinois Avenue, | Midland, Texas 79701 | Telephone No. | (432) 230-0077 | | | |
| Facility Name Showstopper 7 Fede | eral COM #001H | Facility Type | Well Pad | | | |
| Surface Ouman Ecdarol | Minaral Owner | • | | and No. (ADI#) | 20.01 | 5 26650 |

Surface Owner: Federal Mineral Owner Lease No. (API#) 30-015-36659

LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County | |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|------|
| A | 07 | 258 | 29E | | | | | | Eddy |
| | | | | | | | | | |

Latitude 32.15112 Longitude 104.01676

| NATURE OF RELEASE | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|
| Type of Release: Oil and Produced Water | Volume of Release 3 bbls oil 15 bbls produced water | Volume Recovered 2 bbls oil 12 bbls produced water | | | | | | | |
| Source of Release: Well Packing | Date and Hour of Occurrence 04-15-2013 | Date and Hour of Discovery 04-15-2013 6:45 a.m. | | | | | | | |
| Was Immediate Notice Given? | If YES, To Whom? | | | | | | | | |
| By Whom? | Date and Hour | | | | | | | | |
| Was a Watercourse Reached? | If YES, Volume Impacting the Wa | tercourse. | | | | | | | |
| If a Watercourse was Impacted, Describe Fully.* | | | | | | | | | |
| Describe Cause of Problem and Remedial Action Taken.* | | | | | | | | | |
| Well packing failed due to high flowline pressure caused by a compressor | shutting down. The well packing wa | s replaced. | | | | | | | |
| Describe Area Affected and Cleanup Action Taken.* | | | | | | | | | |
| Tetra Tech personnel inspected the site and collected samples to define th proper disposal. The site was then brought up to surface grade with clean NMOCD for review. | e extent of the spill. Soil that exceede backfill material. Tetra Tech prepare | ed RRAL was removed and hauled away for ed a closure report and submitted it to | | | | | | | |
| I hereby certify that the information given above is true and complete to tregulations all operators are required to report and/or file certain release n public health or the environment. The acceptance of a C-141 report by th should their operations have failed to adequately investigate and remediat or the environment. In addition, NMOCD acceptance of a C-141 report d federal, state, or local laws and/or regulations. | he best of my knowledge and understa otifications and perform corrective ac e NMOCD marked as "Final Report" e contamination that pose a threat to g oes not relieve the operator of respons | and that pursuant to NMOCD rules and tions for releases which may endanger does not relieve the operator of liability ground water, surface water, human health sibility for compliance with any other | | | | | | | |
| Signature: | OIL CONSERV | ATION DIVISION | | | | | | | |
| Printed Name: Ike Tavarez (agent fort COG) | Approved by District Supervisor: | | | | | | | | |
| Title: Project Manager | Approval Date: | Expiration Date: | | | | | | | |
| E-mail Address: Ike.Tavarez@TetraTech.com | Conditions of Approval: | Attached | | | | | | | |

Date: 10-24-13 Phone: (432) 682-4559 * Attach Additional Sheets If Necessary

Appendix B

Water Well Data Average Depth to Groundwater (ft) COG-Showstopper 7 Federal COM #1H Eddy County, New Mexico

| | | 24 | So | uth | | 28 | Ea | st | | | |
|----|----|-----------------|----|-----------------|----|-----------------|----|-----------------|----|-----------------|----|
| 6 | 70 | 5 | 30 | 4 | 30 | 3 | | 2 | 55 | 1 | 60 |
| 7 | | 8 | 50 | 9 | | 10 17 | | 11 20 | | 12 73 | |
| 18 | | 17 42 | | 16 29 | | 15 18 | | 14 52 | | 13 34 | |
| 19 | | 20 48 | | 21 | | 22 | | 23 | | 24 | |
| 30 | | 29 | | 28 | | 27 | | 26 | | 25 | |
| 31 | | 32 | | 33 | | 34 | | 35 | | 36 | |

| | 24 So | uth | 29 | East | |
|----------|-------|----------|----|------|----|
| 6 | 5 | 4 | 3 | 2 | 1 |
| 7 160 | 8 | 9 | 10 | 11 | 12 |
| ¢ | 17 | 16 18 | 15 | 14 | 13 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| 30 | 29 | 89 2 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 | 36 |

| | 24 S | outh | 30 | East | |
|---------------|-----------------|------|----|------------------|----|
| 6 | 5 | 4 | 3 | 2 | 1 |
| 7 | 8 186 | 9 | 10 | 11 | 12 |
| 18 | 17 | 16 | 15 | 14 | 13 |
| 19 231 150 | 20 | 21 | 22 | 23 400 | 24 |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 | 36 |

| | 25 \$ | South | 2 | 8 Eas | t |
|----|-------|-------|--------------|-------|------|
| 6 | 5 | 4 3 | 5 3 | 2 | 1 |
| | 59 | | 32 | | |
| 7 | 8 | 9 | 10 | 11 | 12 |
| 18 | 17 | 16 | 15 48 | 14 | 13 |
| 67 | | | 49 | | 16 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| | 96 | 1 | | | 1) |
| 30 | 29 | 28 | 27 | 26 | 25 |
| | 15 | 90 | | 30 | |
| 31 | 32 | 33 | 34 | 35 | 36 |
| | | | | | 40 (|

| | 25 So | uth | 29 | East | |
|-----------|--------|-----|-----------------|------|----|
| ہ سر49 | 50 | 4 | 3 | 2 | 1 |
| SITE (| 8 | 9 | 10 40 | 11 | 12 |
| لر 18 | 17 | 16 | 15 60 | 14 | 13 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| 30 30 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 115 | 33 | 34 | 35 | 36 |

| | 25 South | | | 30 East | | |
|--------------|----------|---------------|----|--------------|------------------|--|
| 6 | 5 | 4 | 3 | 2 295 | 1 | |
| 7 264 | 8 | 9 295 | 10 | 11 | 12 390 | |
| 18 | 17 | 16 | 15 | 14 | 13 | |
| 19 | 20 | 21 285 268 | 22 | 23 | 24 | |
| 30 | 29 | 28 | 27 | 26 | 25 | |
| 31 | 32 | 33 | 34 | 35 | 36 | |

| 26 South | | | 2 | | |
|----------|----|----|-----|--------------|-----|
| 6 | 5 | 4 | 3 | 2 120 | 1 2 |
| | | | | 21 | |
| 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | 100 |
| 18 | 17 | 16 | 15 | 14 | 13 |
| | | | | 120 | 56 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| | | I | 120 | | |
| 30 | 29 | 28 | 27 | 26 | 25 |
| | | 1 | | | |
| 31 | 32 | 33 | 34 | 35 | 36 |
| | | | | | 1 |

| | 26 Sc | uth | 29 | East | |
|-----------------|---------|----------|--------------|------|----|
| 6 | 5 | 4 | 3 | 2 | 1 |
| | \Box | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 |
| | <u></u> | | | | |
| ¹⁸ (| 17 | 16 | 15 | 14 | 13 |
| 1 | | 125 | | | |
| 19 7 | 20 | 21 | 22 57 | 23 | 24 |
| (| \sim | <u> </u> | 69 | | |
| 30 🗸 | 29 | 28 | 27 | 26 | 25 |
| | | | | | |
| 31 | 32 | 33 | 34 | 35 | 36 |
| | | | 1) | | |

| | 26 S | outh | : | 30 Eas | t |
|----|--------------|------|----|--------|-----------|
| 6 | 5 179 180 | 4 | 3 | 2 | 1 |
| 7 | 8 172 | 9 | 10 | 11 | 12 |
| 18 | 17 | 16 | 15 | 14 | 13 |
| 19 | 20 | 21 | 22 | 23 | 24 180 |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 | 36 |

New Mexico State Engineers Well Reports

USGS Well Reports

Geology and Groundwater Conditions in Southern Eddy, County, NM

NMOCD - Groundwater Data

Field water level

New Mexico Water and Infrastructure Data System

Appendix C

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Summary Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX 79705

| Report | Date: | June | 11, | 2013 |
|--------|-------|------|-----|------|
|--------|-------|------|-----|------|

Work Order: 13060318

| Project Location: | Eddy Co., NM | |
|-------------------|-----------------------------|----|
| Project Name: | COG/Showstopper 7 Fed. $\#$ | -1 |
| Project Number: | 112MC05408 | |

| | | | Date | Time | Date |
|--------|-------------|--------|------------|-------|----------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 330830 | AH-1 0-1' | soil | 2013-05-30 | 00:00 | 2013-05-31 |
| 330831 | AH-1 1-1.5' | soil | 2013-05-30 | 00:00 | 2013-05-31 |
| 330832 | AH-1 2-2.5' | soil | 2013-05-30 | 00:00 | 2013-05-31 |
| 330833 | AH-2 0-1' | soil | 2013-05-30 | 00:00 | 2013-05-31 |
| 330834 | AH-3 0-1' | soil | 2013-05-30 | 00:00 | 2013-05-31 |
| 330835 | AH-4 0-1' | soil | 2013-05-30 | 00:00 | 2013-05-31 |
| 330836 | AH-5 0-1' | soil | 2013-05-30 | 00:00 | 2013-05-31 |
| 330837 | AH-6 0-1' | soil | 2013-05-30 | 00:00 | 2013-05-31 |
| 330838 | AH-7 0-1' | soil | 2013-05-30 | 00:00 | 2013-05-31 |
| 330839 | AH-8 0-1' | soil | 2013-05-30 | 00:00 | 2013 - 05 - 31 |
| 330840 | AH-9 0-1' | soil | 2013-05-30 | 00:00 | 2013-05-31 |
| 330841 | AH-10 0-1' | soil | 2013-05-30 | 00:00 | 2013-05-31 |

| | | BTEX | | | TPH DRO - NEW | TPH GRO |
|---------------------|-----------------|-------------|--------------|----------|---------------|-----------|
| | Benzene | Toluene | Ethylbenzene | Xylene | DRO | GRO |
| Sample - Field Code | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) | (ing/Kg) |
| 330830 - AH-1 0-1' | < 0.0200 | < 0.0200 | < 0.0200 | < 0.0200 | <50.0 | <4.00 |
| 330833 - AH-2 0-1' | < 0.0200 | < 0.0200 | < 0.0200 | < 0.0200 | <50.0 | <4.00 |
| 330834 - AH-3 0-1' | < 0.0200 | < 0.0200 | < 0.0200 | < 0.0200 | <50.0 | $<\!4.00$ |
| 330835 - AH-4 0-1' | < 0.0200 | < 0.0200 | < 0.0200 | < 0.0200 | <50.0 | <4.00 |
| 330836 - AH-5 0-1' | < 0.0200 | < 0.0200 | < 0.0200 | < 0.0200 | <50.0 | <4.00 |
| 330837 - AH-6 0-1' | < 0.0200 | < 0.0200 | < 0.0200 | < 0.0200 | $<\!50.0$ | <4.00 |
| 330838 - AH-7 0-1' | < 0.0200 | < 0.0200 | < 0.0200 | < 0.0200 | 63.8 | <8.00 |
| 330839 - AH-8 0-1' | $< 0.0400^{-1}$ | $<\!0.0400$ | 0.292 | 1.51 | 4540 | 198 |
| 330840 - AH-9 0-1' | < 0.0200 | < 0.0200 | < 0.0200 | < 0.0200 | 99.7 | <4.00 |
| 330841 - AH-10 0-1' | $< 0.0400^{-2}$ | < 0.0400 | < 0.0400 | < 0.0400 | 1560 | 91.7 |

¹Dilution due to hydrocarbons.

