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June 13, 2018

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New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District II
811 South First St.
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Henryetta Price
Carlsbad Field Office
United States Department of the Interior
Bureau of Land Management
620 E. Greene Street
Carlsbad, New Mexico 88220

Re: Soil Investigation Summary and Proposed Remediation Workplan
GJ West Coop Unit #108 & #011
NMOCD Reference No. 2RP-4351 & 2RP-4454
Unit Letter "E", Section 28, Township 17 South, Range 29 East
Eddy County, New Mexico

Dear Mr. Bratcher and Ms. Price,

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG) has prepared this *Soil Investigation Summary and Proposed Remediation Workplan* (*Workplan*) for the Release Sites known as GJ West Coop Unit #011 and GJ West Coop Unit #108. The purpose of this Workplan is to propose remediation activities designed to advance the Release Sites toward a New Mexico Oil Conservation Division (NMOCD) and United States Bureau of Land Management (BLM) approved Site Closure Status. The legal description of the Release Site is Unit Letter "E", Section 28, Township 17 South, Range 29 East, in Eddy County, New Mexico. Based on the proximity, cause and current status of each of the release sites, they are being handled under one (1) *Workplan* and will be remediated concurrently. Please reference Attachment 1, Figure 1 - Site Location Map and Attachment 2, Figure 2 - Site Map – Overview. A "Photographic Log" is provided as Attachment 10.

GJ West Coop Unit #108

On August 7, 2017, COG discovered a release on the plugged and abandoned GJ West Coop Unit #108 well. The release was attributed to an unexpected problem associated with the historical plugging of the associated well. During initial response activities, the affected portion of the well casing was exhumed and the release was mitigated. The initial Release Notification and Corrective Action (Form C-141)

indicated approximately three thousand, seventy-five (3,075) barrels (bbls) of produced water were released with approximately three thousand, fifty-five (3,055) bbls of produced water being recovered. Upon completion of recovery efforts it was determined that seven thousand, seven hundred eleven (7,711) bbls were recovered, which will be reflected on the Final C-141. During initial response activities, released fluids were diverted into a makeshift containment in an effort to minimize the affected area and assist in fluid recovery. In an effort to exhume the casing, isolate the release and replug the well, an approximate twenty-eight (28) ft. excavation was advanced around the affected well. Upon completion of excavation and sloping activities, at least 7,847 cubic yards (cy) of affected soil was excavated from an area measuring approximately twenty-two thousand (22,000) sq. ft. Excavated soil was transported to an NMOCD-approved disposal facility. A copy of the initial Form C-141 for the GJ West Coop Unit #108 is provided as Attachment 11.

GJ West Coop Unit #011

On October 15, 2017, a similar release occurred on an adjacent plugged and abandoned well, the GJ West Coop Unit #011. The release was attributed to an unexpected problem associated with the historical plugging of the associated well. During initial response activities, the release was mitigated and the affected well was replugged. The initial Release Notification and Corrective Action (Form C-141) indicated an unknown volume of produced water was released with approximately eight thousand, seven hundred forty (8,740) bbls of produced water being recovered. Upon completion of recovery efforts it was determined that eleven thousand, four hundred thirty (11,430) bbls were recovered, which will be reflected on the Final C-141. The release affected an area measuring approximately sixteen thousand (16,000) sq. ft. A majority of the release was limited to the former well pad location and the adjacent well pad to the south of the subject well. Portions of the release affected the caliche access road and an area within the pasture north of the subject well. A copy of the initial Form C-141 for the GJ West Coop Unit #011 is provided as Attachment 12.

NMOCD SITE CLASSIFICATION

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 28, Township 17 South, Range 29 East. A reference map utilized by the NMOCD indicates groundwater should be encountered at approximately one hundred seventy-five (175) feet (ft.) below ground surface (bgs). Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

No water wells were observed within one-thousand (1,000) feet of the Release Site. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

No surface water was observed within one-thousand (1,000) feet of the release. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

Based on the NMOCD Site Classification criteria, the Recommended Remediation Action Levels (RRAL) are 10 mg/kg for benzene, 50 mg/kg for benzene, toluene, ethylbenzene and xylenes (BTEX), and one thousand (5,000) mg/kg for total petroleum hydrocarbons (TPH). As per the NMOCD, the Recommended Remediation Action Levels for chloride will be 600 mg/kg.

FIELD ACTIVITIES

GJ West Coop Unit #108

On August 17, 2017, during initial response activities and exhumation of the affected well casing, COG representatives collected four (4) soil samples (S1 3'-4', S1 5'-6', S1 13'-14' and S1 16'-17') southwest of the affected casing. The collected soil samples were submitted to Cardinal Laboratories for analysis of chloride concentrations using method 4500 Cl-B. Laboratory analytical results indicated chloride concentrations ranged from 28,000 mg/kg in soil sample S1 5'-6' to 992 mg/kg in soil sample S1 3'-4'. Impacted soil represented by soil samples S1 3'-4', S1 5'-6', S1 13'-14' and S1 16'-17' was excavated and transported to an NMOCD-approved disposal facility during initial response activities. Please reference Attachment 3, Figure 3a – Site & Sample Location Map – GJ West Coop Unit #108.

On March 22 and 23, 2018, TRC conducted an initial soil investigation at the release site. During the initial soil investigation, a series of test trenches (NE-1, SE-2, SE-1, S-2, S-1, SW-1, NW-1 and N-1) were advanced at the release site in an effort to characterize the affected area. The test trenches were advanced vertically and horizontally to the maximum extent practicable, or until chloride field test results suggested soil was no longer affected above the NMOCD RRAL for chloride.

Test trench NE-1 was advanced radially toward the northeast from the affected well. During the advancement of the test trench, six (6) soil samples (NE-1A @ 18', NE-1B @ 10', NE-1B @ 20', NE-1C @ 3', NE-1C @ 12' and NE-1C @ 20') were collected from three (3) sample points and submitted to Xenco Laboratories in Midland, Texas for analysis of chloride concentrations using Method E300. Laboratory analytical results indicated chloride concentrations ranged from 723 mg/kg in soil sample NE-1A @ 18' to 72.4 mg/kg in soil sample NE-1C @ 20'. Soil samples collected from sample points NE-1A and NE-1B were also analyzed for concentrations of BTEX using Method SW 846-8021B and TPH using Method SW 846-8015M. Analytical results indicated BTEX and TPH concentrations were less than the applicable laboratory reporting limit (RL) in each of the submitted soil samples. Based on laboratory analytical results, soil was not affected above the NMOCD RRAL for chloride horizontally toward the northeast beyond sample point NE-1B.

Test trench SE-2 was advanced radially toward the east-southeast from the affected well. During the advancement of the test trench, thirteen (13) soil samples (SE-2A @ 18', SE-2B @ 10', SE-2B @ 20'. SE-2C @ 3', SE-2C @ 6', SE-2C @ 12', SE-2C @ 20', SE-2D @ 3', SE-2D @ 9', SE-2D @ 12', SE-2D @ 20', SE-2E @ 3' and SE-2E @ 6') were collected from five (5) sample points and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 20,600 mg/kg in soil sample SE-2D @ 3' to 48.7 mg/kg in soil sample SE-2B @ 20'. Soil samples collected from sample points SE-1A and SE-1B were also analyzed for concentrations of BTEX and TPH, which were determined to be less than the applicable laboratory RL in each of the submitted soil samples. Laboratory analytical results indicated soil was not affected above the NMOCD RRAL for chloride beyond eighteen (18) ft. bgs in the area characterized by sample point SE-2A, ten (10) ft. bgs in the area characterized by sample point SE-2B, six (6) ft. bgs in the area characterized by sample point SE-2C, twelve (12) ft. bgs in the area characterized by sample point SE-2D and six (6) ft. bgs in the area characterized by sample point SE-2E. Review of laboratory analytical results suggests impacted soil affected above the NMOCD RRAL for chloride in the areas characterized by sample points SE-2A and SE-2B was removed during initial response activities. Impacted soil

affected above the NMOCD RRAL remaining in-situ in the areas characterized by sample points SE-2C, SE-2D and SE-2E is limited to the top six (6) ft. to twelve (12) ft.

Test trench SE-1 was advanced radially toward the southeast from the affected well. During the advancement of the test trench, six (6) soil samples (SE-1A @ 18', SE-1B @ 10', SE-1B @ 20', SE-1C @ 3', SE-1C @ 12' and SE-1C @ 20') were collected from three (3) sample points and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 2,940 mg/kg in soil sample SE-1B @ 10' to 65.7 mg/kg in soil sample SE-2C @ 20'. Soil samples collected from sample points SE-1A and SE-1B were also analyzed for concentrations of BTEX and TPH, which were determined to be less than the applicable laboratory RL in each of the submitted soil samples. Based on laboratory analytical results, soil was not affected above the NMOCD RRAL for chloride horizontally toward the southeast beyond sample point SE-1C.

Test trench S-2 was advanced on the southern edge of the current excavation. During the advancement of the test trench, three (3) soil samples (S-2 @ 3', S-2 @ 12' and S-2 @ 20') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 169 mg/kg in soil sample S-2 @ 3' to less than the laboratory RL in soil sample S-2 @ 20'. Based on laboratory analytical results, soil was not affected above the NMOCD RRAL for chloride horizontally toward the south beyond test trench S-2.

Test trench S-1 was advanced radially toward the south-southwest from the affected well. During the advancement of the test trench, six (6) soil samples (S-1A @ 18', S-1B @ 10', S-1B @ 20', S-1C @ 3', S-1C @ 12' and SE-1C @ 20') were collected from three (3) sample points and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 18,500 mg/kg in soil sample S-1B @ 10' to less than the laboratory RL in soil sample S-1C @ 20'. Soil samples collected from sample points S-1A and S-1B were also analyzed for concentrations of BTEX and TPH, which were determined to be less than the applicable laboratory RL in each of the submitted soil samples. Based on laboratory analytical results, soil was not affected above the NMOCD RRAL for chloride horizontally toward the south-southwest beyond sample point S-1C. Impacted soil in the areas characterized by sample points S-1A and S-1B was excavated in an effort to increase the stability of the southern portion of the excavation. Excavated soil was stockpiled on-site, atop an impermeable liner pending final disposition.

Test trench SW-1 was advanced radially toward the southwest from the affected well. During the advancement of the test trench, six (6) soil samples (SW-1A @ 18'. SW-1B @ 10', SW-1B @ 20', SW-1C @ 3', SW-1C @ 12' and SW-1C @ 20') were collected from three (3) sample points and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 257 mg/kg in soil sample SW-1C @ 3' to 25.8 mg/kg in soil sample SW-1C @ 20'. Soil samples collected from sample points SW-1A and SW-1B were also analyzed for concentrations of BTEX and TPH, which were determined to be less than the applicable laboratory RL in each of the submitted soil samples. Review of laboratory analytical results suggests impacted soil affected above the NMOCD RRAL for chloride in the areas characterized by test trench SW-1 was removed during initial response activities.

Test trench NW-1 was advanced radially toward the northwest from the affected well. During the advancement of the test trench, eleven (11) soil samples (NW-1A @ 18', NW-1B @ 10', NW-1B @ 20', NW-1C @ 3', NW-1C @ 6', NW-1C @ 9', NW-1C @ 20', NW-1D @ 3', NW-1D @ 6', NW-1D

@ 9’ and NW-1D @ 20’) were collected from four (4) sample points and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 5,700 mg/kg in soil sample NW-1C @ 20’ to 29.5 mg/kg in soil sample NW-1D @ 3’. Soil samples collected from sample points NW-1A and NW-1B were also analyzed for concentrations of BTEX and TPH, which were determined to be less than the applicable laboratory RL in each of the submitted soil samples. During the advancement of the test trench, evidence of a historical drilling reserve pit were discovered. Based on the presence of the historical drilling reserve pit, further advancement of test trench NW-1 was precluded.

Test trench N-1 was advanced radially toward the north from the affected well. During the advancement of the test trench, four (4) soil samples (N-1A @ 18’, N-1B @ 10’, N-1B @ 20’ and N-1C @ 3’) were collected from three (3) sample points and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,260 mg/kg in soil sample N-1A @ 18’ to 583 mg/kg in soil sample N-1C @ 3’. Soil samples collected from sample points N-1A and N-1B were also analyzed for concentrations of BTEX and TPH, which were determined to be less than the applicable laboratory RL in each of the submitted soil samples, with the exception of soil sample N-1B @ 10’, which exhibited a TPH concentration of 245.3 mg/kg. During the advancement of the test trench, evidence of a historical drilling reserve pit were discovered. Based on the presence of the historical drilling reserve pit further advancement of test trench N-1 was precluded.

Upon advancing test trenches NE-1, SE-2, SE-1, S-2, S-1, SW-1, NW-1, N-1 and stabilizing portions of the open excavation, the excavated area was backfilled to approximately nineteen (19’) ft. bgs with locally sourced, non-impacted material, in an effort to mitigate safety hazards and facilitate further investigation of soil impacts from within the open excavation.