²Dilution due to hydrocarbons.

| Report Date: June | 11, 2013 | Work Order: 13060318 | Page | Number: 2 of 3 |
|-------------------|-------------|----------------------|--------|---------------------|
| Sample: 330830 - | AH-1 0-1' | | | |
| Param | Flag | Result | Units | \mathbf{RL} |
| Chloride | | 4240 | ung/Kg | 4 |
| Sample: 330831 - | AH-1 1-1.5' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 2360 | mg/Kg | 4 |
| Sample: 330832 - | AH-1 2-2.5' | | | |
| Param | Flag | Result | Units | \mathbf{RL} |
| Chloride | | 2490 | mg/Kg | 4 |
| Sample: 330833 - | AH-2 0-1' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 667 | ıng/Kg | 4 |
| Sample: 330834 - | AH-3 0-1' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 493 | mg/Kg | 4 |
| Sample: 330835 - | AH-4 0-1' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 3600 | mg/Kg | 4 |
| Sample: 330836 - | AH-5 0-1' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 599 | mg/Kg | 4 |
| Sample: 330837 - | AH-6 0-1' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 629 | mg/Kg | 4 |

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| Report Date: June 11, 2013 | | Work Order: 13060318 | | Page Number: 3 of 3 | | | | |
|----------------------------|---------------------------------------|-------------------------|-------|---------------------|--|--|--|--|
| Sample: 330838 - AH-7 0-1' | | | | | | | | |
| Param | \mathbf{Flag} | Result | Units | RL | | | | |
| Chloride | · · · · · · · · · · · · · · · · · · · | 5710 | mg/Kg | 4 | | | | |
| Sample: 330839 | - AH-8 0-1' | | | | | | | |
| Param | Flag | Result | Units | RL | | | | |
| Chloride | | 2300 | mg/Kg | 4 | | | | |
| Sample: 330840 | - AH-9 0-1' | | | | | | | |
| Param | Flag | Result | Units | RL | | | | |
| Chloride | | 17900 | mg/Kg | 4 | | | | |
| Sample: 330841 | - AH-10 0-1' | | | | | | | |
| Param | Flag | Result | Units | RL | | | | |
| Chloride | · · · · · · · · · · · · · · · · · · · | 3850 | mg/Kg | 4 | | | | |

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Summary Report

Report Date: September 20, 2013

Work Order: 13090631

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX 79705

| Project Location: | Eddy Co., NM |
|-------------------|---------------------------|
| Project Name: | COG/Showstopper 7 Fed. #1 |
| Project Number: | 112MC05408 |

| | | | Date | Time | Date |
|--------|----------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 341356 | T-1 (AH-7) 0' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341357 | T-1 (AH-7) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341358 | T-2 (AH-4) 0' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341359 | T-2 (AH-4) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341360 | T-2 (AH-4) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341361 | T-2 (AH-4) 6' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341362 | T-2 (AH-4) 8' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341363 | T-2 (AH-4) 10' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341364 | T-3 (AH-8) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341365 | T-3 (AH-8) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341366 | T-3 (AH-8) 8' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341367 | T-4 (AH-9) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341368 | T-4 (AH-9) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341369 | T-4 (AH-9) 6' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341370 | T-4 (AH-9) 8' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341371 | T-5 (AH-10) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341372 | T-5 (AH-10) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341373 | T-5 (AH-10) 6' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341374 | T-5 (AH-10) 8' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341375 | T-6 (AH-1) 0' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341376 | T-6 (AH-1) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341377 | T-6 (AH-1) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341378 | T-6 (AH-1) 6' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341379 | T-6 (AH-1) 8' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341380 | T-6 (AH-1) 10' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341381 | T-7 (BG) 0' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341382 | T-7 (BG) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341383 | T-7 (BG) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341384 | AH-8 ESW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341385 | AH-8 NSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |

| Report Date: September 20, 2013 | | Work Order: 13090631 | | Page Number: 2 of 8 | |
|---------------------------------|-------------|----------------------|---------------|---------------------|------------------|
| Sample | Description | Matrix | Date Taken | Time Taken | Date Beceived |
| 341386 | AH-8 WSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341387 | AH-8 SSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341388 | AH-4 NSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341389 | AH-4 SSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341390 | AH-4 ESW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341391 | AH-4 WSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341392 | AH-1 NSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341393 | AH-1 SSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341394 | AH-1 ESW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341395 | AH-1 WSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341396 | AH-1 BH 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341397 | AH-7 NSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341398 | AH-7 SSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341399 | AH-7 BH | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341400 | AH-9 BH 3' | soil | 2013-08-27 | 00:00 | 2013-09-06 |

Sample: 341356 - T-1 (AH-7) 0'

| Param | Flag | Result | Units | \mathbf{RL} |
|----------|------|--------|-------|---------------|
| Chloride | | 7800 | mg/Kg | 4 |
| | | | | |

Sample: 341357 - T-1 (AH-7) 2'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|---------------------|
| Chloride | | 2170 | mg/Kg | 4 |

Sample: 341358 - T-2 (AH-4) 0'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|---------------------|
| Chloride | | 1960 | mg/Kg | 4 |

Sample: 341359 - T-2 (AH-4) 2'

| Param | Flag | Result | Units | \mathbf{RL} |
|----------|------|--------|-------|---------------|
| Chloride | | 2190 | mg/Kg | 4 |

Sample: 341360 - T-2 (AH-4) 4'

continued ...

| Report Date: September 20, 2013 | | Work Order: 13090631 | Page Number: 3 of 8 | |
|---------------------------------|-----------------------|----------------------|---------------------|---------------------|
| sample 341360 con | tinued | | | |
| Param | Flag | Result | Units | RL |
| Param | Flag | Result | Units | RL |
| Chloride | | 1840 | mg/Kg | 4 |
| Sample: 341361 | - T-2 (AH-4) 6' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 1410 | mg/Kg | 4 |
| Sample: 341362 | - T-2 (AH-4) 8' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | ····· | 1520 | mg/Kg | 4 |
| Sample: 341363 | - T-2 (AH-4) 10' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 1830 | mg/Kg | 4 |
| Sample: 341364 | - T-3 (AH-8) 2' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 3980 | mg/Kg | 4 |
| Sample: 341365 - | • T-3 (AH-8) 4' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | <u></u> | 729 | mg/Kg | 4 |
| Sample: 341366 - | · T-3 (AH-8) 8' | | | |
| | | | | |
| Param | Flag | Result | Units | RL |

Sample: 341367 - T-4 (AH-9) 2'

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| Report Date: September 20, 2013 | | Work Order: 13090631 | Page Number: 4 of 8 | |
|---------------------------------|------------------|----------------------|---------------------|---------------------|
| Param | Flag | Result | Units | RL |
| Chloride | | 5380 | mg/Kg | 4 |
| Sample: 341368 | - T-4 (AH-9) 4' | | | |
| Param | Flag | Result | Units | \mathbf{RL} |
| Chloride | | 1160 | mg/Kg | 4 |
| Sample: 341369 | - T-4 (AH-9) 6' | | | |
| Parani | Flag | Besult | Units | BL |
| Chloride | 1 1005 | 282 | mg/Kg | 4 |
| | | | | |
| Sample: 341370 | - T-4 (AH-9) 8' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 215 | mg/Kg | 4 |
| Sample: 341371 | - T-5 (AH-10) 2' | | | |
| Param | Flag | Result | Units | \mathbf{RL} |
| Chloride | | 2640 | mg/Kg | 4 |
| Sample: 341372 | - T-5 (AH-10) 4' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 430 | mg/Kg | 4 |
| Sample: 341373 | - T-5 (AH-10) 6' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 239 | mg/Kg | 4 |
| Sample: 341374 | - T-5 (AH-10) 8' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 23.9 | mg/Kg | 4 |

| Report Date: September 20, 2013 | | Work Order: 13090631 | Page Number: 5 of 8 | |
|---------------------------------|------------------|----------------------|---------------------|---------------------|
| Sample: 341375 - | - T-6 (AH-1) 0' | | | |
| Param | Flag | Result. | Units | \mathbf{RL} |
| Chloride | | 7870 | mg/Kg | 4 |
| Sample: 341376 · | - T-6 (AH-1) 2' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 2050 | mg/Kg | 4 |
| Sample: 341377 | - T-6 (AH-1) 4' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 2040 | mg/Kg | 4 |
| Sample: 341378 | - T-6 (AH-1) 6' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 1470 | mg/Kg | 4 |
| Sample: 341379 - | - T-6 (AH-1) 8' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 896 | mg/Kg | 4 |
| Sample: 341380 | - T-6 (AH-1) 10' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 1200 | mg/Kg | 4 |
| Sample: 341381 - | - T-7 (BG) 0' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | <20.0 | mg/Kg | 4 |
| Sample: 341382 - | - T-7 (BG) 2' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 771 | mg/Kg | 4 |

| Report Date: September 20, 2013 | | Work Order: 13090631 | Page Number: 6 of 8 | |
|---------------------------------|---------------|----------------------|---------------------|---------------------|
| Sample: 341383 | - T-7 (BG) 4' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 814 | mg/Kg | 4 |
| Sample: 341384 | - AH-8 ESW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 1470 | mg/Kg | 4 |
| Sample: 341385 | - AH-8 NSW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 597 | mg/Kg | 4 |
| Sample: 341386 | - AH-8 WSW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 604 | mg/Kg | 4 |
| Sample: 341387 | - AH-8 SSW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 706 | mg/Kg | 4 |
| Sample: 341388 - | - AH-4 NSW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 1850 | mg/Kg | 4 |
| Sample: 341389 - | · AH-4 SSW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 1230 | mg/Kg | 4 |
| Sample: 341390 - | · AH-4 ESW | | | |
| Param | Flag | Result | Units | \mathbf{RL} |
| Chloride | 0 | 5850 | mg/Kg | 4 |

| Report Date: September 20, 2013 | | Work Order: 13090631 | Page Number: 7 of 8 | |
|---------------------------------|--|-------------------------|---------------------|---------------------|
| Sample: 341391 - A | H-4 WSW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | ······································ | 2480 | nıg/Kg | 4 |
| Sample: 341392 - A | H-1 NSW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 2400 | mg/Kg | 4 |
| Sample: 341393 - A | H-1 SSW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 1860 | mg/Kg | 4 |
| Sample: 341394 - A | H-1 ESW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 2080 | mg/Kg | 4 |
| Sample: 341395 - A | H-1 WSW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | · · · · · · · · · · · · · · · · · · · | 1190 | mg/Kg | 4 |
| Sample: 341396 - A | H-1 BH 2' | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 1060 | mg/Kg | 4 |
| Sample: 341397 - A | H-7 NSW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | | 1080 | mg/Kg | 4 |
| Sample: 341398 - A | .H-7 SSW | | | |
| Param | Flag | Result | Units | RL |
| Chloride | ······································ | 2260 | mg/Kg | 4 |

| Report Date: September 20, 2013 | | Work Order: 13090631 | | Page Number: 8 of 8 | |
|---------------------------------|--------------|----------------------|-------|---------------------|--|
| Sample: 341399 | - AH-7 BH | | | | |
| Param | Flag | Result | Units | RL | |
| Chloride | | 2270 | mg/Kg | 4 | |
| Sample: 341400 | - AH-9 BH 3' | | | | |
| Param | Flag | Result | Units | RL | |
| Chloride | | 49.0 | mg/Kg | 4 | |