On March 29, 2018, upon backfilling the excavated area to nineteen (19) ft. bgs, two (2) test trenches (RP-N and RP-S) were advanced adjacent to the release point in an effort to determine the vertical extent of soil impacts.

Test trench RP-N was advanced approximately ten (10) ft. north of the affected well. During the advancement of the test trench, two (2) soil samples (RP-N @ 28’ and RP-N @ 37’) were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated soil samples RP-N @ 28’ and RP-N @ 37’ exhibited chloride concentrations of 3,440 mg/kg and 8,560 mg/kg, respectively. Further advancement of test trench RP-N was precluded due to the limitations of the heavy equipment. Based upon laboratory analytical results, further delineation would be required in the area characterized by test trench RP-N.

Test trench RP-S was advanced approximately ten (10) ft. south of the affected well. During the advancement of the test trench, three (3) soil samples (RP-S @ 28’, RP-S @ 31’ and RP-S @ 34’) were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,830 mg/kg in soil sample RP-S @ 28’ to 853 mg/kg in soil sample RP-S @ 34’.

In addition, soil samples were collected from deeper intervals in the areas characterized by sample points N-1A and NW-1A in an effort to further characterize soil impacts in the vicinity of the inferred historic drilling reserve pit. During the advancement of the test trenches, six (6) soil samples (N-1A @ 20’, N-1A @ 23’, N-1A @ 26’,NW-A @ 20’, NW-A @ 23’ and NW-A @ 29’) were collected and

submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 564 mg/kg in soil sample N-1A @ 20' to 179 mg/kg in soil sample NW-A @ 20'. Laboratory analytical results indicated chloride concentrations were below the NMOCD RRAL in each of the submitted soil samples.

On April 24, 2018, TRC collected one (1) soil sample (S-3) from soil remaining in-situ beneath the former makeshift containment utilized to contain the release and assist in fluid recovery. The collected soil sample was submitted to the laboratory for analysis of chloride concentrations, which were determined to be 10,000 mg/kg. Please reference Attachment 7, Table 1 – Soil Chemistry Table – GJ West Coop Unit #108. Laboratory analytical results are provided as Attachment 9.

GJ West Coop Unit #011

On March 30, 2018, an initial investigation was conducted at the adjacent release site. During the initial investigation, six (6) test trenches (RP, RP-2 DT-1, DT-2, DT-3 and N) were advanced at the release site in an effort to characterize the vertical extent of soil impacts. Please reference Attachment 4, Figure 3b – Site & Sample Location Map – GJ West Coop Unit #011.

Test trench RP was advanced approximately ten (10) ft. south of the affected well. During the advancement of the test trench, three (3) soil samples (RP @ 3', RP @ 9' and RP @ 18') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,890 mg/kg in soil sample RP @ 9' to 241 mg/kg in soil sample RP @ 18'. Soil samples RP @ 3' and RP @ 18' were also analyzed for concentrations of BTEX and/or TPH, which were determined to be below the applicable laboratory RL in each of the analyzed soil samples. Based upon laboratory analytical results, soil was not affected above the NMOCD RRAL for chloride beyond eighteen (18) ft. bgs in the area characterized by test trench RP.

Test trench RP-2 was advanced approximately ten (10) ft. north of the affected well. During the advancement of the test trench, three (3) soil samples (RP-2 @ 3', RP-2 @ 6' and RP-2 @ 18') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,410 mg/kg in soil sample RP-2 @ 3' to 105 mg/kg in soil sample RP-2 @ 18'. Soil samples RP-2 @ 3' and RP-2 @ 18' were also analyzed for concentrations of BTEX and/or TPH, which were determined to be below the applicable laboratory RL in each of the analyzed soil samples. Based upon laboratory analytical results, soil was not affected above the NMOCD RRAL for chloride beyond six (6) ft. bgs in the area characterized by test trench RP-2.

Test trench DT-1 was advanced in the central portion of the release flow path. During the advancement of the test trench, three (3) soil samples (DT-1 @ 3', DT-1 @ 6' and DT-1 @ 18') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 2,900 mg/kg in soil sample DT-1 @ 3' to 101 mg/kg in soil sample DT-1 @ 6'. Soil samples DT-1 @ 3' and DT-1 @ 18' were also analyzed for concentrations of BTEX and/or TPH, which were determined to be below the applicable laboratory RL in each of the analyzed soil samples. Based upon laboratory analytical results, soil was not affected above the NMOCD RRAL for chloride beyond six (6) ft. bgs in the area characterized by test trench DT-1.

Test trench DT-2 was advanced in the south-central portion of the release flow path. During the advancement of the test trench, three (3) soil samples (DT-2 @ Surface, DT-2 @ 4' and DT-2 @ 8') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 53,100 mg/kg in soil sample DT-2 @ Surface to 16.4 mg/kg in soil sample DT-2 @ 4'. Soil samples DT-2 @ Surface and DT-2 @ 8' were also analyzed for concentrations of BTEX and/or TPH, which were determined to be below the applicable laboratory RL in each of the analyzed soil samples, with the exception of soil sample DT-2 @ SURFACE, which exhibited a TPH concentration of 26.1 mg/kg. Based upon laboratory analytical results, soil was not affected above the NMOCD RRAL for chloride beyond four (4) ft. bgs in the area characterized by test trench DT-2.

Test trench DT-3 was advanced in the southern portion of the release flow path. During the advancement of the test trench, three (3) soil samples (DT-3 @ Surface, DT-3 @ 4' and DT-3 @ 8') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 15,600 mg/kg in soil sample DT-3 @ Surface to 7.10 mg/kg in soil sample DT-3 @ 4'. Soil samples DT-3 @ Surface and DT-3 @ 8' were also analyzed for concentrations of BTEX and/or TPH, which were determined to be below the applicable laboratory RL in each of the analyzed soil samples, with the exception of soil sample DT-3 @ SURFACE, which exhibited a TPH concentration of 66.1 mg/kg. Based upon laboratory analytical results, soil was not affected above the NMOCD RRAL for chloride beyond four (4) ft. bgs in the area characterized by test trench DT-3.

Test trench N was advanced in the northern portion of the release flow path, near the affected well. During the advancement of the test trench, three (3) soil samples (N @ 3', N @ 6' and N @ 18') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,390 mg/kg in soil sample N @ 6' to 178 mg/kg in soil sample N @ 3'. Soil samples N @ 3' and N @ 18' were also analyzed for concentrations of BTEX and/or TPH, which were determined to be below the applicable laboratory RL in each of the analyzed soil samples. Based upon laboratory analytical results, further delineation will be required in the area characterized by test trench N.

In addition, TRC advanced six (6) test trenches (N-2, E, E-2, W, W-2 and S) at the inferred edges of the affected area in an effort to characterize the horizontal extent of soil impacts. During the advancement of the test trenches, eighteen (18) soil samples (N-2 @ 3', N-2 @ 6', N-2 @ 18', E @ 3', E @ 9', E @ 18', E-2 @ 3', E-2 @ 9', E-2 @ 18', W @ 3', W @ 6', W @ 18', W-2 @ Surface, W-2 @ 2', W-2 @ 8', S @ Surface, S @ 2' and S @ 8') were collected and submitted to the laboratory for analysis of chloride concentration. Laboratory analytical results indicated chloride concentrations ranged from 1,840 mg/kg in soil sample S @ Surface to below the applicable laboratory RL in soil sample W-2 @ 8'. Chloride concentrations were below the NMOCD RRAL in each of the submitted soil samples, with the exception of soil sample S @ Surface, which exhibited a chloride concentration of 1,840 mg/kg. Based on laboratory analytical results, further delineation and excavation will be required toward the south in the area characterized by soil sample S @ Surface.

Soil samples N-2 @ 3', N-2 @ 18', E @ 3', E @ 18', E-2 @ 3', E-2 @ 18', W @ 3', W @ 18', W-2 @ Surface, W-2 @ 8', S @ Surface, and S @ 8' were also analyzed for concentrations of BTEX and/or TPH, which were determined to be below the applicable laboratory RL in each of the analyzed soil samples, with the exception of soil sample S @ Surface, which exhibited a TPH concentration of 36.3

mg/kg. BTEX and TPH concentrations were below the NMOCD RRAL in each of the anlayzed soil samples. Please reference Attachment 8, Table 2 – Soil Chemistry Table – GJ West Coop Unit #011.

PROPOSED CLOSURE STRATEGY

Based on field observations and laboratory analytical results, COG proposes the following field activities designed to advance the GJ West Coop Unit #108 and GJ West Coop Unit #011 release sites toward a BLM- and NMOCD-approved closure:

GJ West Coop Unit #011

- Utilizing mechanical equipment, excavate impacted soil within the release margins in the area characterized by test trench DT-1 to a depth of approximately four (4) to six (6) ft. bgs or until laboratory analytical results from confirmation soil samples indicate chloride concentrations are below the NMOCD RRAL. Advance the excavation sidewalls until laboratory analytical results indicate chloride concentrations are below the NMOCD RRAL. Excavated soil will be stockpiled on-site, atop an impermeable liner pending final disposition.
- Excavate impacted soil within the release margins in the areas characterized by test trenches DT-2 and DT-3 to a depth of approximately one (1) to four (4) ft. bgs or until laboratory analytical results from confirmation soil samples indicate chloride concentrations are below the NMOCD RRAL. Advance the excavation sidewalls until laboratory analytical results indicate chloride concentrations are below the NMOCD RRAL. Excavated soil will be stockpiled on-site, atop an impermeable liner pending final disposition.
- Excavate impacted soil within the release margins in the areas characterized by test trenches RP, RP-2 and N to a depth of approximately four (4) ft. bgs. Advance the excavation sidewalls until laboratory analytical results indicate chloride concentrations are below the NMOCD RRAL. Excavated soil will be stockpiled on-site, atop an impermeable liner pending final disposition.
- Install a bentonite or polyurethane liner on the floor of the excavation at approximately four (4) ft bgs in the areas characterized by test trenches RP, RP-2 and N. This engineering control is designed to mitigate the vertical migration of contaminants left in-situ. During the installation of the liner an approximate six (6)-inch layer of "pad sand" will be installed above and below the liner in an effort to maintain its integrity during backfilling activities.
- Upon installing the liner on the floor of the excavated area, an eight (8)-inch PVC conduit will be installed, and extended vertically to the surface, in the area requiring additional vertical delineation, represented by test trench N.
- Upon receiving laboratory analytical results from confirmation soil samples and installing the bentonite or polyurethane liner and associated PVC casing, backfill the excavated area with locally sourced, non-impacted "like" material.
- Utilizing mechanical equipment, advance one (1) investigative soil bore through the established PVC casing in an effort to determine the vertical extent of chloride impact. The investigative soil bore will be advanced until chloride field screen results suggests two (2) consecutive soil samples collected at five (5) ft. intervals exhibit chloride concentrations below the NMOCD RRAL; soil samples will also be collected for confirmation laboratory analysis. Please reference Attachment 6, Figure 4b – Proposed Excavation and Liner Installation Map – GJ West Coop Unit #011.

GJ West Coop Unit #108

- Advance the upper four (4) ft. of the current open excavation sidewall in the area characterized by test trench SE-2 to beyond sample point SE-2E. Excavated soil will be stockpiled on-site, atop an impermeable liner pending final disposition.
- Advance the upper four (4) ft. of the current open excavation sidewall in the area characterized by test trench NE-1 to sample point NE-1C. Excavated soil will be placed into a separate soil stockpile, pending laboratory analysis for potential use as "clean" backfill.
- Advance the upper four (4) ft. of the current open excavation sidewall in the area characterized by test trench N-1 to beyond sample point N-1C. Excavated soil will be placed into a separate soil stockpile, pending laboratory analysis for potential use as "clean" backfill.
- Advance the upper four (4) ft. of the current open excavation sidewall in the area characterized by test trench NW-1 to sample point NW-1C. Excavated soil will be placed into a separate soil stockpile, pending laboratory analysis for potential use as "clean" backfill.
- Laboratory analytical results indicated further excavation is not required in the area represented by test trench SW.
- Advance the upper four (4) ft. of the current open excavation sidewall in the area characterized by test trench S-1 to sample point S-1C. Excavated soil will be placed into a separate soil stockpile, pending laboratory analysis for potential use as "clean" backfill.
- Advance the upper four (4) ft. of the current open excavation sidewall in the area characterized by soil sample S-3 @ 4' to beyond sample point S-2. Excavated soil will be stockpiled on-site, atop an impermeable liner pending final disposition.
- Advance the upper four (4) ft. of the current open excavation sidewall in the area characterized by test trench SE-1 to beyond sample point SE-1C. Excavated soil will stockpiled on-site, atop an impermeable liner pending final disposition.
- Upon advancing the excavation sidewalls horizontally at four (4) ft. bgs, effectively "benching" the open excavation, and receiving laboratory analytical results from confirmation soil samples, install a bentonite or polyurethane liner on the floor of the excavated area at approximately nineteen (19) ft. bgs. This engineering control is designed to mitigate the vertical migration of contaminants. During the installation of the liner an approximate six (6)-inch layer of "pad sand" will be installed above and below the liner in an effort to maintain its integrity during backfilling activities.
- Upon installing the liner on the floor of the excavated area, an eight (8)-inch PVC conduit will be installed, and extended vertically to the surface, in the area requiring additional vertical delineation, represented by test trench RP-N.
- Upon receiving laboratory analytical results from confirmation soil samples and installing the bentonite or polyurethane liner and associated PVC casing, backfill the excavated area to approximately four (4) ft. bgs utilizing stockpiled soil generated from "benching" the subject excavation, excavation activities associated with the remediation of GJ West Coop Unit #11 and locally sourced non-impacted material.
- Upon backfilling the excavated area to four (4) ft. bgs, install a second bentonite or polyurethane liner at four (4) ft. bgs atop impacted soil exhibiting chloride concentrations above the NMOCD RRAL. The liner will be extended vertically along the excavation sidewalls in the area of the inferred historical drilling reserve pit in an effort to limit the amount of moisture shed toward the north in the vicinity of the historical drilling reserve pit. This engineering control is designed to mitigate the vertical migration of contaminants left in-situ along with contaminants within

portions of the proposed fill material. During the installation of the liner an approximate six (6)-inch layer of "pad sand" will be installed above and below the liner in an effort to maintain its integrity during backfilling activities.

- The eight (8)-inch PVC conduit will be extended through the second bentonite or polyurethane liner, to the surface for the advancement of a proposed investigative soil boring.
- Upon installing the second bentonite or polyurethane liner, backfill the remaining excavated area with locally sourced, non-impacted topsoil.
- Utilizing mechanical equipment, advance one (1) investigative soil bore through the established PVC casing in an effort to determine the vertical extent of chloride impact. The investigative soil bore will be advanced until chloride field screen results suggests two consecutive soil samples collected at five (5) ft. intervals exhibit chloride concentrations below the NMOCD RRAL; soil samples will also be collected for confirmation laboratory analysis. Please reference Attachment 6, Figure 4a – Proposed Excavation and Liner Installation Map – GJ West Coop Unit #108.

In the event soil is affected above the NMOCD RRAL at considerable depth, COG will be prepared to convert the proposed investigative soil borings into groundwater monitoring wells.

COG is prepared to begin the activities outlined in this *Soil Investigation Summary and Proposed Remediation Workplan* on receiving NMOCD and BLM approval.

If you have any questions, or if additional information is required, please feel free to call me at 432-520-7720 (office) or 432-664-6699 (cell).

Thank you,

Joel Lowry
Senior Project Manager
TRC Environmental Corporation

Curt Stanley
Senior Project Manager
TRC Environmental Corporation

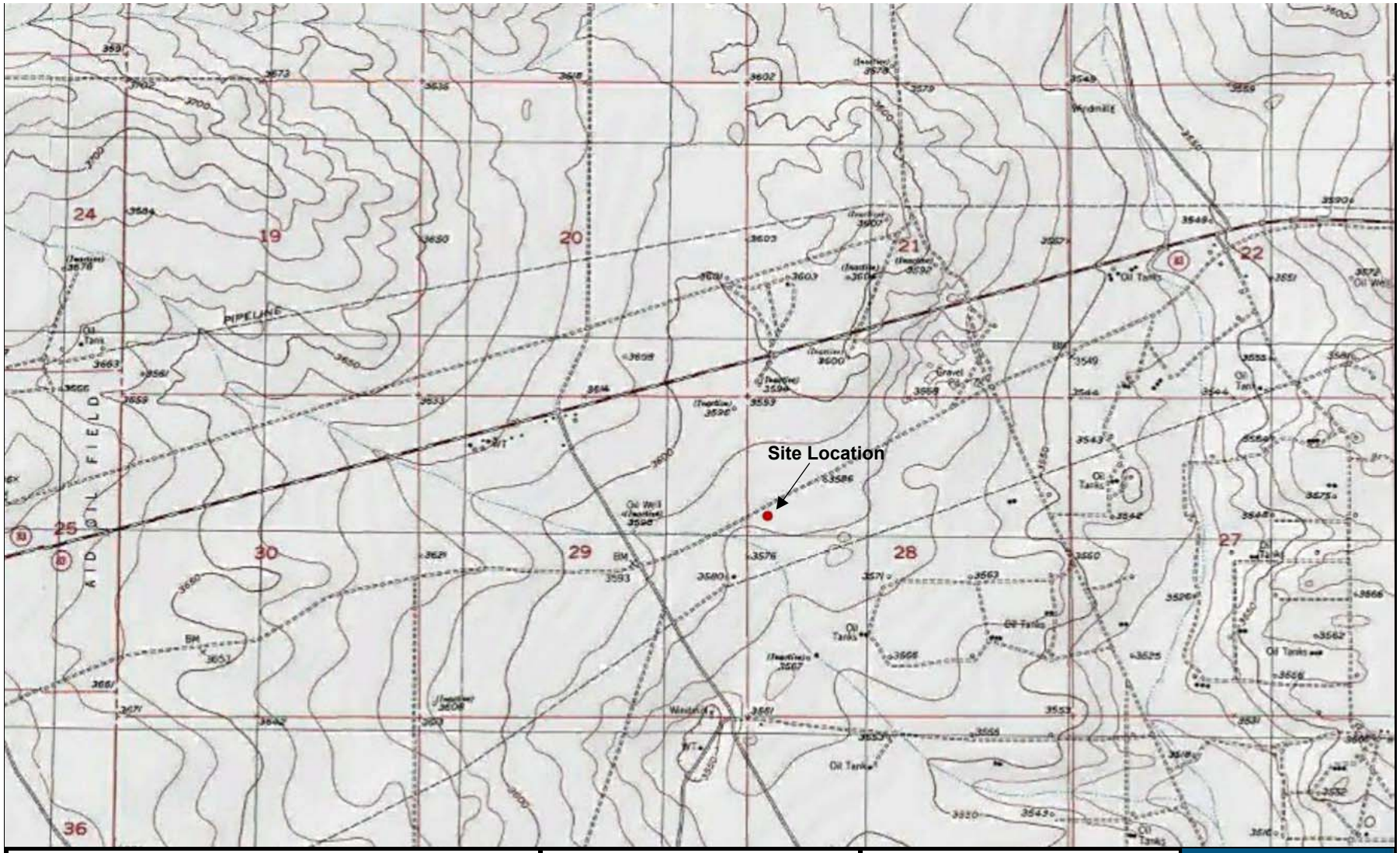
Attachments

Attachment 1: Figure 1 - Site Location Map
Attachment 2: Figure 2 – Site Map – Overview
Attachment 3: Figure 3a – Site & Sample Location Map – GJ West Coop Unit #108
Attachment 4: Figure 3b – Site & Sample Location Map – GJ West Coop Unit #011
Attachment 5: Figure 4a – Proposed Excavation and Liner Installation Map – GJ West Coop Unit #108
Attachment 6: Figure 4b – Proposed Excavation and Liner Installation Map – GJ West Coop Unit #011
Attachment 7: Table 1 – Soil Chemistry Table - GJ West Coop Unit #108
Attachment 8: Table 2 – Soil Chemistry Table - GJ West Coop Unit #011
Attachment 9: Laboratory Analytical Results
Attachment 10: Photographic Log

Attachment 11: Release Notification and Corrective Action (Form C-141) - GJ West Coop Unit #108
Attachment 12: Release Notification and Corrective Action (Form C-141) – GJ West Coop Unit #011

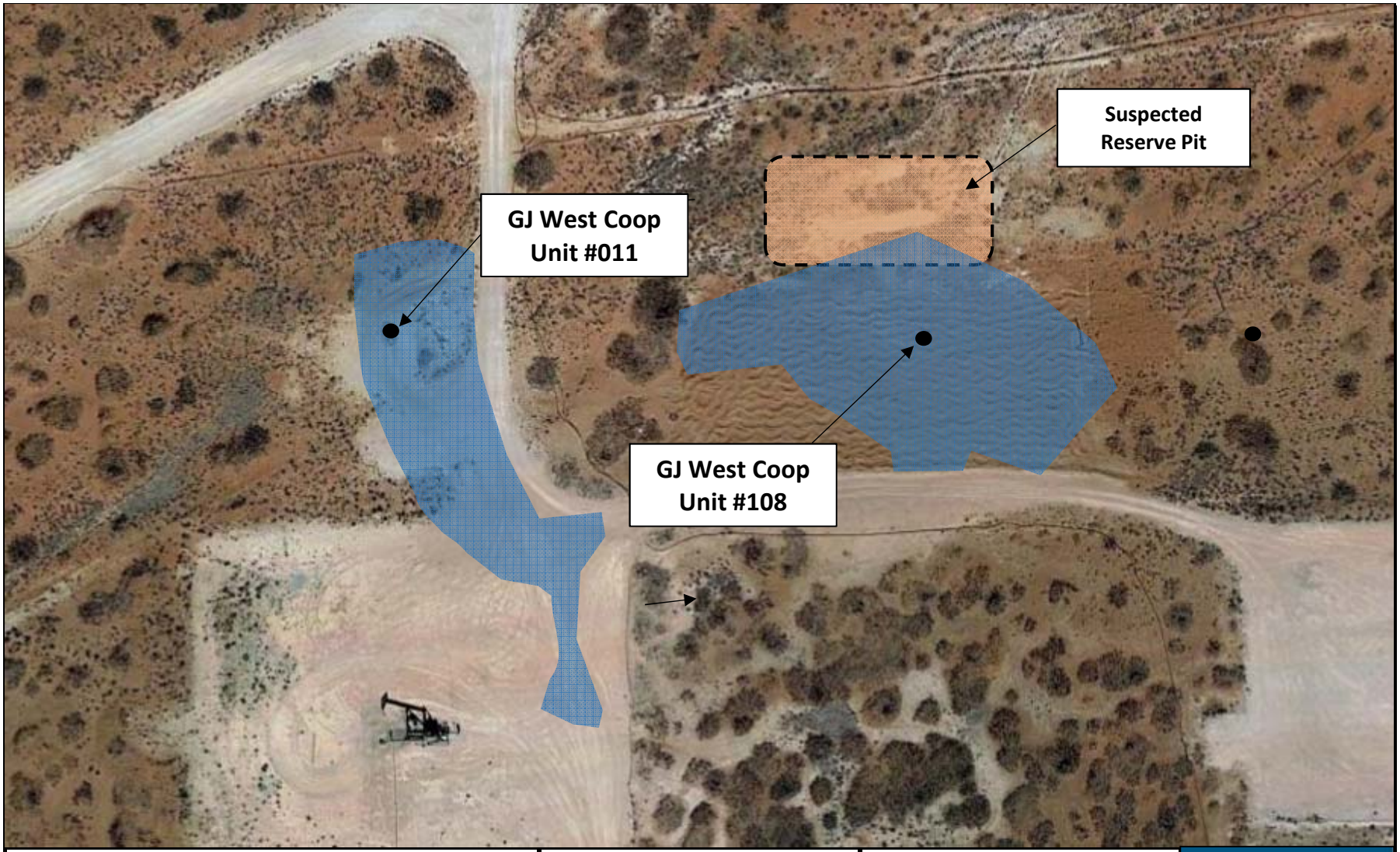
cc: Rebecca Haskell
COG Operating, LLC
600 W. Illinois Avenue
Midland, Texas 79701

File



LEGEND:	**Figure 1**	Scale 1" = 2,600'
		Drafted by: ZC | Checked by: JL
● Site Location	Site Location Map	Draft: April 4, 2018
	COG Operating, LLC	GPS: 32.8073502, -104.0872955
	GJ West Coop Unit #108 & #011	UL "E", Sec. 28, T17S, R29E
	Eddy Co, NM	TRC Proj. No: 291388

TRC
Results you can rely on



LEGEND:

- Affected Areas
- Plugged Well
- Reserve Pit

Figure 2

Site Map

Overview

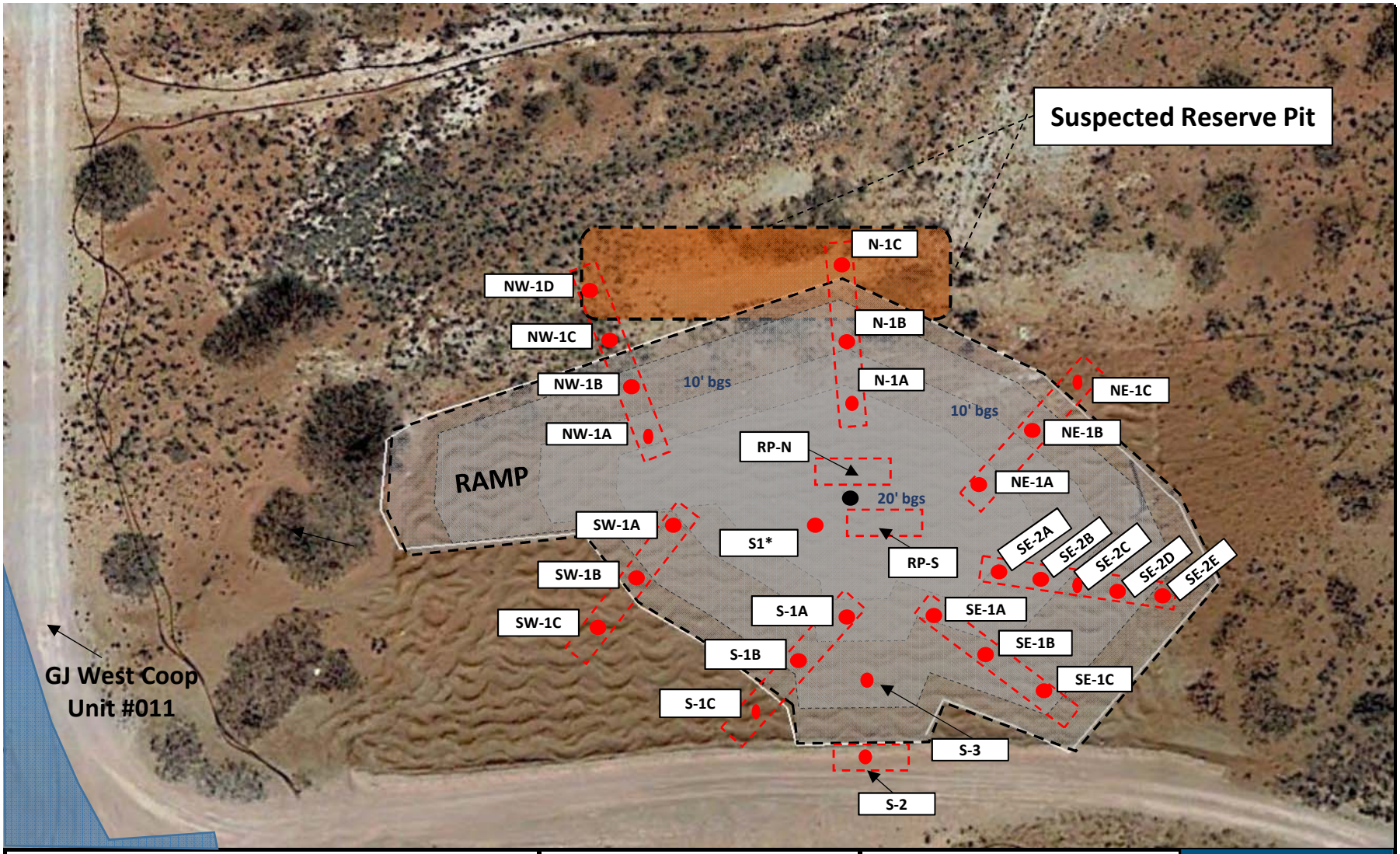
COG Operating, LLC

GJ West Coop Unit #108 & #011

Eddy Co, NM

Scale 1" = 70'	
Drafted by: ZC | Checked by: JL	
Draft: April 4, 2018	
GPS: 32.8073502, -104.0872955	
UL "E", Sec. 28, T17S, R29E	
TRC Proj. No:	291388

TRC
Results you can rely on



LEGEND:

- Open Excavation
- Soil Sample Location
- Plugged Well
- Test Trench
- Reserve Pit

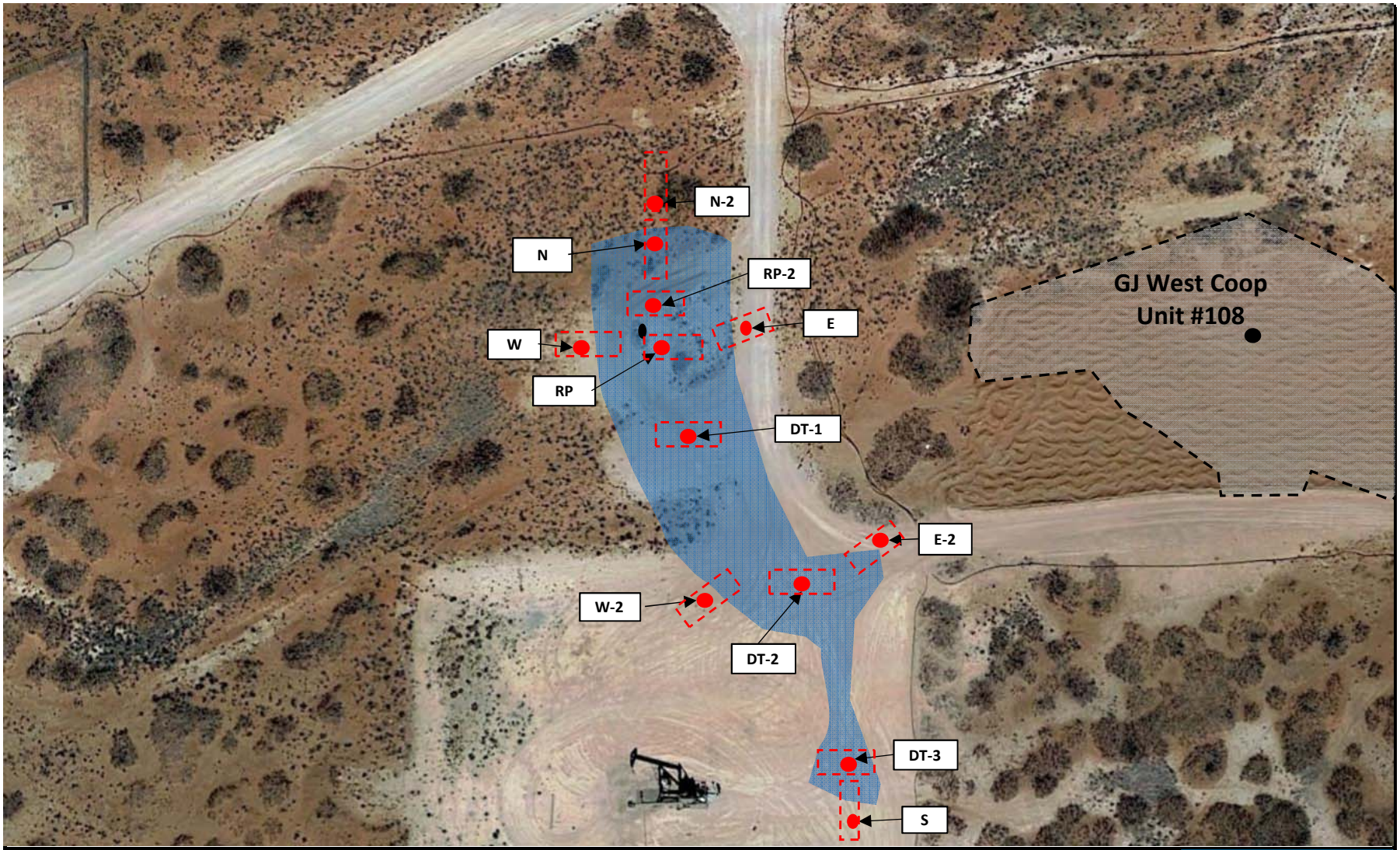
Figure 3a

Site & Sample Location Map
COG Operating, LLC
GJ West Coop Unit #108
Eddy Co, NM

Scale 1" = 50'	
Drafted by: ZC | Checked by: JL	
Draft: March 7, 2018	
GPS: 32.8073502, -104.0862198	
UL "E", Sec. 28, T17S, R29E	
TRC Proj. No:	291390

TRC
Results you can rely on

* - Samples at this location collected by COG personnel



LEGEND:

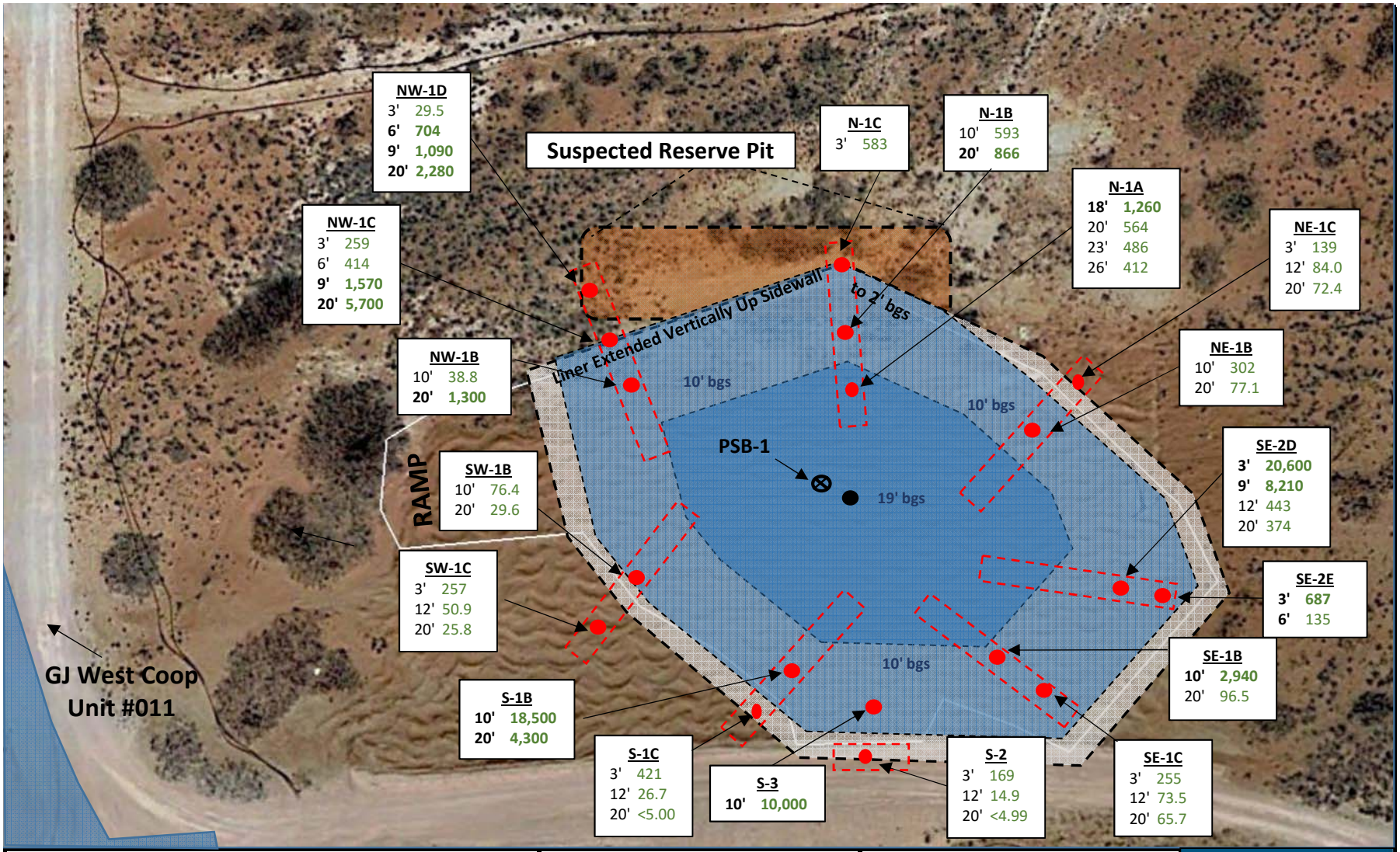
- Inferred Release Margins
- Soil Sample Location
- Plugged Well
- Test Trench

Figure 3b

Site & Sample Location Map
COG Operating, LLC
GJ West Coop Unit #011
Eddy Co, NM

Scale 1" = 70'	
Drafted by: ZC | Checked by: JL	
Draft: April 4, 2018	
GPS: 32.8073502, -104.0872955	
UL "E", Sec. 28, T17S, R29E	
TRC Proj. No:	291388

TRC
Results you can rely on



LEGEND:

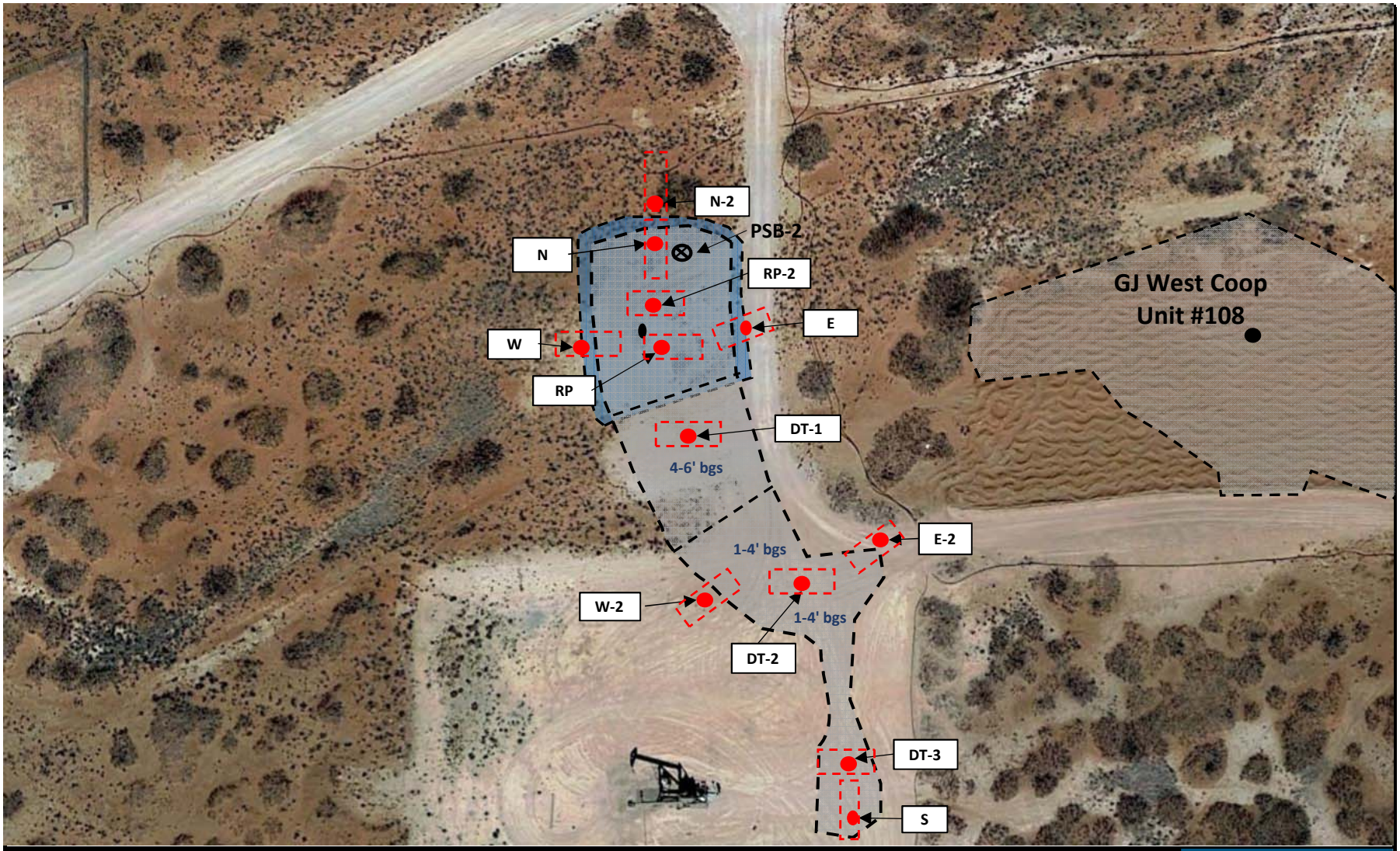
- Proposed Excavation
- Soil Sample Location
- Plugged Well
- Test Trench
- Reserve Pit
- Proposed Liner @ 19' bgs
- Proposed Liner @ 4' bgs
- Proposed Soil Boring
- 26.7 Chloride Concentration

Figure 4a
Proposed Excavation and Liner Installation Map
COG Operating, LLC
GJ West Coop Unit #108
Eddy Co, NM

Scale 1" = 50'	
Drafted by: ZC | Checked by: JL	
Draft: March 7, 2018	
GPS: 32.8073502, -104.0862198	
UL "E", Sec. 28, T17S, R29E	
TRC Proj. No:	291390

TRC Results you can rely on

* - Samples at this location collected by COG personnel



LEGEND:

- Proposed Excavation
- Soil Sample Location
- Plugged Well
- Test Trench
- Proposed Liner
- Proposed Soil Boring

Figure 4b

Proposed Excavation and Liner Installation Map

COG Operating, LLC

GJ West Coop Unit #011

Eddy Co, NM

Scale 1" = 70'	
Drafted by: ZC | Checked by: JL	
Draft: April 4, 2018	
GPS: 32.8073502, -104.0872955	
UL "E", Sec. 28, T17S, R29E	
TRC Proj. No:	291388

TRC
Results you can rely on

TABLE 1

SOIL CHEMISTRY TABLE

COG OPERATING, LLC
GJ WEST COOP UNIT #108
EDDY COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	DEPTH	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M				E 300.1/4500 Clb
				BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C_6-C_{10}	TPH DRO C_{10}-C_{28}	TPH ORO C_{28}-C_{35}	TOTAL TPH C_6-C_{35}	CHLORIDE
S1 3'-4'	3'-4'	8/14/2017	Excavated	-	-	-	-	-	-	-	-	-	**992**
S1 5'-6'	5'-6'	8/14/2017	Excavated	-	-	-	-	-	-	-	-	-	**28,000**
S 13'-14'	13-14'	8/14/2017	Excavated	-	-	-	-	-	-	-	-	-	**7,200**
S 16'-17'	16'-17'	8/14/2017	Excavated	-	-	-	-	-	-	-	-	-	**21,200**
RP-N @ 28'	28'	3/29/2018	In-Situ	-	-	-	-	-	-	-	-	-	**3,440**
RP-N @ 37'	37'	3/29/2018	In-Situ	-	-	-	-	-	-	-	-	-	**8,560**
RP-S @ 28'	28'	3/29/2018	In-Situ	-	-	-	-	-	-	-	-	-	**1,830**
RP-S @ 31'	31'	3/29/2018	In-Situ	-	-	-	-	-	-	-	-	-	**1,030**
RP-S @ 34'	34'	3/29/2018	In-Situ	-	-	-	-	-	-	-	-	-	**853**
SE-1A @ 18'	18'	3/22/2018	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	**791**
SE-1B @ 10'	10'	3/22/2018	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	**2,940**
SE-1B @ 20'	20'	3/22/2018	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	96.5
SE-1C @ 3'	3'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	255
SE-1C @ 12'	12'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	73.5
SE-1C @ 20'	20'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	65.7
SE-2A @ 18'	18'	3/22/2018	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	409
SE-2B @ 10'	10'	3/22/2018	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	491
SE-2B @ 20'	20'	3/22/2018	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	48.7
SE-2C @ 3'	3'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	**4,570**
SE-2C @ 6'	6'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	96.8
SE-2C @ 12'	12'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	267
SE-2C @ 20'	20'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	423
SE-2D @ 3'	3'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	**20,600**
SE-2D @ 9'	9'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	**8,210**
SE-2D @ 12'	12'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	443
SE-2D @ 20'	20'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	374
SE-2E @ 3'	3'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	**687**
SE-2E @ 6'	6'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	135
NE-1A @ 18'	18'	3/22/2018	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	**723**
NE-1B @ 10'	10'	3/22/2018	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	302
NE-1B @ 20'	20'	3/22/2018	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00200	<14.9	<14.9	<14.9	<14.9	77.1
NE-1C @ 3'	3'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	139
NE-1C @ 12'	12'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	84.0
NE-1C @ 20'	20'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	72.4
N-1A @ 18'	18'	3/22/2018	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	**1,260**
N-1A @ 20'	20'	3/29/2018	In-Situ	-	-	-	-	-	-	-	-	-	564
N-1A @ 23'	23'	3/29/2018	In-Situ	-	-	-	-	-	-	-	-	-	486
N-1A @ 26'	26'	3/29/2018	In-Situ	-	-	-	-	-	-	-	-	-	412
N-1B @ 10'	10'	3/22/2018	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	216	29.3	245.3	593
N-1B @ 20'	20'	3/22/2018	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	**866**
N-1C @ 3'	3'	3/22/2018	In-Situ	-	-	-	-	-	-	-	-	-	583
NW-1A @ 18'	18'	3/23/2018	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	**769**
NW-A @ 20'	20'	3/29/2018	In-Situ	-	-	-	-	-	-	-	-	-	179
NW-A @ 23'	23'	3/29/2018	In-Situ	-	-	-	-	-	-	-	-	-	375
NW-A @ 29'	29'	3/29/2018	In-Situ	-	-	-	-	-	-	-	-	-	265
NW-1B @ 10'	10'	3/23/2018	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	38.8
NW-1B @ 20'	20'	3/23/2018	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	**1,300**
NW-1C @ 3'	3'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	259
NW-1C @ 6'	6'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	414
NW-1C @ 9'	9'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	**1,570**
NW-1C @ 20'	20'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	**5,700**
NW-1D @ 3'	3'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	29.5
NW-1D @ 6'	6'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	**704**
NW-1D @ 9'	9'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	**1,090**
NW-1D @ 20'	20'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	**2,280**
SW-1A @ 18'	18'	3/23/2018	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	62.1
SW-1B @ 10'	10'	3/23/2018	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	76.4
SW-1B @ 20'	20'	3/23/2018	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	29.6
SW-1C @ 3'	3'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	257
SW-1C @ 12'	12'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	50.9
SW-1C @ 20'	20'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	25.8
S-1A @ 18'	18'	3/23/2018	Excavated	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	**7,660**
S-1B @ 10'	10'	3/23/2018	Excavated	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	**18,500**
S-1B @ 20'	20'	3/23/2018	Excavated	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	**4,300**
S-1C @ 3'	3'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	421
S-1C @ 12'	12'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	26.7
S-1C @ 20'	20'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	<5.00
S-2 @ 3'	3'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	169
S-2 @ 12'	12'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	14.9
S-2 @ 20'	20'	3/23/2018	In-Situ	-	-	-	-	-	-	-	-	-	<4.92
S-3	10'	4/24/2018	In-Situ	-	-	-	-	-	-	-	-	-	**10,000**
NMOCD Recommended Remediation Action Level				**10**	**-**	**-**	**-**	**50**	**-**	**-**	**-**	**5,000**	**600**

TABLE 2

SOIL CHEMISTRY TABLE

COG OPERATING, LLC
GJ WEST COOP UNIT #011
EDDY COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	DEPTH	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M				E 300.1
				BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C_6-C_{10}	TPH DRO C_{10}-C_{28}	TPH ORO C_{28}-C_{35}	TOTAL TPH C_6-C_{35}	CHLORIDE
RP @ 3'	3'	3/30/2018	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15	**977**
RP @ 9'	9'	3/30/2018	In-Situ	-	-	-	-	-	-	-	-	-	**1,890**
RP @ 18'	18'	3/30/2018	In-Situ	-	-	-	-	-	<15.0	<15.0	<15.0	<15	241
RP-2 @ 3'	3'	3/30/2018	In-Situ	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15	**1,410**
RP-2 @ 6'	6'	3/30/2018	In-Situ	-	-	-	-	-	-	-	-	-	145
RP-2 @ 18'	18'	3/30/2018	In-Situ	-	-	-	-	-	<15.0	<15.0	<15.0	<15	105
DT -1 @ 3'	3'	4/2/2018	In-Situ	<0.00200	<0.00200	<0.00200	<0.002	<0.002	<15.0	<15.0	<15.0	<15.0	**2,900**
DT -1 @ 6'	6'	4/2/2018	In-Situ	-	-	-	-	-	-	-	-	-	101
DT -1 @ 18'	18'	4/2/2018	In-Situ	-	-	-	-	-	<14.9	<14.9	<14.9	<14.9	124
DT -2 @ SURFACE	SURFACE	4/2/2018	In-Situ	<0.00200	<0.00200	<0.00200	<0.002	<0.002	<15.0	26.1	<15.0	26.1	**53,100**
DT -2 @ 4'	4'	4/2/2018	In-Situ	-	-	-	-	-	-	-	-	-	16.4
DT -2 @ 8'	8'	4/2/2018	In-Situ	-	-	-	-	-	<14.9	<14.9	<14.9	<14.9	19.4
DT -3 @ SURFACE	SURFACE	4/2/2018	In-Situ	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	46.2	19.9	66.1	**15,600**
DT -3 @ 4'	4'	4/2/2018	In-Situ	-	-	-	-	-	-	-	-	-	7.10
DT -3 @ 8'	8'	4/2/2018	In-Situ	-	-	-	-	-	<15.0	<15.0	<15.0	<15	7.30
N @ 3'	3'	3/30/2018	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	178
N @ 6'	6'	3/30/2018	In-Situ	-	-	-	-	-	-	-	-	-	**1,390**
N @ 18'	18'	3/30/2018	In-Situ	-	-	-	-	-	<15.0	<15.0	<15.0	<15	**1,310**
N-2 @ 3'	3'	3/30/2018	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15	21.6
N-2 @ 6'	6'	3/30/2018	In-Situ	-	-	-	-	-	-	-	-	-	322
N-2 @ 18'	18'	3/30/2018	In-Situ	-	-	-	-	-	<15.0	<15.0	<15.0	<15	119
E @ 3'	3'	3/30/2018	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15	214
E @ 9'	9'	3/30/2018	In-Situ	-	-	-	-	-	-	-	-	-	84.1
E @ 18'	18'	3/30/2018	In-Situ	-	-	-	-	-	<14.9	<14.9	<14.9	<14.9	36.0
E-2 @ 3'	3'	3/30/2018	In-Situ	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15	82.7
E-2 @ 9'	9'	3/30/2018	In-Situ	-	-	-	-	-	-	-	-	-	54.6
E-2 @ 18'	18'	3/30/2018	In-Situ	-	-	-	-	-	<15.0	<15.0	<15.0	<15	23.8
W @ 3'	3'	3/30/2018	In-Situ	<0.00200	<0.00200	<0.00200	<0.002	<0.002	<15.0	<15.0	<15.0	<15	78.7
W @ 6'	6'	3/30/2018	In-Situ	-	-	-	-	-					245
W @ 18'	18'	3/30/2018	In-Situ	-	-	-	-	-	<15.0	<15.0	<15.0	<15	73.4
W-2 @ SURFACE	SURFACE	3/30/2018	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	253
W-2 @ 2'	2'	3/30/2018	In-Situ	-	-	-	-	-	-	-	-	-	9.55
W-2 @ 8'	8'	3/30/2018	In-Situ	-	-	-	-	-	<15.0	<15.0	<15.0	<15	<4.95
S @ SURFACE	SURFACE	4/2/2018	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	36.3	<15.0	36.3	**1,840**
S @ 2'	2'	4/2/2018	In-Situ	-	-	-	-	-	-	-	-	-	34.4
S @ 8'	8'	4/2/2018	In-Situ	-	-	-	-	-	<14.9	<14.9	<14.9	<14.9	11.8
NMOCD Recommended Remediation Action Level				**10**	**-**	**-**	**-**	**50**	**-**	**-**	**-**	**5,000**	**600**