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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: September 20, 2013

FAX 806 • 794 • 1298

Work Order: 13090631

Project Location: Eddy Co., NM Project Name: COG/Showstopper 7 Fed. #1 Project Number: 112MC05408

| Enclosed are the Analytical Report and Qu | uality Control Report | for the following sa | ample(s) submitted to | TraceAnalysis, Inc |
|---|-----------------------|----------------------|-----------------------|--------------------|
| | | Data | Time | Data |

| | | | Date | 1 me | Date |
|--------|----------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 341356 | T-1 (AH-7) 0' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341357 | T-1 (AH-7) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341358 | T-2 (AH-4) 0' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341359 | T-2 (AH-4) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341360 | T-2 (AH-4) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341361 | T-2 (AH-4) 6' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341362 | T-2 (AH-4) 8' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341363 | T-2 (AH-4) 10' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341364 | T-3 (AH-8) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341365 | T-3 (AH-8) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341366 | T-3 (AH-8) 8' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341367 | T-4 (AH-9) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341368 | T-4 (AH-9) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341369 | T-4 (AH-9) 6' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341370 | T-4 (AH-9) 8' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341371 | T-5 (AH-10) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341372 | T-5 (AH-10) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341373 | T-5 (AH-10) 6' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| | | | | | |

| | | | Date | Time | Date |
|--------|----------------|--------|------------|-------|-----------------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 341374 | T-5 (AH-10) 8' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341375 | T-6 (AH-1) 0' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341376 | T-6 (AH-1) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341377 | T-6 (AH-1) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341378 | T-6 (AH-1) 6' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341379 | T-6 (AH-1) 8' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341380 | T-6 (AH-1) 10' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341381 | T-7 (BG) 0' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341382 | T-7 (BG) 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341383 | T-7 (BG) 4' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341384 | AH-8 ESW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341385 | AH-8 NSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341386 | AH-8 WSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341387 | AH-8 SSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341388 | AH-4 NSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341389 | AH-4 SSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341390 | AH-4 ESW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341391 | AH-4 WSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341392 | AH-1 NSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341393 | AH-1 SSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341394 | AH-1 ESW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341395 | AH-1 WSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341396 | AH-1 BH 2' | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341397 | AH-7 NSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341398 | AH-7 SSW | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341399 | AH-7 BH | soil | 2013-08-27 | 00:00 | 2013-09-06 |
| 341400 | AH-9 BH 3' | soil | 2013-08-27 | 00:00 | 2013-09-06 |

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.

This report consists of a total of 29 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Mieber april

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

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Case Narrative

Samples for project COG/Showstopper 7 Fed. #1 were received by TraceAnalysis, Inc. on 2013-09-06 and assigned to work order 13090631. Samples for work order 13090631 were received intact at a temperature of 26.4 C. Samples were not on ice.

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

| | | Prep | Prep | $\rm QC$ | Analysis |
|----------------------|-----------------|-------|---------------------|----------|---------------------|
| Test | Method | Batch | Date | Batch | Date |
| Chloride (Titration) | SM 4500-Cl B | 89070 | 2013-09-17 at 14:11 | 105200 | 2013-09-18 at 15:23 |
| Chloride (Titration) | SM 4500-Cl B | 89070 | 2013-09-17 at 14:11 | 105205 | 2013-09-18 at 15:51 |
| Chloride (Titration) | SM 4500-Cl B | 89070 | 2013-09-17 at 14:11 | 105207 | 2013-09-18 at 15:56 |
| Chloride (Titration) | SM 4500-Cl B | 89070 | 2013-09-17 at 14:11 | 105266 | 2013-09-20 at 10:22 |
| Chloride (Titration) | SM 4500-Cl B $$ | 89070 | 2013-09-17 at 14:11 | 105267 | 2013-09-20 at 10:33 |

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 13090631 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 20, 2013 112MC05408

Work Order: 13090631 COG/Showstopper 7 Fed. #1 Page Number: 6 of 29 Eddy Co., NM

Analytical Report

Sample: 341356 - T-1 (AH-7) 0'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105200 89070 | Analytic Date An Sample I | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|---------------------------------|---------------------------------------|--|--|---------------------|
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | | 7800 | mg/Kg | 10 | 4.00 |

Sample: 341357 - T-1 (AH-7) 2'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105200 89070 | Analytic Date An Sample I | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR. AR. |
|--|--|---------------------------------|---------------------------------------|--|--|---------------------|
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | | 2170 | mg/Kg | 10 | 4.00 |

Sample: 341358 - T-2 (AH-4) 0'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105200 89070 | Analytic Date An Sample I | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|---------------------------------|---------------------------------------|--|--|-----------------|
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | \mathbf{RL} |
| Chloride | | | 1960 | mg/Kg | 10 | 4.00 |

| 112MC05408 | Date: September 20, 2013 Work Orde 205408 COG/Showstop | | ork Order: 1 /Showstopper | 3090631 r 7 Fed. #1 | Page Number: Eddy Co | 7 of 29 5., NM | |
|---|---|---|---|--|--|-----------------------|--|
| Sample: 34 | 1359 - T-2 (AH-4) 2' | | | | | | |
| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105200 89070 | Analytic Date An Sample | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR | |
| | | | RL | | | | |
| Deremotor | Flag | Cert | Result | Units | Dilution | RL | |
| | | | | •••• •• /TZ | 10 | 1 00 | |
| Chloride | | | 2190 | mg/Kg | 10 | 4.00 | |
| Chloride Sample: 34 | 1360 - T-2 (AH-4) 4' | | 2190 | mg/ Kg | 10 | 4.00 | |
| Sample: 34 | 1360 - T-2 (AH-4) 4' Midland | | 2190 | mg/ Kg | 10 | 4.00 | |
| Sample: 34 Laboratory: Analysis: | 1360 - T-2 (AH-4) 4' Midland Chloride (Titration) | Analytic | 2190 al Method: | mg/Kg SM 4500-Cl B | Prep Method: | 4.00 N/A | |
| Sample: 34 Laboratory: Analysis: QC Batch: | 1360 - T-2 (AH-4) 4' Midland Chloride (Titration) 105200 | Analytic Date An | 2190 al Method: alyzed: | Mg/Kg SM 4500-Cl B 2013-09-18 | Prep Method: Analyzed By: | N/A AR | |
| Sample: 34 Laboratory: Analysis: QC Batch: Prep Batch: | 1360 - T-2 (AH-4) 4' Midland Chloride (Titration) 105200 89070 | Analytic Date An Sample I | 2190 al Method: alyzed: Preparation: | Mg/Kg SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR | |
| Sample: 34 Laboratory: Analysis: QC Batch: Prep Batch: | 1360 - T-2 (AH-4) 4' Midland Chloride (Titration) 105200 89070 | Analytic Date An Sample I | 2190 al Method: alyzed: Preparation: RL | Mg/ Kg SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR | |
| Sample: 34 Laboratory: Analysis: QC Batch: Prep Batch: Parameter | 1360 - T-2 (AH-4) 4' Midland Chloride (Titration) 105200 89070 Flag | Analytic Date An Sample I Cert | al Method: alyzed: Preparation: RL Result | mg/Kg SM 4500-Cl B 2013-09-18 2013-09-17 Units | Prep Method: Analyzed By: Prepared By: Dilution | N/A AR AR RL | |

Sample: 341361 - T-2 (AH-4) 6'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105200 89070 | Analytic Date An Sample 1 | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|---------------------------------|---------------------------------------|--|--|-----------------|
| _ | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | | 1410 | mg/Kg | 10 | 4.00 |

Sample: 341362 - T-2 (AH-4) 8'

| Laboratory: | Midland | | | | |
|-------------|----------------------|---------------------|--------------|--------------|---------------|
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 105200 | Date Analyzed: | 2013-09-18 | Analyzed By: | AR |
| Prep Batch: | 89070 | Sample Preparation: | 2013-09-17 | Prepared By: | \mathbf{AR} |

| Report Date: September 20, 2013 112MC05408 | | W COG | Work Order: 13090631 COG/Showstopper 7 Fed. #1 | | | er: 8 of 29 y Co., NM |
|---|---|----------|---|-------|----------|--------------------------|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
| Chloride | <u>********************************</u> | | 1520 | mg/Kg | 10 | 4.00 |

Sample: 341363 - T-2 (AH-4) 10'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105200 89070 | Analytic Date An Sample 1 | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|---------------------------------|---------------------------------------|--|--|-----------------|
| | | | \mathbf{RL} | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | | 1830 | mg/Kg | 10 | 4.00 |

Sample: 341364 - T-3 (AH-8) 2'

| Chloride | | | 3980 | mg/Kg | 10 | 4.00 |
|-------------|----------------------|-----------------------|--------------|--------------|--------------|---------------|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
| Prep Batch: | 89070 | Sample Preparation: 2 | | 2013-09-17 | Prepared By: | AR |
| QC Batch: | 105200 | Date Analyzed: | | 2013-09-18 | Analyzed By: | \mathbf{AR} |
| Analysis: | Chloride (Titration) | Analytic | al Method: | SM 4500-Cl B | Prep Method: | N/A |
| Laboratory: | Midland | | | | | |

Sample: 341365 - T-3 (AH-8) 4'

| Chloride | | | 729 | mg/Kg | 5 | 4.00 |
|-------------|----------------------|---------------------|--------------|--------------|--------------|------|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
| Prep Batch: | 89070 | Sample Preparation: | | 2013-09-17 | Prepared By: | AR |
| QC Batch: | 105200 | Date Analyzed: | | 2013-09-18 | Analyzed By: | AR. |
| Analysis: | Chloride (Titration) | Analytic | al Method: | SM 4500-Cl B | Prep Method: | N/A |
| Laboratory: | Midland | | | | | |

| Report Date: September 20, 2013 112MC05408 | | Work Order: 13090631 COG/Showstopper 7 Fed. #1 | | | Page Number: 9 of 29 Eddy Co., NM | |
|--|--|---|---------------------|--|--|-----------------|
| Sample: 34 | 1366 - T-3 (AH-8) 8' | | | | | |
| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105205 89070 | Analytical Method: Date Analyzed: Sample Preparation: | | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | ······································ | | 803 | mg/Kg | 5 | 4.00 |

Sample: 341367 - T-4 (AH-9) 2'

| Laboratory: | Midland | | | | | |
|-------------|----------------------|----------------|-------------------------|--------------|--------------|---------------|
| Analysis: | Chloride (Titration) | Analytic | al Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 105205 | Date Analyzed: | | 2013-09-18 | Analyzed By: | AR |
| Prep Batch: | 89070 | Sample 1 | Sample Preparation: | | Prepared By: | AR |
| | | | \mathbf{RL} | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | \mathbf{RL} |
| Chloride | | | 5380 | mg/Kg | 10 | 4.00 |