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 22, 2017

AARON LIEB

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: GJ WEST COOP

Enclosed are the results of analyses for samples received by the laboratory on 08/16/17 11:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	08/16/2017	Sampling Date:	08/14/2017
Reported:	08/22/2017	Sampling Type:	Soil
Project Name:	GJ WEST COOP	Sampling Condition:	Cool & Intact
Project Number:	UNIT #108	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: S1 - 3'- 4' (H702168-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**992**	16.0	08/19/2017	ND	400	100	400	3.92	

Sample ID: S1 - 5'- 6' (H702168-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**28000**	16.0	08/19/2017	ND	400	100	400	3.92	

Sample ID: S1 - 13'- 14' (H702168-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7200**	16.0	08/19/2017	ND	400	100	400	3.92	

Sample ID: S1 - 16'- 17' (H702168-04)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**21200**	16.0	08/19/2017	ND	416	104	400	0.00	QM-07

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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 SM4500Cl-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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories
101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	COG Operating LLC	**BILL TO**	
Project Manager:	Aaron Lieb	**P.O. #:**	
Address:	2407 Pecos Avenue	**Company:**	COG Operating LLC
City:	Artesia **State:** NM **Zip** 88210	**Attn:**	Robert McNeill
Phone #:	575-748-1553 **Fax #:**	**Address:**	600 W Illinois
Project #:	**Project Owner:**	**City:**	Midland
Project Name:	GJ West Coop Unit # 108	**State:** TX **Zip:** 79701	
Project Location:	GJ West Unit #108	**Phone #:**	(432) 221-0388
Sampler Name:	Aaron Lieb	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	BTEX	TPH	Chloride									
H702168-1	S1-3'-4'					X					X		8/14/17	10:30AM			X									
-2	S1-5'-6'					X					X		8/14/17	10:30AM			X									
-3	S1-13'-14'					X					X		8/14/17	10:30AM			X									
-4	S1-16'-17'					X					X		8/14/17	10:30AM			X									

Relinquished By:	**Date:** 8-16-17	**Received By:**		**Phone Result:** ☐ Yes ☐ No	**Add'l Phone #:**
	Time: 11:45			**Fax Result:** ☐ Yes ☐ No	**Add'l Fax #:**
Relinquished By:	**Date:** 8-16-17	**Received By:**		**REMARKS:** dneel2@concho.com alieb@concho.com rgrubbs@concho.com rhaskell@concho.com	
	Time: 2:30				
Delivered By: (Circle One) 3.4°C	**Sample Condition** Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	**CHECKED BY: (Initials)** T.O. #75			
Sampler - UPS - Bus - Other: Corrected 3.6°C					

FORM-006 R 2.0

Analytical Report 580869

for

TRC Solutions, Inc

Project Manager: Joel Lowry

GJ Eddy Coop Unit #108

05-APR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

05-APR-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **580869**
GJ Eddy Coop Unit #108
Project Address: Eddy Co., NM

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 580869. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 580869 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 580869

TRC Solutions, Inc, Midland, TX

GJ Eddy Coop Unit #108

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SE-1A @ 18'	S	03-22-18 09:00	18 ft	580869-001
SE-1B@10'	S	03-22-18 09:05	10 ft	580869-002
SE-1B @ 20'	S	03-22-18 09:10	20 ft	580869-003
SE-1C @3'	S	03-22-18 09:15	3 ft	580869-004
SE-1C @12'	S	03-22-18 09:20	12 ft	580869-005
SE-1C @20'	S	03-22-18 09:25	20 ft	580869-006
SE-2A @18'	S	03-22-18 09:30	18 ft	580869-007
SE-2B @ 10'	S	03-22-18 09:35	10 ft	580869-008
SE-2B @20'	S	03-22-18 09:40	20 ft	580869-009
SE-2C@3'	S	03-22-18 09:45	3 ft	580869-010
SE-2C@6'	S	03-22-18 09:50	6 ft	580869-011
SE-2C@12'	S	03-22-18 09:55	12 ft	580869-012
SE-2C@20'	S	03-22-18 10:00	20 ft	580869-013
SE-2D@3'	S	03-22-18 10:05	3 ft	580869-014
SE-2D@9'	S	03-22-18 10:10	9 ft	580869-015
SE-2D @12'	S	03-22-18 10:15	12 ft	580869-016
SE-2D@ 20'	S	03-22-18 10:20	20 ft	580869-017
SE-2E@3'	S	03-22-18 10:25	3 ft	580869-018
SE-2E@6'	S	03-22-18 10:30	6 ft	580869-019
NE-1A @18'	S	03-22-18 10:35	18 ft	580869-020
NE1B@10'	S	03-22-18 10:40	10 ft	580869-021
NE-1B @20'	S	03-22-18 10:45	20 ft	580869-022
NE-1C @3'	S	03-22-18 10:50	3 ft	580869-023
NE-1C@12'	S	03-22-18 10:55	12 ft	580869-024
NE-1C @20'	S	03-22-18 11:00	20 ft	580869-025
N-1A@18'	S	03-22-18 11:05	18 ft	580869-026
N-1B @10'	S	03-22-18 11:10	10 ft	580869-027
N-1B@20'	S	03-22-18 11:15	20 ft	580869-028
N-1C@3'	S	03-22-18 11:20	3 ft	580869-029
NW-1A @18'	S	03-23-18 11:25	18 ft	580869-030
NW-1B@10'	S	03-23-18 11:30	10 ft	580869-031
NW-1B@20'	S	03-23-18 11:35	20 ft	580869-032
NW-1C @ 3'	S	03-23-18 11:40	3 ft	580869-033
NW-1C @ 6'	S	03-23-18 11:45	6 ft	580869-034
NW-1C @ 9'	S	03-23-18 11:50	9 ft	580869-035
NW-1C @ 20'	S	03-23-18 11:55	20 ft	580869-036
NW-1D @ 3'	S	03-23-18 12:00	3 ft	580869-037
NW-1D @ 6'	S	03-23-18 12:05	6 ft	580869-038
NW-1D @ 9'	S	03-23-18 12:10	9 ft	580869-039
NW-1D @20'	S	03-23-18 12:15	20 ft	580869-040
SW-1A@18'	S	03-23-18 12:20	18 ft	580869-041
SW-1B@10'	S	03-23-18 12:25	10 ft	580869-042
SW-1B @ 20'	S	03-23-18 12:30	20 ft	580869-043

TRC Solutions, Inc, Midland, TX

GJ Eddy Coop Unit #108

SW-1C@3'	S	03-23-18 12:35	3 ft	580869-044
SW-1C @12'	S	03-23-18 12:40	12 ft	580869-045
SW-1C@20'	S	03-23-18 12:45	20 ft	580869-046
S-1A@18'	S	03-23-18 12:50	18 ft	580869-047
S-1B@10'	S	03-23-18 12:55	10 ft	580869-048
S-1B@ 20'	S	03-23-18 13:00	20 ft	580869-049
S-1C@3'	S	03-23-18 13:05	3 ft	580869-050
S-1C@12'	S	03-23-18 13:10	12 ft	580869-051
S-1C@20'	S	03-23-18 13:15	20 ft	580869-052
S-2@3'	S	03-23-18 13:20	3 ft	580869-053
S-2@12'	S	03-23-18 13:25	12 ft	580869-054
S-2@20'	S	03-23-18 13:30	20 ft	580869-055

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3045469 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3045487 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 580869

TRC Solutions, Inc, Midland, TX

Project Name: GJ Eddy Coop Unit #108

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co., NM

Date Received in Lab: Thu Mar-29-18 04:14 pm

Report Date: 05-APR-18

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580869-001		580869-002		580869-003		580869-004		580869-005		580869-006	
	Field Id:	SE-1A @ 18'		SE-1B@10'		SE-1B @ 20'		SE-1C @3'		SE-1C @12'		SE-1C @20'	
	Depth:	18- ft		10- ft		20- ft		3- ft		12- ft		20- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-22-18 09:00		Mar-22-18 09:05		Mar-22-18 09:10		Mar-22-18 09:15		Mar-22-18 09:20		Mar-22-18 09:25	
BTEX by EPA 8021B	***Extracted:***	Mar-30-18 16:45		Mar-30-18 16:45		Mar-30-18 16:45							
	Analyzed:	Mar-30-18 22:24		Mar-30-18 22:43		Mar-30-18 23:02							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200						
Toluene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200						
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200						
m,p-Xylenes		<0.00403	0.00403	<0.00398	0.00398	<0.00399	0.00399						
o-Xylene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200						
Total Xylenes		<0.00202	0.00202	<0.00199	0.00199	<0.002	0.002						
Total BTEX		<0.00202	0.00202	<0.00199	0.00199	<0.002	0.002						
Chloride by EPA 300	***Extracted:***	Apr-02-18 09:00		Apr-02-18 09:00		Apr-02-18 09:00		Apr-02-18 09:00		Apr-02-18 09:00		Apr-02-18 09:00	
	Analyzed:	Apr-02-18 10:58		Apr-02-18 11:03		Apr-02-18 11:08		Apr-02-18 11:13		Apr-02-18 11:19		Apr-02-18 11:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		791	5.00	2940	25.0	96.5	5.00	255	4.99	73.5	4.99	65.7	4.97
TPH by SW8015 Mod	***Extracted:***	Mar-31-18 14:00		Mar-31-18 14:00		Mar-31-18 14:00							
	Analyzed:	Apr-01-18 19:40		Apr-01-18 20:59		Apr-01-18 21:25							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0						
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0						
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0						
Total TPH		<15	15	<15	15	<15	15						

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580869

TRC Solutions, Inc, Midland, TX

Project Name: GJ Eddy Coop Unit #108

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co., NM

Date Received in Lab: Thu Mar-29-18 04:14 pm

Report Date: 05-APR-18

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580869-007		580869-008		580869-009		580869-010		580869-011		580869-012	
	Field Id:	SE-2A @18'		SE-2B @ 10'		SE-2B @20'		SE-2C@3'		SE-2C@6'		SE-2C@12'	
	Depth:	18- ft		10- ft		20- ft		3- ft		6- ft		12- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-22-18 09:30		Mar-22-18 09:35		Mar-22-18 09:40		Mar-22-18 09:45		Mar-22-18 09:50		Mar-22-18 09:55	
BTEX by EPA 8021B	***Extracted:***	Mar-30-18 16:45		Mar-30-18 16:45		Mar-30-18 16:45							
	Analyzed:	Mar-30-18 23:21		Mar-30-18 23:40		Mar-30-18 23:59							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202						
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202						
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202						
m,p-Xylenes		<0.00401	0.00401	<0.00402	0.00402	<0.00404	0.00404						
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202						
Total Xylenes		<0.002	0.002	<0.00201	0.00201	<0.00202	0.00202						
Total BTEX		<0.002	0.002	<0.00201	0.00201	<0.00202	0.00202						
Chloride by EPA 300	***Extracted:***	Apr-02-18 09:00		Apr-02-18 09:00		Apr-02-18 09:00		Apr-02-18 09:00		Apr-02-18 09:00		Apr-02-18 09:00	
	Analyzed:	Apr-02-18 11:40		Apr-02-18 11:45		Apr-02-18 12:08		Apr-02-18 12:13		Apr-02-18 12:18		Apr-02-18 12:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		409	5.00	491	5.00	48.7	4.99	4570	49.7	96.8	4.99	267	4.98
TPH by SW8015 Mod	***Extracted:***	Mar-31-18 14:00		Mar-31-18 14:00		Mar-31-18 14:00							
	Analyzed:	Apr-01-18 21:52		Apr-01-18 22:19		Apr-01-18 22:47							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9						
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9						
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<14.9	14.9						
Total TPH		<15	15	<15	15	<14.9	14.9						