Sample: 341368 - T-4 (AH-9) 4'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105205 89070 | Analytical Metho Date Analyzed: Sample Preparat | | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|---|---------------|--|--|-----------------|
| | | | \mathbf{RL} | | | |
| Parameter | \mathbf{Flag} | Cert | Result | Units | Dilution | RL |
| Chloride | | | 1160 | mg/Kg | 10 | 4.00 |

Sample: 341369 - T-4 (AH-9) 6'

| Laboratory: | Midland | | | | |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 105205 | Date Analyzed: | 2013-09-18 | Analyzed By: | ÁR |
| Prep Batch: | 89070 | Sample Preparation: | 2013-09-17 | Prepared By: | AR |

| Report Date: September 20, 2013 112MC05408 | | Work Order: 13090631 COG/Showstopper 7 Fed. #1 | | | Page Number: 10 of 29 Eddy Co., NM | |
|---|---|---|----------------------------|-------|---------------------------------------|---------------------|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
| Chloride | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | 282 | mg/Kg | 5 | 4.00 |

Sample: 341370 - T-4 (AH-9) 8'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105205 89070 | Analytic Date An Sample I | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|---------------------------------|---------------------------------------|--|--|-----------------|
| | | | \mathbf{RL} | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | | 215 | mg/Kg | 5 | 4.00 |

Sample: 341371 - T-5 (AH-10) 2'

| Chloride | | | 2640 | mg/Kg | 10 | 4.00 |
|-------------|----------------------|---------------------|--------------|--------------|--------------|---------------|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
| Prep Batch: | 89070 | Sample Preparation: | | 2013-09-17 | Prepared By: | AR |
| QC Batch: | 105205 | Date Analyzed: | | 2013-09-18 | Analyzed By: | \mathbf{AR} |
| Analysis: | Chloride (Titration) | Analytic | al Method: | SM 4500-Cl B | Prep Method: | N/A |
| Laboratory: | Midland | | | | | |

Sample: 341372 - T-5 (AH-10) 4'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105205 89070 | Analytic Date An Sample 1 | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|---------------------------------|---------------------------------------|--|--|-----------------|
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | | 430 | mg/Kg | 5 | 4.00 |

| 112MC05408 | September 20, 2013 | Work Order: 13090631 COG/Showstopper 7 Fed. #1 | | | Page Number: 11 of 29 Eddy Co., NM | | |
|--|--|---|---------------------------------------|--|--|-----------------|--|
| Sample: 341 | .373 - T-5 (AH-10) 6' | | | | | | |
| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105205 89070 | Analytic Date An Sample I | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR | |
| | | | RL | | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL | |
| Chloride | an de la caracteristica de la característica de la característica de la característica de la característica de | | 239 | mg/Kg | 5 | 4.00 | |

Sample: 341374 - T-5 (AH-10) 8'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105205 89070 | Analy Date Samp | rtical Method: Analyzed: le Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|-----------------------|--|--|--|-----------------|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
| Chloride | | | 23.9 | mg/Kg | 5 | 4.00 |

Sample: 341375 - T-6 (AH-1) 0'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105205 89070 | Analytic Date An Sample l | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|---------------------------------|---------------------------------------|--|--|-----------------|
| Danamatan | Flag | Cont | RL | Linito | Dilution | DI |
| Parameter | Flag | Cert | nesun | Units | Diffusion | <u>n</u> L |
| Chloride | | | 7870 | mg/Kg | 10 | 4.00 |

Sample: 341376 - T-6 (AH-1) 2'

| Laboratory: | Midland | | | | |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 105207 | Date Analyzed: | 2013-09-18 | Analyzed By: | AR |
| Prep Batch: | 89070 | Sample Preparation: | 2013-09-17 | Prepared By: | AR |

| Report Date: September 20, 2013 112MC05408 | | ork Order: 130900 /Showstopper 7 Fo | 531 ed. #1 | Page Number: 12 Eddy Co. | | |
|---|--------------------|--|---|--|---|--|
| Flag | Cert | RL Besult | Units | Dilution | BL | |
| 1 165 | COLO | 2050 | mg/Kg | 10 | 4.00 | |
| - | - 20, 2013 Flag | - 20, 2013 W COG/ Flag Cert | 20, 2013 Work Order: 130900 COG/Showstopper 7 Fo RL Flag Cert Result 2050 | 20, 2013 Work Order: 13090631 COG/Showstopper 7 Fed. #1 RL Flag Cert Result Units 2050 mg/Kg | 20, 2013 Work Order: 13090631 Page Number COG/Showstopper 7 Fed. #1 Eddy RL Flag Cert Result Units Dilution 2050 mg/Kg 10 | |

Sample: 341377 - T-6 (AH-1) 4'

| _ | · · | | | | | |
|--|--|---------------------------------|---------------------------------------|--|--|-----------------|
| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105207 89070 | Analytic Date An Sample 1 | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
| | | ~ | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | | 2040 | mg/Kg | 10 | 4.00 |

Sample: 341378 - T-6 (AH-1) 6'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105207 89070 | Analytic Date An Sample I | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|---------------------------------|---------------------------------------|--|--|-----------------|
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | | 1470 | mg/Kg | 10 | 4.00 |

Sample: 341379 - T-6 (AH-1) 8'

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105207 89070 | Analytic Date An Sample I | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|---------------------------------|---------------------------------------|--|--|---------------------|
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | | 896 | mg/Kg | 5 | 4.00 |

| Report Date: September 20, 2013 112MC05408 | | W COG | ork Order: 13 /Showstopper | 090631 7 Fed. #1 | Page Number: 13 of 29 Eddy Co., NM | | |
|--|--|-------------------------------|---|--|--|-----------------|--|
| Sample: 34 | 1380 - T-6 (AH-1) 10' | | | | | | |
| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105207 89070 | Analyti Date An Sample | cal Method: nalyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR | |
| | | | \mathbf{RL} | | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL | |
| Chloride | | | 1200 | mg/Kg | 5 | 4.00 | |
| Sample: 34 | 1381 - T-7 (BG) 0' | | | | | | |
| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105207 89070 | Analytic Date An Sample | cal Method: 1alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR | |
| | | | RL | | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | \mathbf{RL} | |
| Chloride | U | | <20.0 | mg/Kg | 5 | 4.00 | |
| Sample: 34 | 1382 - T-7 (BG) 2' | | | | | | |
| Laboratory: | Midland | | | | | | |
| Analysis: | Chloride (Titration) | Analyti | cal Method: | SM 4500-Cl B | Prep Method: | N/A | |
| QC Batch: | 105207 | Date A | nalyzed: | 2013-09-18 | Analyzed By: | AR | |
| Prep Batch: | 89070 | Sample | Preparation: | 2013-09-17 | Prepared By: | AR. | |
| | | | \mathbf{RL} | | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | \mathbf{RL} | |
| Chloride | | | 771 | mg/Kg | 5 | 4.00 | |

Sample: 341383 - T-7 (BG) 4'

| Laboratory: | Midland | | | | |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 105207 | Date Analyzed: | 2013-09-18 | Analyzed By: | AR |
| Prep Batch: | 89070 | Sample Preparation: | 2013-09-17 | Prepared By: | AR |

| Report Date: September 20, 2013 112MC05408 | | We COG/ | ork Order: 130900 /Showstopper 7 Fo | 631 ed. #1 | Page Number: 14 of Eddy Co., N | |
|---|------|------------|--|---------------|-----------------------------------|---------------|
| Parameter | Flag | Cert | RL Result | Units | Dilution | \mathbf{RL} |
| Chloride | | | 814 | mg/Kg | 5 | 4.00 |

Sample: 341384 - AH-8 ESW

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105207 89070 | Analytic Date An Sample I | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|---------------------------------|---------------------------------------|--|--|-----------------|
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | \mathbf{RL} |
| Chloride | | | 1470 | mg/Kg | 10 | 4.00 |

Sample: 341385 - AH-8 NSW

| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105207 89070 | Anal Date Samp | ytical Method: Analyzed: le Preparation: | SM 4500-Cl B 2013-09-18 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|----------------------|--|--|--|---------------------|
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | , | | 597 | mg/Kg | 5 | 4.00 |

Sample: 341386 - AH-8 WSW

| Chloride | | | 604 | mg/Kg | 5 | 4.00 |
|-------------|----------------------|----------|----------------------------|--------------|--------------|------|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
| Prep Batch: | 89070 | Sample I | Preparation: | 2013-09-17 | Prepared By: | AR |
| QC Batch: | 105266 | Date Ana | alyzed: | 2013-09-20 | Analyzed By: | AR. |
| Analysis: | Chloride (Titration) | Analytic | al Method: | SM 4500-Cl B | Prep Method: | N/A |
| Laboratory: | Midland | | | | | |

| Report Date 112MC05408 | : September 20, 2013 3 | Work Order: 13090631Page Number:COG/Showstopper 7 Fed. #1Eddy | | Page Number: 1 Eddy Co | 15 of 29 Co., NM | |
|---------------------------|--|---|-------------------------|----------------------------|------------------------------|----------|
| Sample: 34 | 1387 - AH-8 SSW | | | | | |
| Laboratory: | Midland | A A A | | | | |
| Analysis: | Chloride (Titration) | Analytic | al Method: | SM 4500-CI B | Prep Method: | N/ |
| QC Batch: Prep Batch: | 105200 89070 | Sample | aryzea: Preparation: | 2013-09-20 2013-09-17 | Prepared By: | AI |
| × • • p = 200010 | | I | of | | 1 10[/w/04 2.// | |
| Parameter | Flag | Cert | RL Result | Units | Dilution | F |
| Chloride | | | 706 | mg/Kg | 5 | 4. |
| Analysis: | Chloride (Titration) | Analytic | al Method: | SM 4500-Cl B | Prep Method: | N, |
| QC Batch: | 105266 | Date An | alyzed: | 2013-09-20 | Analyzed By: | AI |
| Prep Batch: | 89070 | Sample . | Preparation: | 2013-09-17 | Prepared By: | AI |
| D . | | A 1 | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | H |
| Sample: 34 | | | | | | |
| I O DOFOTOTIV | 1389 - AH-4 SSW | | | | | |
| Analysis: | 1389 - AH-4 SSW Midland Chloride (Titration) | Analytic | al Method: | SM 4500-Cl B | Prep Method: | N |
| Analysis: QC Batch: | 1389 - AH-4 SSW Midland Chloride (Titration) 105266 | Analytic Date An | al Method: alyzed: | SM 4500-Cl B 2013-09-20 | Prep Method: Analyzed By: | N/ AI |

| | | | RL | | | |
|-----------|------|------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | | 1230 | mg/Kg | 10 | 4.00 |

Sample: 341390 - AH-4 ESW

| Laboratory: | Midland | | | | |
|-------------|----------------------|---------------------|--------------|--------------|---------------|
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 105266 | Date Analyzed: | 2013-09-20 | Analyzed By: | ÁR |
| Prep Batch: | 89070 | Sample Preparation: | 2013-09-17 | Prepared By: | \mathbf{AR} |

| Report Date: Septem 112MC05408 | ber 20, 2013 | Wo COG/ | Work Order: 13090631 COG/Showstopper 7 Fed. #1 | | | Page Number: 16 of 29 Eddy Co., NM | |
|-----------------------------------|--------------|------------|---|-------|----------|---------------------------------------|--|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL | |
| Chloride | 6 | | 5850 | mg/Kg | 10 | 4.00 | |