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580869

TRC Solutions, Inc, Midland, TX

Project Name: GJ Eddy Coop Unit #108

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co., NM

Date Received in Lab: Thu Mar-29-18 04:14 pm

Report Date: 05-APR-18

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580869-013		580869-014		580869-015		580869-016		580869-017		580869-018	
	Field Id:	SE-2C@20'		SE-2D@3'		SE-2D@9'		SE-2D @12'		SE-2D@ 20'		SE-2E@3'	
	Depth:	20- ft		3- ft		9- ft		12- ft		20- ft		3- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-22-18 10:00		Mar-22-18 10:05		Mar-22-18 10:10		Mar-22-18 10:15		Mar-22-18 10:20		Mar-22-18 10:25	
Chloride by EPA 300	***Extracted:***	Apr-02-18 09:00		Apr-02-18 09:00		Apr-02-18 09:00		Apr-02-18 12:00		Apr-02-18 12:00		Apr-02-18 12:00	
	Analyzed:	Apr-02-18 12:29		Apr-02-18 12:34		Apr-02-18 12:40		Apr-02-18 13:11		Apr-02-18 13:59		Apr-02-18 14:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		423	4.98	20600	248	8210	49.7	443	5.00	374	4.95	687	4.99

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580869

TRC Solutions, Inc, Midland, TX

Project Name: GJ Eddy Coop Unit #108

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co., NM

Date Received in Lab: Thu Mar-29-18 04:14 pm

Report Date: 05-APR-18

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580869-019		580869-020		580869-021		580869-022		580869-023		580869-024	
	Field Id:	SE-2E@6'		NE-1A @18'		NE1B@10'		NE-1B @20'		NE-1C @3'		NE-1C@12'	
	Depth:	6- ft		18- ft		10- ft		20- ft		3- ft		12- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-22-18 10:30		Mar-22-18 10:35		Mar-22-18 10:40		Mar-22-18 10:45		Mar-22-18 10:50		Mar-22-18 10:55	
BTEX by EPA 8021B	***Extracted:***			Mar-30-18 16:45		Mar-30-18 16:45		Mar-30-18 16:45					
	Analyzed:			Mar-31-18 00:18		Mar-31-18 00:37		Mar-31-18 00:56					
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene				<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Toluene				<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Ethylbenzene				<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
m,p-Xylenes				<0.00398	0.00398	<0.00399	0.00399	<0.00402	0.00402				
o-Xylene				<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201				
Total Xylenes				<0.00199	0.00199	<0.002	0.002	<0.00201	0.00201				
Total BTEX				<0.00199	0.00199	<0.002	0.002	<0.00201	0.00201				
Chloride by EPA 300	***Extracted:***	Apr-02-18 12:00		Apr-02-18 12:00		Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45	
	Analyzed:	Apr-02-18 14:10		Apr-02-18 14:15		Apr-03-18 02:22		Apr-03-18 02:38		Apr-03-18 02:43		Apr-03-18 02:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		135	4.90	723	4.96	302	5.00	77.1	4.99	139	4.97	84.0	4.97
TPH by SW8015 Mod	***Extracted:***			Mar-31-18 14:00		Mar-31-18 14:00		Mar-31-18 14:00					
	Analyzed:			Apr-02-18 23:13		Apr-02-18 23:40		Apr-02-18 00:07					
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)				<15.0	15.0	<15.0	15.0	<14.9	14.9				
Diesel Range Organics (DRO)				<15.0	15.0	<15.0	15.0	<14.9	14.9				
Oil Range Hydrocarbons (ORO)				<15.0	15.0	<15.0	15.0	<14.9	14.9				
Total TPH				<15	15	<15	15	<14.9	14.9				

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580869

TRC Solutions, Inc, Midland, TX

Project Name: GJ Eddy Coop Unit #108

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co., NM

Date Received in Lab: Thu Mar-29-18 04:14 pm
Report Date: 05-APR-18
Project Manager: Kelsey Brooks

Analysis Requested																			
	Lab Id:	580869-025		580869-026		580869-027		580869-028		580869-029		580869-030	
	Field Id:	NE-1C @20'		N-1A@18'		N-1B @10'		N-1B@20'		N-1C@3'		NW-1A @18'	
	Depth:	20- ft		18- ft		10- ft		20- ft		3- ft		18- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-22-18 11:00		Mar-22-18 11:05		Mar-22-18 11:10		Mar-22-18 11:15		Mar-22-18 11:20		Mar-23-18 11:25	
BTEX by EPA 8021B	***Extracted:***			Mar-30-18 16:45		Mar-30-18 16:45		Mar-30-18 16:45				Mar-30-18 16:45	
	Analyzed:			Mar-31-18 01:15		Mar-31-18 09:10		Mar-31-18 09:29				Mar-31-18 09:48	
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL			mg/kg	RL
Benzene				<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200			<0.00201	0.00201
Toluene				<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200			<0.00201	0.00201
Ethylbenzene				<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200			<0.00201	0.00201
m,p-Xylenes				<0.00403	0.00403	<0.00398	0.00398	<0.00399	0.00399			<0.00402	0.00402
o-Xylene				<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200			<0.00201	0.00201
Total Xylenes				<0.00202	0.00202	<0.00199	0.00199	<0.002	0.002			<0.00201	0.00201
Total BTEX				<0.00202	0.00202	<0.00199	0.00199	<0.002	0.002			<0.00201	0.00201
Chloride by EPA 300	***Extracted:***	Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45	
	Analyzed:	Apr-03-18 02:54		Apr-03-18 03:10		Apr-03-18 03:15		Apr-03-18 03:20		Apr-03-18 03:26		Apr-03-18 03:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		72.4	4.99	1260	25.0	593	5.00	866	4.95	583	5.00	769	24.9
TPH by SW8015 Mod	***Extracted:***			Mar-31-18 14:00		Mar-31-18 14:00		Mar-31-18 14:00				Mar-31-18 14:00	
	Analyzed:			Apr-02-18 00:33		Apr-02-18 17:32		Apr-02-18 02:21				Apr-02-18 02:48	
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL			mg/kg	RL
Oil Range Hydrocarbons (ORO)				<15.0	15.0	29.3	15.0	<15.0	15.0			<15.0	15.0
Total TPH				<15	15	245.3	15	<15	15			<15	15
TPH by SW8015 Mod	***Extracted:***			Mar-31-18 14:00		Mar-31-18 14:00						Mar-31-18 14:00	
	Analyzed:			Apr-02-18 00:33		Apr-02-18 17:32						Apr-02-18 02:48	
	Units/RL:			mg/kg	RL	mg/kg	RL					mg/kg	RL
Gasoline Range Hydrocarbons (GRO)				<15.0	15.0	<15.0	15.0					<15.0	15.0
Diesel Range Organics (DRO)				<15.0	15.0	216	15.0					<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580869

TRC Solutions, Inc, Midland, TX

Project Name: GJ Eddy Coop Unit #108

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co., NM

Date Received in Lab: Thu Mar-29-18 04:14 pm
Report Date: 05-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580869-031		580869-032		580869-033		580869-034		580869-035		580869-036	
	Field Id:	NW-1B@10'		NW-1B@20'		NW-1C @ 3'		NW-1C @ 6'		NW-1C @ 9'		NW-1C @ 20'	
	Depth:	10- ft		20- ft		3- ft		6- ft		9- ft		20- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-23-18 11:30		Mar-23-18 11:35		Mar-23-18 11:40		Mar-23-18 11:45		Mar-23-18 11:50		Mar-23-18 11:55	
BTEX by EPA 8021B	***Extracted:***	Mar-30-18 16:45		Mar-30-18 16:45									
	Analyzed:	Mar-31-18 10:06		Mar-31-18 10:25									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		<0.00201	0.00201	<0.00199	0.00199								
Toluene		<0.00201	0.00201	<0.00199	0.00199								
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199								
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398								
o-Xylene		<0.00201	0.00201	<0.00199	0.00199								
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199								
Total BTEX		<0.00201	0.00201	<0.00199	0.00199								
Chloride by EPA 300	***Extracted:***	Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45	
	Analyzed:	Apr-03-18 03:36		Apr-03-18 03:52		Apr-03-18 03:58		Apr-03-18 04:13		Apr-03-18 04:19		Apr-03-18 04:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		38.8	4.97	1300	24.9	259	5.00	414	4.98	1570	24.8	5700	49.5
TPH by SW8015 Mod	***Extracted:***	Mar-31-18 14:00		Mar-31-18 14:00									
	Analyzed:	Apr-02-18 03:14		Apr-02-18 03:42									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0								
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0								
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0								
Total TPH		<15	15	<15	15								

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580869

TRC Solutions, Inc, Midland, TX

Project Name: GJ Eddy Coop Unit #108

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co., NM

Date Received in Lab: Thu Mar-29-18 04:14 pm
Report Date: 05-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580869-037		580869-038		580869-039		580869-040		580869-041		580869-042	
	Field Id:	NW-1D @ 3'		NW-1D @ 6'		NW-1D @ 9'		NW-1D @20'		SW-1A@18'		SW-1B@10'	
	Depth:	3- ft		6- ft		9- ft		20- ft		18- ft		10- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-23-18 12:00		Mar-23-18 12:05		Mar-23-18 12:10		Mar-23-18 12:15		Mar-23-18 12:20		Mar-23-18 12:25	
BTEX by EPA 8021B	***Extracted:***									Mar-30-18 16:45		Mar-30-18 16:45	
	Analyzed:									Mar-31-18 10:44		Mar-31-18 11:03	
	Units/RL:									mg/kg	RL	mg/kg	RL
Benzene										<0.00200	0.00200	<0.00200	0.00200
Toluene										<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene										<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes										<0.00399	0.00399	<0.00401	0.00401
o-Xylene										<0.00200	0.00200	<0.00200	0.00200
Total Xylenes										<0.002	0.002	<0.002	0.002
Total BTEX										<0.002	0.002	<0.002	0.002
Chloride by EPA 300	***Extracted:***	Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45		Apr-02-18 16:45		Mar-30-18 12:00		Mar-30-18 12:00	
	Analyzed:	Apr-03-18 04:29		Apr-03-18 04:35		Apr-03-18 04:40		Apr-03-18 04:45		Mar-30-18 13:32		Mar-30-18 14:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		29.5	4.99	704	4.95	1090	4.98	2280	24.6	62.1	5.00	76.4	4.96
TPH by SW8015 Mod	***Extracted:***									Mar-31-18 14:00		Mar-31-18 14:00	
	Analyzed:									Apr-02-18 04:08		Apr-02-18 04:36	
	Units/RL:									mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)										<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)										<14.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)										<14.9	14.9	<15.0	15.0
Total TPH										<14.9	14.9	<15	15

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580869

TRC Solutions, Inc, Midland, TX

Project Name: GJ Eddy Coop Unit #108

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co., NM

Date Received in Lab: Thu Mar-29-18 04:14 pm
Report Date: 05-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580869-043		580869-044		580869-045		580869-046		580869-047		580869-048	
	Field Id:	SW-1B @ 20'		SW-1C@3'		SW-1C @12'		SW-1C@20'		S-1A@18'		S-1B@10'	
	Depth:	20- ft		3- ft		12- ft		20- ft		18- ft		10- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-23-18 12:30		Mar-23-18 12:35		Mar-23-18 12:40		Mar-23-18 12:45		Mar-23-18 12:50		Mar-23-18 12:55	
BTEX by EPA 8021B	***Extracted:***	Mar-30-18 16:45								Mar-30-18 16:45		Mar-30-18 16:45	
	Analyzed:	Mar-31-18 11:22								Mar-31-18 11:42		Mar-31-18 12:01	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201							<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00201	0.00201							<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00201	0.00201							<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00402	0.00402							<0.00398	0.00398	<0.00401	0.00401
o-Xylene		<0.00201	0.00201							<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00201	0.00201							<0.00199	0.00199	<0.002	0.002
Total BTEX		<0.00201	0.00201							<0.00199	0.00199	<0.002	0.002
Chloride by EPA 300	***Extracted:***	Mar-30-18 12:00		Mar-30-18 12:00		Mar-30-18 12:00		Mar-30-18 12:00		Mar-30-18 12:00		Mar-30-18 12:00	
	Analyzed:	Mar-30-18 14:36		Mar-30-18 14:41		Mar-30-18 14:47		Mar-30-18 14:52		Mar-30-18 15:08		Mar-30-18 15:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		29.6	5.00	257	5.00	50.9	4.95	25.8	4.90	7660	49.7	18500	250
TPH by SW8015 Mod	***Extracted:***	Mar-31-18 14:00								Mar-31-18 14:00		Mar-31-18 14:00	
	Analyzed:	Apr-02-18 05:02								Apr-02-18 05:29		Apr-02-18 05:57	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0							<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0							<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0							<15.0	15.0	<15.0	15.0
Total TPH		<15	15							<15	15	<15	15