Sample: 341391 - AH-4 WSW

| Chloride | | | 2480 | mg/Kg | 10 | 4.00 |
|--|--|-------------------|---|--|--|---------------------|
| Parameter | Fla | g Cert | RL Result | Units | Dilution | RL |
| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105266 89070 | Ana Dat San | alytical Method: ze Analyzed: nple Preparation: | SM 4500-Cl B 2013-09-20 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |

Sample: 341392 - AH-1 NSW

| Chloride | | | 2400 | mg/Kg | 10 | 4.00 |
|-------------|----------------------|----------------|--------------|--------------|--------------|---------------|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
| Prep Batch: | 89070 | Sample I | Preparation: | 2013-09-17 | Prepared By: | AR |
| QC Batch: | 105266 | Date Analyzed: | | 2013-09-20 | Analyzed By: | \mathbf{AR} |
| Analysis: | Chloride (Titration) | Analytic | al Method: | SM 4500-Cl B | Prep Method: | N/A |
| Laboratory: | Midland | | | | | |

Sample: 341393 - AH-1 SSW

| Chloride | | | 1860 | mg/Kg | 10 | 4.00 |
|-------------|----------------------|------|------------------|--------------|--------------|------|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
| Prep Batch: | 89070 | Samp | ole Preparation: | 2013-09-17 | Prepared By: | AR. |
| QC Batch: | 105266 | Date | Date Analyzed: | | Analyzed By: | AR. |
| Analysis: | Chloride (Titration) | Anal | ytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| Laboratory: | Midland | | | | | |

| Report Date 112MC05408 | : September 20, 2013 3 | W COG | ork Order: 13 /Showstopper | 090631 7 Fed. #1 | Page Number: 1 Eddy Co | ber: 17 of 29 ddy Co., NM | |
|--|--|-------------------------------|---------------------------------------|--|--|------------------------------|--|
| Sample: 34 | 1394 - AH-1 ESW | | | | | | |
| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (Titration) 105266 89070 | Analytic Date Ar Sample | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-20 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR. AR | |
| | | | \mathbf{RL} | | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL | |
| Chloride | | <u></u> | 2080 | mg/Kg | 10 | 4.00 | |
| Sample: 34 | 1395 - AH-1 WSW | | | | | | |
| Laboratory: | Midland | | | | | | |
| Analysis: | Chloride (Titration) | Analytic | al Method: | SM 4500-Cl B | Prep Method: | N/A | |
| QC Batch: Prep Batch: | 105266 89070 | Date Ar Sample | alyzed: Preparation: | 2013-09-20 2013-09-17 | Analyzed By: Prepared By: | AR AR | |
| | | | BL | | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | \mathbf{RL} | |
| Chloride | | | 1190 | mg/Kg | 10 | 4.00 | |
| Sample: 34 | 1396 - AH-1 BH 2' | | | | | | |
| Laboratory | Midland | | | | | | |
| Analysis: | Chloride (Titration) | Analytic | al Method: | SM 4500-Cl B | Prep Method: | N/A | |
| QC Batch: | 105267 | Date Ar | alvzed: | 2013-09-20 | Analyzed By: | AR | |
| Prep Batch: | 89070 | Sample | Preparation: | 2013-09-17 | Prepared By: | AR. | |
| | | | \mathbf{RL} | | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | \mathbf{RL} | |
| Chloride | | | 1060 | mg/Kg | 5 | 4.00 | |

Sample: 341397 - AH-7 NSW

| Laboratory: | Midland | | | | |
|-------------|----------------------|---------------------|--------------|--------------|---------------|
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 105267 | Date Analyzed: | 2013-09-20 | Analyzed By: | AR |
| Prep Batch: | 89070 | Sample Preparation: | 2013-09-17 | Prepared By: | \mathbf{AR} |

| Report Date: Septem 112MC05408 | ber 20, 2013 | W COG/ | ork Order: 130906 /Showstopper 7 Fo | Page Number Eddy | Page Number: 18 of 29 Eddy Co., NM | | |
|-----------------------------------|--------------|-----------|--|---------------------|---------------------------------------|------|--|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL | |
| Chloride | | | 1080 | mg/Kg | 10 | 4.00 | |

Sample: 341398 - AH-7 SSW

| Laboratory: Analysis: QC Batch: Prep Batch; | aboratory: Midland Analysis: Chloride (Titration) QC Batch: 105267 Prep Batch: 89070 | | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-20 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|---|------|---------------------------------------|--|--|-----------------|
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | \mathbf{RL} |
| Chloride | | | 2260 | mg/Kg | 10 | 4.00 |

Sample: 341399 - AH-7 BH

| Chloride | | | 2270 | mg/Kg | 10 | 4.00 |
|-------------|----------------------|----------|--------------|--------------|--------------|---------------|
| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
| Prep Batch: | 89070 | Sample 1 | Preparation: | 2013-09-17 | Prepared By: | AR |
| QC Batch: | 105267 | Date An | alyzed: | 2013-09-20 | Analyzed By: | \mathbf{AR} |
| Analysis: | Chloride (Titration) | Analytic | al Method: | SM 4500-Cl B | Prep Method: | N/A |
| Laboratory: | Midland | | | | | |

Sample: 341400 - AH-9 BH 3'

| Laboratory: Analysis: QC Batch: Prep Batch: | aboratory: Midland nalysis: Chloride (Titration) C Batch: 105267 rep Batch: 89070 | | al Method: alyzed: Preparation: | SM 4500-Cl B 2013-09-20 2013-09-17 | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
|--|--|-----------------------|---------------------------------------|--|--|---------------------|
| | | | RL | | | |
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | | 49.0 | mg/Kg | 5 | 4.00 |

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Method Blanks

| QC Batch: 105200 | | | | |
|------------------|--|---|---|--|
| | Date Analyzed: QC Preparation: | 2013-09-18 2013-09-17 | Analyzed By: Prepared By: | AR AR |
| Flag | Cert | MDL Result <3.85 | Units mg/Kg | RL 4 |
| | | | | |
| QC Batch: 105205 | | | | |
| | Date Analyzed: QC Preparation: | 2013-09-18 2013-09-17 | Analyzed By: Prepared By: | AR AR |
| Flor | Cort | MDL Bornlt | Unite | DI |
| r lag | Cert | <3.85 | mg/Kg | 4 |
| QC Batch: 105207 | | | | |
| | Date Analyzed: QC Preparation: | 2013-09-18 2013-09-17 | Analyzed By: Prepared By: | AR AR |
| Flag | Cert | MDL Result <3.85 | Units mg/Kg | RL 4 |
| | QC Batch: 105200 Flag QC Batch: 105205 Flag QC Batch: 105207 Flag | QC Batch: 105200 Flag Cert QC Batch: 105205 QC Batch: 105205 Flag Cert QC Preparation: Date Analyzed: QC Preparation: Flag Cert Analyzed: QC Preparation: Cert | QC Batch: 105200 Date Analyzed: 2013-09-18 QC Preparation: 2013-09-17 MDL Flag Cert Result QC Batch: 105205 Date Analyzed: 2013-09-18 QC Preparation: 2013-09-17 Date Analyzed: 2013-09-18 MDL Result 2013-09-17 MDL QC Batch: 105205 Date Analyzed: 2013-09-18 MDL QC Batch: 105207 Cert MDL QC Batch: 105207 Date Analyzed: 2013-09-18 QC Preparation: 2013-09-18 Cert MDL Flag Cert Result QC Preparation: 2013-09-18 MDL QC Preparation: 2013-09-18 MDL QC Preparation: 2013-09-18 Actional Act | QC Batch: 105200 Date Analyzed: 2013-09-18 QC Preparation: 2013-09-17 Analyzed By: Prepared By: Prepared By: Prepared By: Cert Flag Cert Result Units QC Batch: 105205 Jate Analyzed: 2013-09-18 QC Preparation: 2013-09-18 QC Preparation: 2013-09-17 Analyzed By: Prepared By: Prepared By: Prepared By: QC Preparation: 2013-09-17 QC Batch: 105207 Date Analyzed: 2013-09-18 Result Units QC Batch: 105207 Date Analyzed: 2013-09-18 Prepared By: QC Preparation: 2013-09-17 Analyzed By: Prepared By: Prepared By: Prepared By: QC Preparation: 2013-09-18 Prepared By: QC Preparation: 2013-09-18 Prepared By: QC Preparation: 2013-09-18 Prepared By: Prepared By |

| Method Blank (1) | QC Batch: 105266 |
|------------------|------------------|
|------------------|------------------|

| QC Batch: | 105266 | Date Analyzed: | 2013-09-20 | Analyzed By: | \mathbf{AR} |
|-------------|--------|-----------------|------------|--------------|---------------|
| Prep Batch: | 89070 | QC Preparation: | 2013-09-17 | Prepared By: | AR |

| Report Date: Septembe 112MC05408 | er 20, 2013 | Work Or COG/Shows | der: 13090631 topper 7 Fed. #1 | Page Number: 20 of 29 Eddy Co., NM | | |
|---------------------------------------|-------------------|-----------------------------------|-----------------------------------|---------------------------------------|----------|--|
| Parameter | Flag | Cert | MDL Result | Units | RL | |
| Method Blank (1) | OC Batch: 105267 | | | | | |
| QC Batch: 105267 Prep Batch: 89070 | QC Da((II. 105207 | Date Analyzed: QC Preparation: | 2013-09-20 2013-09-17 | Analyzed By: Prepared By: | AR AR | |
| Parameter Chlorida | Flag | Cert | MDL Result | Units mg/Kg | RL | |

.

Report Date: September 20, 2013 112MC05408

Work Order: 13090631 COG/Showstopper 7 Fed. #1

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

| QC Batch: 1 Prep Batch: 8 | 05200 9070 | | | Da QC | te Analyz ? Prepara | ed: 2 tion: 2 | 013-09-18 013-09-17 | | | Analy Prepa | yzed By ared By: | : AR : AR |
|------------------------------|-------------------|-------|--------------|----------|------------------------|------------------|------------------------|-----------------|----------|---------------------|---------------------|--------------|
| Param | | | F | C | LCS Result | Units | Dil. | Spike Amount | Ma Re | atrix esult Rec. | F L | Rec. imit |
| Chloride | | | | | 2380 | mg/Kg | 1 | 2500 | < | 3.85 95 | 89.7 | - 115.9 |
| Percent recover | y is based on the | spiko | e resi | ult. RPI | D is based | on the | spike and | spike dup | licate 1 | result. | | |
| | | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
| Param | | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | | | 2450 | mg/Kg | 1 | 2500 | <3.85 | 98 | 89.7 - 115.9 | 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: 105205 Prep Batch: 89070 | | | | Date Analyzed: 2013-09-18 QC Preparation: 2013-09-17 | | | | | | zed By: AR red By: AR |
|---------------------------------------|-------------------------|----------|--------|---|--------------|----------|-----------------|------------------|------|--------------------------|
| Param | | F | С | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
| Chloride | | | | 2500 | mg/Kg | 1 | 2500 | <3.85 | 100 | 89.7 - 115.9 |
| Percent recov | very is based on the sp | pike res | ult. F | RPD is base | ed on the sp | oike and | spike duplic | ate result. | | |

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|------------------|-----|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | \mathbf{Limit} | RPD | Limit |
| Chloride | | | 2600 | mg/Kg | 1 | 2500 | <3.85 | 104 | 89.7 - 115.9 | 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: | 105207 | Date Analyzed: | 2013-09-18 | Analyzed By: | AR. |
|-------------|--------|-----------------|------------|--------------|-----|
| Prep Batch: | 89070 | QC Preparation: | 2013-09-17 | Prepared By: | AR |

| ParamFCResultUnitsDil.AmountResultRec.LimitChloride2620mg/Kg12500<3.8510580.7 - 115.9Percent recovery is based on the spike result.RPDis based on the spike and spike duplicate result.ParamFCResultUnitsDil.AmountResultRec.RPDParamFCResultUnitsDil.AmountResultRec.LimitRPDChloride2530mg/Kg12500<3.8510189.7 - 115.9420Percent recovery is based on the spike result.RPDis based on the spike result.RPDLimitChloride02Date Analyzed:2013-09-20Analyzed By:ARPrep Batch:89070QC Preparation:2013-09-17Prepared By:AParamFCResultUnitsDil.AmountResultRec.ParamFCResultUnitsDil.AmountResultRec.LimitChloride2560mg/Kg12500<3.8510289.7 - 115.920ParamFCResultUnitsDil.AmountResultRec.Rec.ParamFCResultUnitsDil.AmountResultRec.Ref.ParamFCResultUnitsDil.AmountResultRec.Limit | Report Date: September 20, 112MC05408 | ber 20, 2013 Work Order: 13090631 Page Number: 22 of 29 COG/Showstopper 7 Fed. #1 Eddy Co., NM | | | | | | | | | | | |
|---|---|---|--------------|--------------|------------------------|-------------------|------------------------|-------------------------|-------------|------------------------|----------------|---------------------|-------------------------|
| Percent recovery is based on the spike result. LCSD Spike Matrix Rec. LPT LOSD Spike Matrix Rec. LPT Param F C Result Units Dia Spike Matrix Rec. Limit Choride 2530 mg/Kg 1 2500 Rec. Limit Laboratory Control Spike (LCS-1) QC Batch: 105266 Date Analyzed: 2013-09-20 Analyzed By: AR Param F C Result Units Dil. Amount Result Rec. Limit Choride 2600 mg/Kg 1 2500 <3.85 102 89.7 - 115.9 4 20 Percent recovery is based on the spike result. Rec. RPD LCS 1 <th< th=""><th>Param Chloride</th><th></th><th>F</th><th>C</th><th>LCS Result 2620</th><th>Units mg/Kg</th><th>Dil.</th><th>Spike Amount 2500</th><th>M R <</th><th>atrix esult 3.85</th><th>Rec. 105</th><th>I L </th><th>lec. imit - 115.9</th></th<> | Param Chloride | | F | C | LCS Result 2620 | Units mg/Kg | Dil. | Spike Amount 2500 | M R < | atrix esult 3.85 | Rec. 105 | I L | lec. imit - 115.9 |
| ParamFCResultUnitsDilAmountResultRec.InitRPDLimitChloride2530mg/Kg12500<3.8510189.7 - 115.9420Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.89.7 - 115.9420Laboratory Control Spike (LCS-1)QC Batch:105266Date Analyzed:2013-09-20Analyzed By:ARPrep Batch:89070QC Preparation:2013-09-17Prepared By:ARChloride2560mg/Kg12500<3.8510289.7 - 115.9ParamFCResultUnitsDil.AmountResultRec.LimitChloride2560mg/Kg12500<3.8510289.7 - 115.9420Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.Rec.RPDLimitChloride2450mg/Kg12500<3.8598.97.115.9420Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.RPDLimitChloride2450mg/Kg12500<3.859895420Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.RPDLimitChloride2450KR2500<3.859589.7 - 115.9420Percent recovery is ba | Percent recovery is based on | the spik | e res | ult. RP | D is based | l on the | spike and | spike dup | licate | result. | | | |
| LCSDSpikeMatrixRec.RPD Limit Chloride2530mg/Kg12500RPD Limit ChlorideCResult Result Rec.Limit RPD LimitCResult Result Rec.Limit Colspan="4">RPD Limit Colspan="4">CLaboratory Control Spike (LCS-1)QC Batch:105266Date Analyzed:2013-09-20Analyzed By: ARPrep Batch:89070QC Preparation:2013-09-20Analyzed By: ARPrep Batch:89070QC Preparation:2013-09-20Analyzed By: ARPrep Batch:89070QC Preparation:2013-09-20Analyzed By: ARPrep areaFCResult mitsDilCOSSpikeMatrixRec.LCSSpikeMatrixRec.ParamFCResult mitsLCSDSpikeMatrixRec.LimitCResult | | one opin | 0 101 | | D 10 00000 | | | | | - | | | _ |
| ParamFCResultOnitsDitAnnouncResultDittRPDLimitPercent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.Laboratory Control Spike (LCS-1)QC Batch:105266Date Analyzed:2013-09-20Analyzed By:ARPrep Batch:89070QC Preparation:2013-09-17Prepared By:ARParamFCResultUnitsDil.AmountResultRec.LimitChoride2560mg/Kg12500<3.85 | Danama | -T | a | LCSD | Thatta | 1):1 | Spike | Matrix | Daa | | .ec. | מסס | RPD |
| 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: 105266 Date Analyzed: 2013-09-20 Analyzed By: AR Prep Batch: 89070 QC Preparation: 2013-09-17 Prepared By: AR Param F C Result Units Dil. Amount Result Rec. Limit Chloride 2560 mg/Kg 1 2500 <3.85 102 89.7 - 115.9 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: 105267 Date Analyzed: 2013-09-20 Analyzed By: AR Prep Batch: 105267 Date Analyzed: 2013-09-20 Analyzed By: AR Prep Batch: 105267 Date Analyzed: 2013-09-20 Analyzed By: AR Prep Batch: 105267 Date Analyzed: 2013-09-17 Prepared By: AR Prep Batch: 89070 QC Preparation: 2013-09-17 Prepared By: AR Prep Batch: 105267 Date Analyzed: 2013-09-17 Prepared By: AR Prep Anam F C Result Units Dil Amount Result Rec. Limit Chloride 2370 mg/Kg 1 2500 <3.85 95 89.7 - 115.9 4 20 Percent recovery is based on the spike result. RPD is based on the spike duplicate result. LCSD Spike Matrix Rec. Limit Chloride Prepared By: AR Param F C Result Units Dil Amount Result Rec. Limit Chloride 2300 so 89.89.7 - 115.9 4 20 Percent recovery is based on the spike result. RPD is based on the spike duplicate result. | Chloride | | 0 | 2530 | mg/Kg | · 1 | 2500 | < 3.85 | 101 | 89.7 | - 115 9 | 4 | 20 |
| Laboratory Control Spike (LCS-1) QC Batch: 105266 Date Analyzed: 2013-09-20 Analyzed By: AR Prep Batch: 89070 QC Preparation: 2013-09-17 Prepared By: AR Param F C Result Units Dil. Amount Result Rec. Limit Chloride 2560 mg/Kg 1 2500 <3.85 102 89.7 - 115.9 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. Rec. Reput Param F C Result Units Dil. Amount Result Rec. RPD Param F C Result Units Dil. Amount Result Rec. RPD Limit Rec. Rec. Rec. Rec. Rec. Rec. Rec. Rec. | Percent recovery is based on | the spik | e res | ult. RPI | D is based | l on the | spike and | spike dup | licate | result. | | | |
| QC Batch: 105266 Date Analyzed: 2013-09-20 Analyzed By: AR Prep Batch: 89070 QC Preparation: 2013-09-17 Prepared By: AR Param F C Result Units Dil. Amount Result Rec. Limit Chloride 2560 mg/Kg 1 2500 <3.85 102 89.7 - 115.9 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. Rec. RPD Param F C Result Units Dil. Amount Result Rec. RPD Param F C Result Units Dil. Amount Result Rec. RPD Param F C Result Units Dil. Amount Result Rec. RPD Param F C Result RPD is based on the spike and spike duplicate result. Laboratory Control Spike (LCS-1) QC Preparation: 2013-09-20 Analyzed By: AR Param F C | Laboratory Control Spike | e (LCS- | 1) | | | | | | | | | | |
| Prep Batch:89070QC Preparation:2013-09-17Prepared By:ARParamFCResultUnitsDil.AmountResultRec.LimitChloride2560mg/Kg12500<3.85 | QC Batch: 105266 | | | Da | te Analyz | zed: 2 | 013-09-20 | | | | Analy | yzed By | : AR |
| LCSSpikeMatrixRec.ParamFCResultUnitsDil.AmountResultRec.LimitChloride2560mg/Kg12500<3.85 | Prep Batch: 89070 | | | \mathbf{Q} | C Prepara | tion: 2 | 013-09-17 | | | | Prepa | ared By | AR |
| ParamFCResultUnitsDil.AmountResultRec.LimitChoride2560 ng/Kg 12500 < 3.85 10289.7 - 115.9Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.ParamFCResultUnitsDil.AmountResultRec.RPDParamFCResultUnitsDil.AmountResultRec.RPDChloride2450 ng/Kg 12500 < 3.85 9889.7 - 115.9420Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.RPDLimitLaboratory Control Spike (LCS-1)QC Preparation:2013-09-20Analyzed By:ARPrep Batch:105267Date Analyzed:2013-09-17Prepared By:ARParamFCResultUnitsDil.AmountResultRec.LimitChloride2370mg/Kg12500 < 3.85 9589.7 - 115.9420ParamFCResultUnitsDil.AmountResultRec.LimitChloride2370mg/Kg12500 < 3.85 9589.7 - 115.9Percent recovery is based on the spike result.RPDis based on the spike and spike duplicate result.ParamFCResultUnitsDil.AmountResultRec.Lim | | | | | | | | | | | | | |
| ParamFCResultUnitsDil.AmountResultRec.LimitChloride2560 ng/Kg 12500<3.85 | | | | | LCS | | | Spike | М | atrix | | F | lec. |
| Chloride 2560 mg/Kg 1 2500 < 3.85 102 89.7 - 115.9 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. Rec. RPD Param F C Result Units Dil. Amount Result Rec. RPD Limit Chloride 2450 mg/Kg 1 2500 < 3.85 98 89.7 - 115.9 4 20 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. Imit RPD Limit Laboratory Control Spike (LCS-1) QC Batch: 105267 Date Analyzed: 2013-09-20 Analyzed By: AR Prep Batch: 89070 QC Preparation: 2013-09-17 Prepared By: AR Param F C Result Units Dil. Amount Result Rec. Param F C Result Units Dil. Amount Result Rec. Limit Chloride 2370 mg/Kg 1 2500 < 3.85 95 89. | Param | | F | С | Result | Units | Dil. | Amount | R | esult | Rec. | \mathbf{L} | imit |
| Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. RPD Param F C Result Units Dil. Amount Result Rec. RPD Limit RPD LCS C Analyzed By: AR Analyzed By: AR Rec. Rec. Limit Rec. Rec. Rec. Limit Rec. Rec. Rec. Limit Rec. Limit RPD | Chloride | | | | 2560 | mg/Kg | ; 1 | 2500 | < | 3.85 | 102 | 89.7 | - 115.9 |
| ParamFCResultUnitsDil.AmountResultRec.RPDLimitChloride2450mg/Kg12500 < 3.85 9889.7 - 115.9420Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.Laboratory Control Spike (LCS-1)QC Batch:105267Date Analyzed:2013-09-20Analyzed By:ARPrep Batch:89070QC Preparation:2013-09-17Prepared By:ARParamFCResultUnitsDil.AmountResultRec.LimitChloride2370mg/Kg12500 < 3.85 9589.7 - 115.9420ParamFCResultUnitsDil.AmountResultRec.LimitChloride2370mg/Kg12500 < 3.85 9589.7 - 115.94ParamFCResultUnitsDil.AmountResultRec.LimitChloride2370mg/Kg12500 < 3.85 9589.7 - 115.9420ParamFCResultUnitsDil.AmountResultRec.RPDLimitChloride2460mg/Kg12500 < 3.85 9889.7 - 115.9420ParamFCResultUnitsDil.AmountResultRec.LimitRPDLimit <t< td=""><td>Percent recovery is based on</td><td>the spik</td><td>e res</td><td>ult. RPI</td><td>D is based</td><td>l on the</td><td>spike and</td><td>spike dupi</td><td>licate</td><td>result.</td><td></td><td></td><td></td></t<> | Percent recovery is based on | the spik | e res | ult. RPI | D is based | l on the | spike and | spike dupi | licate | result. | | | |
| ParamFCResultUnitsDil.AmountResultRec.LimitRPDLimitChloride2450mg/Kg12500 <3.85 9889.7 - 115.9420Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.Laboratory Control Spike (LCS-1)QC Batch:105267Date Analyzed:2013-09-20Analyzed By:ARPrep Batch:89070QC Preparation:2013-09-17Prepared By:ARParamFCResultUnitsDil.AmountResultRec.LimitChloride2370mg/Kg12500 <3.85 9589.7 - 115.9420Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.ParamFCResultUnitsDil.AmountResultRec.LimitChloride2370mg/Kg12500 <3.85 9589.7 - 115.9420ParamFCResultUnitsDil.AmountResultRec.RPDLimitChloride2460mg/Kg12500 <3.85 9889.7 - 115.9420ParamFCResultUnitsDil.AmountResultRec.RPDLimitChloride2460mg/Kg12500 <3.85 9889.7 - 115.9420Percent | | | | LCRD | | | Spiko | Motrix | | g | 00 | | חסס |
| Chloride 2450 mg/Kg 1 2500 <3.85 98 89.7 - 115.9 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: 105267 Date Analyzed: 2013-09-20 Analyzed By: AR Prep Batch: 89070 QC Preparation: 2013-09-17 Prepared By: AR Param F C Result Units Dil. Amount Result Rec. Limit Chloride 2370 mg/Kg 1 2500 <3.85 | Param | F | \mathbf{C} | Result | Units | Dil | Amount | Result | Rec | Li | nit. | RPD | Limit |
| Or 0 Or 0 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: 105267 Date Analyzed: 2013-09-20 Analyzed By: AR Prep Batch: 89070 QC Preparation: 2013-09-17 Prepared By: AR Param F C Result Units Dil. Amount Result Rec. Limit Chloride 2370 mg/Kg 1 2500 <3.85 95 89.7 - 115.9 Param F C Result Units Dil. Amount Result Rec. RPD Param F C Result Units Dil. Amount Result Rec. RPD Param F C Result Units Dil. Amount Result Rec. RPD Chloride 2460 ng/Kg 1 2500 <3.85 98 89.7 - 115.9 4 20 Spike Matrix <td>Chloride</td> <td></td> <td></td> <td>2450</td> <td>nig/Kg</td> <td>1</td> <td>2500</td> <td><3.85</td> <td>98</td> <td>89.7</td> <td>115.9</td> <td>4</td> <td>20</td> | Chloride | | | 2450 | nig/Kg | 1 | 2500 | <3.85 | 98 | 89.7 | 115.9 | 4 | 20 |
| Laboratory Control Spike (LCS-1)QC Batch:105267Date Analyzed:2013-09-20Analyzed By:ARPrep Batch:89070QC Preparation:2013-09-17Prepared By:ARParamFCResultUnitsDil.AmountResultRec.Chloride2370mg/Kg12500<3.85 | Percent recovery is based on | the snik | o ros | ult RP | n ie baeor | l on the | snike and | snike dun | licato | rogult | | | |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | Laboratory Control Spike QC Batch: 105267 Prep Batch: 89070 | e (LCS- | 1) | Da Q(| te Analyz C Prepara | zed: 2 tion: 2 | 013-09-20 013-09-17 | | | | Analy Prepa | vzed By wred By: | : AR. AR. |
| LCSSpikeMatrixRec.ParamFCResultUnitsDil.AmountResultRec.LimitChloride2370mg/Kg12500 <3.85 9589.7 - 115.9Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.ParamFCResultUnitsDil.AmountResultRec.RPDParamFCResultUnitsDil.AmountResultRPDLimitChloride2460mg/Kg12500 <3.85 9889.7 - 115.9420Percent recovery is based on the spike resultRPD is based on the spike and spike duplicate result20 | | | | | | | | | | | | | |
| Param F C Result Units Dil. Amount Result Rec. Limit Chloride 2370 mg/Kg 1 2500 <3.85 | | | | | LCS | | | Spike | Μ | atrix | | F | lec. |
| Chloride 2370 mg/Kg 1 2500 <3.85 95 89.7 - 115.9 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 C Result Units Dil. Amount Result Rec. RPD Chloride 2460 mg/Kg 1 2500 <3.85 | Param | | F | С | Result | Units | Dil. | Amount | R | esult | Rec. | L | mit |
| 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 C Result Units Dil. Amount Result Rec. Limit RPD Limit Chloride 2460 mg/Kg 1 2500 <3.85 | Chloride | | | | 2370 | mg/Kg | 1 | 2500 | < | 3.85 | 95 | 89.7 | - 115.9 |
| LCSDSpikeMatrixRec.RPDParamFCResultUnitsDil.AmountResultRec.LimitRPDLimitChloride2460mg/Kg12500<3.85 | Percent recovery is based on | the spike | e res | ult. RPI | D is based | l on the | spike and | spike dup | licate | result. | | | |
| Param F C Result Units Dil. Amount Result Rec. Limit RPD Limit Chloride 2460 mg/Kg 1 2500 <3.85 | | | | LCSD | | | Spike | Matrix | | R | ec. | | RPD |
| Chloride 2460 ng/Kg 1 2500 <3.85 98 89.7 - 115.9 4 20 Percent recovery is based on the spike result BPD is based on the spike and spike duplicate result | Param | \mathbf{F} | С | Result | Units | Dil. | Amount | Result | Rec. | Li | mit | RPD | Limit |
| Percent recovery is based on the snike result BPD is based on the snike and snike dunlicate result | Chloride | | | 2460 | ng/Ke | 1 | 2500 | <3.85 | 98 | 89.7 - | 115.9 | 4 | 20 |
| CONTRACT AND A RECOVERY AND A DREAM REPORTED AND A DREAM AND A | Porcent recovery is based on | the enily | o roc | | \square is based | l on the | enike and | eniko dun | icato | rocult | | | |

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| Report Date: September 20, 2013Work Order: 13090631Page Number: 23112MC05408COG/Showstopper 7 Fed. #1Eddy Co. | | | | | | | | | | | 23 of 29 o., NM | | | | |
|---|------------------------------|---------------------|-------------|--------------|-----------------------|----------------------------|--------------|--------------|--------------------|------------------|--------------------|----------------|----------------|---------------------|------------------|
| Matrix Spil | ke (MS-1) | Spiked | Saı | mple | : 341365 | | | | | | | | | | |
| QC Batch: Prep Batch: | 105200 89070 | | | | Dat QC | e Analyz Preparat | ed: sion: | 201 201 | 3-09-18 3-09-17 | | | | Analy Prepa | vzed By ared By | AR AR |
| Param | | | | F | C | MS Result | Uni | its | Dil. | Spike Amount | M R | atrix esult | Rec | . 1 | Rec. Jimit |
| Chloride | | | | | | 3310 | mg/ | Kg | 5 | 2500 | , | 728 | 103 | 78. | 9 - 121 |
| Percent recov | very is based | on the sp | oike | resu | ılt. RPE |) is based | on tł | ne sp | ike and s | spike dupli | cate re | sult. | | | |
| Param | | | F | С | MSD Result | Units | Di | 1 | Spike Amount | Matrix Result | Rec. | R Lit | ec. mit | RPD | RPD Limit |
| Chloride | | | | | 3180 | mg/Kg | 5 5 | | 2500 | 728 | 98 | 78.9 | - 121 | 4 | 20 |
| Matrix Spil QC Batch: Prep Batch: | ke (MS-1) 105205 89070 | Spiked | Sa | mple | : 341375 Dat QC | e Analyz Preparat MS | ed: ion: | 201 201 | 3-09-18 3-09-17 | Spike | М | atrix | Analy Prepa | vzed By ured By: | AR AR Rec. |
| Param | | | | F | C I | Result | Uni | ts | Dil. | Amount | Re | esult | Rec. | . I | imit |
| Chloride | | | | | | 10400 | mg/I | Kg | 10 | 2500 | 7 | 870 | 101 | 78. | 9 - 121 |
| Percent recov | very is based | on the sp | oike | resu | lt. RPD |) is based | on th | ie sp | ike and s | pike dupli | cate re | sult. | | | |
| Param | | | F | С | MSD Result | Units | Di | 1 | Spike Amount | Matrix Result | Rec. | Re Lii | ec. nit | RPD | RPD Limit |
| Chloride | | | | | 10300 | mg/Kg | ; 10 |) | 2500 | 7870 | 97 | 78.9 | - 121 | 1 | 20 |
| Percent recov Matrix Spil | very is based (ke (MS-1) | on the sp Spiked | oike Sai | resu mple | lt. RPD : 341385 |) is based | on th | ne sp | ike and s | pike duplid | cate re | sult. | | | |
| QC Batch: Prep Batch: | 105207 89070 | | | | Dat QC | e Analyz Preparat | ed: ion: | 2013 2013 | 3-09-18 3-09-17 | | | | Analy Prepa | zed By: red By: | AR AR |

| | | | \mathbf{MS} | | | Spike | Matrix | | Rec. |
|----------|--------------|---|---------------|-------|------|--------|-------------------------|------|------------------------|
| Param | \mathbf{F} | С | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | | 3110 | mg/Kg | 5 | 2500 | 597 | 100 | 78.9 - 121 |

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

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|---|---|---|---------------|----------------|---------------------------------------|-----------------|------------------|------|---------------|-----|--------------|
| Param | F | С | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
| Chloride | | | 2990 | mg/Kg | 5 | 2500 | 597 | 96 | 78.9 - 121 | 4 | 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: 341395

| QC Batch: | 105266 | Date Analyzed: | 2013-09-20 | Analyzed By: | AR. |
|-------------|--------|-----------------|------------|--------------|---------------|
| Prep Batch: | 89070 | QC Preparation: | 2013-09-17 | Prepared By: | \mathbf{AR} |

| | | | MS | | | Spike | Matrix | | Rec. |
|--------------------------------------|--------------|--------------|------------|-------------|---------|---------------|------------|------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | | 3340 | mg/Kg | 10 | 2500 | 1190 | 86 | 78.9 - 121 |
| Percent recovery is based on the spi | ke res | ult. R | PD is base | d on the sp | ike and | spike duplica | te result. | | |

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|--------|-------|------|--------|-------------------------|------|------------------------|-----|----------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | | 3700 | mg/Kg | 10 | 2500 | 1190 | 100 | 78.9 - 121 | 10 | 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: 341400

| QC Batch: Prep Batch: | 105267 89070 | | Date Analyzed: 2013-09-20 QC Preparation: 2013-09-17 | | | | | | Analyze Prepare | d By: AR d By: AR |
|--------------------------|--------------------|--------------|---|--------------|-------------|-----------|-----------------|------------------|--------------------|----------------------|
| Param | | \mathbf{F} | С | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
| Chloride | | | | 2560 | mg/Kg | 5 | 2500 | 49 | 100 | 78.9 - 121 |
| Percent recov | very is based on t | he spike res | ult. R | PD is base | d on the sp | ike and a | spike duplica | te result. | | |

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|--------------|-------------------------|-------|------|--------|--------|------|------------------------|----------------------|------------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | | 2420 | mg/Kg | 5 | 2500 | 49 | 95 | 78.9 - 121 | 6 | 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: | 105200 | | | Date A | Analyzed: | 2013-09-18 | | Analy | zed By: AR |
|-----------|--------|------|------|--------|-----------|------------|----------|----------|------------|
| | | | | | CCVs | CCVs | CCVs | Percent | |
| | | | | | True | Found | Percent | Recovery | Date |
| Param | | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | • | | mg/Kg | 100 | 99.7 | 100 | 85 - 115 | 2013-09-18 |

Standard (CCV-2)

| QC Batch: | 105200 | | | Date 1 | Analyzed: | 2013-09-18 | | Analy | zed By: AR |
|-----------|--------|------|------------|---------------|-----------|---------------|----------|----------|------------|
| | | | | | CCVs | CCVs Found | CCVs | Percent | Data |
| - | | - | <i>a</i> . | TT 1 . | True | round | rercent | Recovery | |
| Parani | | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | | | mg/Kg | 100 | 100 | 100 | 85 - 115 | 2013-09-18 |

Standard (CCV-1)

| QC Batch: | 105205 | | | Date A | Analyzed: | 2013-09-18 | | Analy | zed By: AR |
|-----------|--------|------|------|--------|-----------|------------|----------|----------|------------|
| | | | | | CCVs | CCVs | CCVs | Percent | |
| | | | | | True | Found | Percent | Recovery | Date |
| Param | | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | | | mg/Kg | 100 | 99.6 | 100 | 85 - 115 | 2013-09-18 |

Standard (CCV-2)

| QC Batch: | 105205 | | | Date A | Analyzed: | 2013-09-18 | | Analy | Analyzed By: AR | | |
|-----------|--------|------|------|--------|--------------|---------------|-----------------|---------------------|-----------------|--|--|
| | | | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date | | |
| Param | | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed | | |
| Chloride | | | | mg/Kg | 100 | 100 | 100 | 85 - 115 | 2013-09-18 | | |

| Report Date: September 20, 2013 112MC05408 | | | (| Work O COG/Show | Page Number: 26 of 29 Eddy Co., NM | | | |
|--|-------|-----------------------|------------------|--------------------|---------------------------------------|-----------------|----------|------------|
| Standard (C | CV-1) | | | | | | | |
| QC Batch: 105207 | | Date Analyzed: | | 2013-09-18 | | Analyzed By: AR | | |
| | | | | CCVs | \mathbf{CCVs} | CCVs | Percent | |
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | | $\mathrm{mg/Kg}$ | 100 | 101 | 101 | 85 - 115 | 2013-09-18 |
| | | | | | | | | |
| | | | | | | | | |

Standard (CCV-2)

| QC Batch: | 105207 | 105207 | | | Date Analyzed: | | | Analy | Analyzed By: AR | | |
|-----------|--------|--------|------|-------|----------------|---------------|-----------------|---------------------|-----------------|--|--|
| | | | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date | | |
| Param | | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed | | |
| Chloride | | | | mg/Kg | 100 | 99.5 | 100 | 85 - 115 | 2013-09-18 | | |

Standard (CCV-1)

| QC Batch: | 105266 | | | Date A | Analyzed: | 2013-09-20 | | Analyzed By: AR | | |
|-----------|--------|------|------|--------|--------------|---------------|-----------------|---------------------|------------|--|
| | | | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date | |
| Param | | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed | |
| Chloride | | | | mg/Kg | 100 | 99.7 | 100 | 85 - 115 | 2013-09-20 | |

Standard (CCV-2)

| QC Batch: | 105266 | Date Analyzed: | | | 2013-09-20 | | Analy | Analyzed By: AR | | |
|-----------|--------|----------------|------|-------|--------------|---------------|-----------------|---------------------|------------|--|
| | | | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date | |
| Param | | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed | |
| Chloride | | | | mg/Kg | 100 | 100 | 100 | 85 - 115 | 2013-09-20 | |

Standard (CCV-1)

QC Batch: 105267

Date Analyzed: 2013-09-20

Analyzed By: AR

| Report Date: September 20, 2013 112MC05408 | | | C | Work Ord OG/Showst | Page Number: 27 of 29 Eddy Co., NM | | | |
|---|-------|------|-------|-----------------------|---------------------------------------|-----------------------------|-------------------------------|------------------|
| Param | Flag | Cert | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
| Chloride | | | mg/Kg | 100 | 101 | 101 | 85 - 115 | 2013-09-20 |
| Standard (CC | CV-2) | | | | | | | |

| QC Batch: | 105267 | | .05267 Date Analyzed: | | | 2013-09-20 | | Analy | Analyzed By: AR | | |
|-----------|--------|------|-----------------------|-------|--------------|---------------|-----------------|---------------------|-----------------|--|--|
| | | · | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date | | |
| Param | | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed | | |
| Chloride | | | | mg/Kg | 100 | 99.0 | 99 | 85 - 115 | 2013-09-20 | | |

Report Date: September 20, 2013 112MC05408

Work Order: 13090631 COG/Showstopper 7 Fed. #1 Page Number: 28 of 29 Eddy Co., NM

Appendix

Report Definitions

NameDefinitionMDLMethod Detection LimitMQLMinimum Quantitation LimitSDLSample Detection Limit

Laboratory Certifications

| | Certifying | Certification | Laboratory |
|---|------------|---------------------|---------------|
| С | Authority | Number | Location |
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |

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 20, 2013 112MC05408 Work Order: 13090631 COG/Showstopper 7 Fed. #1 Page Number: 29 of 29 Eddy Co., NM

The scanned attachments will follow this page.

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



August 28, 2013

IKE TAVAREZ TETRA TECH 1910 N. BOG SPRING STREET MIDLAND, TX 79705

RE: SHOWSTOPPER 7 FED COM #1H

Enclosed are the results of analyses for samples received by the laboratory on 08/27/13 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

| Method EPA 552.2 | Haloacetic Acids (HAA-5) |
|------------------|------------------------------|
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3) |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



Analytical Results For:

TETRA TECH IKE TAVAREZ 1910 N. BOG SPRING STREET MIDLAND TX, 79705 Fax To: (432) 682-3946

| Received: | 08/27/2013 | Sampling Date: | 08/27/2013 |
|-------------------|---------------------------|---------------------|----------------|
| Reported: | 08/28/2013 | Sampling Type: | Soil |
| Project Name: | SHOWSTOPPER 7 FED COM #1H | Sampling Condition: | ** (See Notes) |
| Project Number: | 112MC05194 | Sample Received By: | Jodi Henson |
| Project Location: | EDDY COUNTY, NM | | |

Sample ID: AH 8 (BH) 3' (H302068-01)

| Chloride, SM4500CI-B | mg/kg | | Analyze | Analyzed By: DW | | | | | |
|-------------------------------|--------|-----------------|------------|------------------|-----|------------|---------------|--------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 624 | 16.0 | 08/28/2013 | ND | 416 | 104 | 400 | 3.92 | |
| ТРН 8015М | mg/kg | | Analyze | Analyzed By: CK/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/28/2013 | ND | 182 | 90.8 | 200 | 1.55 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/28/2013 | ND | 168 | 83.8 | 200 | 0.0292 | |
| Surrogate: 1-Chlorooctane | 84.6 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 86.5 | % 63.6-15 | 4 | | | | | | |

Sample ID: AH 10 (BH) 3' (H302068-02)

| Chloride, SM4500CI-B | mg | /kg | Analyze | d By: DW | | | | | |
|-------------------------------|--------|-----------------|------------|------------------|-----|------------|---------------|--------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 1500 | 16.0 | 08/28/2013 | ND | 416 | 104 | 400 | 3.92 | |
| TPH 8015M | mg/kg | | Analyze | Analyzed By: CK/ | | · | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/28/2013 | ND | 182 | 90.8 | 200 | 1.55 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/28/2013 | ND | 168 | 83.8 | 200 | 0.0292 | |
| Surrogate: 1-Chlorooctane | 90.9 | % 65.2-14 | 10 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 94.3 | % 63.6-15 | 4 | | | | | | |

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatboever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons on otherwise. Results relate only to the samples identified above. This report shall not be reproduced to Cardinal libonariontes.

Celuz D. Kune

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

| ND | Analyte NOT DETECTED at or above the reporting limit |
|-----|---|
| RPD | Relative Percent Difference |
| ** | Samples not received at proper temperature of 6°C or below. |
| *** | Insufficient time to reach temperature. |
| • | Chloride by SM4500CI-B does not require samples be received at or below 6°C |
| | Samples reported on an as received basis (wet) unless otherwise noted on report |

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Kuna

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 4

| Allalysis | request | or chain of C | usioay | necc | | 101 | ANALYSIS REQUEST | |
|--------------------------------|-------------------------|---|------------|-------------------------|----------------------------|---|--|---|
| 430201-8 | | TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-394 | 16 | • | | (Ext. to C35) Cr Pb Hg Se Vr Pd Hg Se | e or Specify Method N | ο.) |
| CLIENT NAME: | | SITE MANAGER: | LERS. | PRE | SERVATIVE ETHOD | TX1005 Ba Cd Ba Cd | 50/624 70/625 | s, pH, TC |
| PROJECT NO .: 112M(05/94 | PROJECT NAME | owstopper'7 Fed con | × #1 H | | | s MOD. Is Ag As its Ag As les Volatiles | 8240/82 11. Vol. 82 /608 08 | (Air) stos) ts/Cation |
| LAB I.D. NUMBER DATE TIME | MATRIX COMP GRAB | Eddy (%, SAMPLE IDENTIFICATION | Nm Immedia | HOL HNO3 | ICE: NONE BTEX 80211 | APH 801 PAH 8270 RCRA Meta TCLP Meta TCLP Volati TCLP Semi | GC.MS Vol. GC.MS Sen PCB's 8080 Pest. 808/6 Chloride Gamma Sp | Alpha Beta PLM (Asbee Major Anior |
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