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580869

TRC Solutions, Inc, Midland, TX

Project Name: GJ Eddy Coop Unit #108

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co., NM

Date Received in Lab: Thu Mar-29-18 04:14 pm
Report Date: 05-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580869-049		580869-050		580869-051		580869-052		580869-053		580869-054	
	Field Id:	S-1B@ 20'		S-1C@3'		S-1C@12'		S-1C@20'		S-2@3'		S-2@12'	
	Depth:	20- ft		3- ft		12- ft		20- ft		3- ft		12- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-23-18 13:00		Mar-23-18 13:05		Mar-23-18 13:10		Mar-23-18 13:15		Mar-23-18 13:20		Mar-23-18 13:25	
BTEX by EPA 8021B	***Extracted:***	Apr-02-18 09:00											
	Analyzed:	Apr-02-18 16:18											
	Units/RL:	mg/kg	RL										
Benzene		<0.00201	0.00201										
Toluene		<0.00201	0.00201										
Ethylbenzene		<0.00201	0.00201										
m,p-Xylenes		<0.00402	0.00402										
o-Xylene		<0.00201	0.00201										
Total Xylenes		<0.00201	0.00201										
Total BTEX		<0.00201	0.00201										
Chloride by EPA 300	***Extracted:***	Mar-30-18 12:00		Mar-30-18 12:00		Mar-30-18 12:00		Mar-30-18 12:00		Mar-30-18 12:00		Mar-30-18 12:00	
	Analyzed:	Mar-30-18 15:29		Mar-30-18 15:34		Mar-30-18 15:40		Mar-30-18 15:45		Mar-30-18 15:50		Mar-30-18 15:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4300	49.0	421	4.90	26.7	4.91	<5.00	5.00	169	4.90	14.9	5.00
TPH by SW8015 Mod	***Extracted:***	Apr-01-18 10:00											
	Analyzed:	Apr-02-18 08:09											
	Units/RL:	mg/kg	RL										
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0										
Diesel Range Organics (DRO)		<15.0	15.0										
Oil Range Hydrocarbons (ORO)		<15.0	15.0										
Total TPH		<15	15										

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580869

TRC Solutions, Inc, Midland, TX

Project Name: GJ Eddy Coop Unit #108

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co., NM

Date Received in Lab: Thu Mar-29-18 04:14 pm

Report Date: 05-APR-18

Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	580869-055					
	Field Id:	S-2@20'					
	Depth:	20- ft					
	Matrix:	SOIL					
	Sampled:	Mar-23-18 13:30					
Chloride by EPA 300	***Extracted:***	Mar-30-18 12:00					
	Analyzed:	Mar-30-18 16:01					
	Units/RL:	mg/kg	RL				
Chloride		<4.92	4.92				

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045487 **Sample:** 580869-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 22:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	70-130	
4-Bromofluorobenzene	0.0256	0.0300	85	70-130	

Lab Batch #: 3045487 **Sample:** 580869-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 22:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3045487 **Sample:** 580869-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 23:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	70-130	
4-Bromofluorobenzene	0.0282	0.0300	94	70-130	

Lab Batch #: 3045487 **Sample:** 580869-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 23:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	70-130	
4-Bromofluorobenzene	0.0266	0.0300	89	70-130	

Lab Batch #: 3045487 **Sample:** 580869-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 23:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	70-130	
4-Bromofluorobenzene	0.0281	0.0300	94	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045487 **Sample:** 580869-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 23:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	70-130	
4-Bromofluorobenzene	0.0260	0.0300	87	70-130	

Lab Batch #: 3045487 **Sample:** 580869-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 00:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	70-130	
4-Bromofluorobenzene	0.0268	0.0300	89	70-130	

Lab Batch #: 3045487 **Sample:** 580869-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 00:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	70-130	
4-Bromofluorobenzene	0.0287	0.0300	96	70-130	

Lab Batch #: 3045487 **Sample:** 580869-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 00:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	70-130	
4-Bromofluorobenzene	0.0262	0.0300	87	70-130	

Lab Batch #: 3045487 **Sample:** 580869-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 01:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	70-130	
4-Bromofluorobenzene	0.0264	0.0300	88	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045487 **Sample:** 580869-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 09:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0282	0.0300	94	70-130	

Lab Batch #: 3045487 **Sample:** 580869-028 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 09:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	70-130	
4-Bromofluorobenzene	0.0257	0.0300	86	70-130	

Lab Batch #: 3045487 **Sample:** 580869-030 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 09:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	70-130	
4-Bromofluorobenzene	0.0272	0.0300	91	70-130	

Lab Batch #: 3045487 **Sample:** 580869-031 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 10:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	70-130	
4-Bromofluorobenzene	0.0357	0.0300	119	70-130	

Lab Batch #: 3045487 **Sample:** 580869-032 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 10:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	70-130	
4-Bromofluorobenzene	0.0285	0.0300	95	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045487 **Sample:** 580869-041 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 10:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	70-130	
4-Bromofluorobenzene	0.0272	0.0300	91	70-130	

Lab Batch #: 3045487 **Sample:** 580869-042 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 11:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	70-130	
4-Bromofluorobenzene	0.0280	0.0300	93	70-130	

Lab Batch #: 3045487 **Sample:** 580869-043 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 11:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	70-130	
4-Bromofluorobenzene	0.0258	0.0300	86	70-130	

Lab Batch #: 3045487 **Sample:** 580869-047 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 11:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	70-130	
4-Bromofluorobenzene	0.0261	0.0300	87	70-130	

Lab Batch #: 3045487 **Sample:** 580869-048 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 12:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	70-130	
4-Bromofluorobenzene	0.0275	0.0300	92	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045441 **Sample:** 580869-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 19:40

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

Lab Batch #: 3045441 **Sample:** 580869-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 20:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.8	107	70-135	
o-Terphenyl	53.7	49.9	108	70-135	

Lab Batch #: 3045441 **Sample:** 580869-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 21:25

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	99.9	100	70-135	
o-Terphenyl	50.8	50.0	102	70-135	

Lab Batch #: 3045441 **Sample:** 580869-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 21:52

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.7	99.7	97	70-135	
o-Terphenyl	49.6	49.9	99	70-135	

Lab Batch #: 3045441 **Sample:** 580869-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 22:19

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.7	114	70-135	
o-Terphenyl	57.7	49.9	116	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045441 **Sample:** 580869-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 22:47

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.3	99.6	99	70-135	
o-Terphenyl	49.2	49.8	99	70-135	

Lab Batch #: 3045441 **Sample:** 580869-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 00:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.3	99.6	100	70-135	
o-Terphenyl	50.8	49.8	102	70-135	

Lab Batch #: 3045441 **Sample:** 580869-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 00:33

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.0	99.9	96	70-135	
o-Terphenyl	48.4	50.0	97	70-135	

Lab Batch #: 3045441 **Sample:** 580869-028 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 02:21

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.7	99.8	95	70-135	
o-Terphenyl	50.9	49.9	102	70-135	

Lab Batch #: 3045441 **Sample:** 580869-030 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 02:48

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.9	99.7	90	70-135	
o-Terphenyl	48.6	49.9	97	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045441 **Sample:** 580869-031 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 03:14

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.2	99.7	94	70-135	
o-Terphenyl	45.6	49.9	91	70-135	

Lab Batch #: 3045441 **Sample:** 580869-032 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 03:42

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.8	100	98	70-135	
o-Terphenyl	50.0	50.0	100	70-135	

Lab Batch #: 3045441 **Sample:** 580869-041 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 04:08

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	99.6	100	70-135	
o-Terphenyl	50.5	49.8	101	70-135	

Lab Batch #: 3045441 **Sample:** 580869-042 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 04:36

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	51.9	50.0	104	70-135	

Lab Batch #: 3045441 **Sample:** 580869-043 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 05:02

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.5	99.8	100	70-135	
o-Terphenyl	50.9	49.9	102	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045441 **Sample:** 580869-047 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 05:29

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.7	99.8	97	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

Lab Batch #: 3045441 **Sample:** 580869-048 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 05:57

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.9	99.9	96	70-135	
o-Terphenyl	48.6	50.0	97	70-135	

Lab Batch #: 3045471 **Sample:** 580869-049 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 08:09

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.9	103	70-135	
o-Terphenyl	52.6	50.0	105	70-135	

Lab Batch #: 3045469 **Sample:** 580869-049 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 16:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	70-130	
4-Bromofluorobenzene	0.0343	0.0300	114	70-130	

Lab Batch #: 3045441 **Sample:** 580869-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 17:32

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.9	103	70-135	
o-Terphenyl	52.1	50.0	104	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045441 **Sample:** 580869-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 23:13

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.1	99.8	97	70-135	
o-Terphenyl	49.4	49.9	99	70-135	

Lab Batch #: 3045441 **Sample:** 580869-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 23:40

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.0	99.8	98	70-135	
o-Terphenyl	49.8	49.9	100	70-135	

Lab Batch #: 3045487 **Sample:** 7641899-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/30/18 22:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	70-130	
4-Bromofluorobenzene	0.0216	0.0300	72	70-130	

Lab Batch #: 3045441 **Sample:** 7641861-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/01/18 18:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.5	100	99	70-135	
o-Terphenyl	50.0	50.0	100	70-135	

Lab Batch #: 3045471 **Sample:** 7641866-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/02/18 06:49

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	51.5	50.0	103	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045469 **Sample:** 7641883-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/02/18 14:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	70-130	
4-Bromofluorobenzene	0.0352	0.0300	117	70-130	

Lab Batch #: 3045487 **Sample:** 7641899-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/30/18 20:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	70-130	
4-Bromofluorobenzene	0.0252	0.0300	84	70-130	

Lab Batch #: 3045441 **Sample:** 7641861-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/01/18 18:44

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	52.6	50.0	105	70-135	

Lab Batch #: 3045471 **Sample:** 7641866-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/02/18 07:15

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	53.3	50.0	107	70-135	

Lab Batch #: 3045469 **Sample:** 7641883-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/02/18 11:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	70-130	
4-Bromofluorobenzene	0.0332	0.0300	111	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045487 **Sample:** 7641899-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/30/18 20:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	70-130	
4-Bromofluorobenzene	0.0286	0.0300	95	70-130	

Lab Batch #: 3045441 **Sample:** 7641861-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/01/18 19:12

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	58.0	50.0	116	70-135	

Lab Batch #: 3045471 **Sample:** 7641866-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/02/18 07:43

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 3045469 **Sample:** 7641883-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/02/18 13:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	70-130	
4-Bromofluorobenzene	0.0314	0.0300	105	70-130	

Lab Batch #: 3045487 **Sample:** 580869-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 20:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	70-130	
4-Bromofluorobenzene	0.0280	0.0300	93	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045441 **Sample:** 580869-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 20:06

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	55.2	50.0	110	70-135	

Lab Batch #: 3045471 **Sample:** 580869-049 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 08:35

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.9	111	70-135	
o-Terphenyl	53.1	50.0	106	70-135	

Lab Batch #: 3045469 **Sample:** 580997-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 13:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	70-130	
4-Bromofluorobenzene	0.0324	0.0300	108	70-130	

Lab Batch #: 3045487 **Sample:** 580869-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 21:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0282	0.0300	94	70-130	

Lab Batch #: 3045441 **Sample:** 580869-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 20:32

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	55.1	50.0	110	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Orders : 580869,

Project ID:

Lab Batch #: 3045471 **Sample:** 580869-049 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 09:00

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.7	110	70-135	
o-Terphenyl	52.8	49.9	106	70-135	

Lab Batch #: 3045469 **Sample:** 580997-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 13:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	70-130	
4-Bromofluorobenzene	0.0333	0.0300	111	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Order #: 580869 **Project ID:**

Analyst: ALJ **Date Prepared:** 04/02/2018 **Date Analyzed:** 04/02/2018

Lab Batch ID: 3045469 **Sample:** 7641883-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00199	0.0996	0.123	123	0.100	0.119	119	3	70-130	35	
Toluene	<0.00199	0.0996	0.116	116	0.100	0.113	113	3	70-130	35	
Ethylbenzene	<0.00199	0.0996	0.111	111	0.100	0.108	108	3	70-130	35	
m,p-Xylenes	<0.00398	0.199	0.229	115	0.200	0.224	112	2	70-130	35	
o-Xylene	<0.00199	0.0996	0.113	113	0.100	0.111	111	2	70-130	35	

Analyst: ALJ **Date Prepared:** 03/30/2018 **Date Analyzed:** 03/30/2018

Lab Batch ID: 3045487 **Sample:** 7641899-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.101	101	0.100	0.0862	86	16	70-130	35	
Toluene	<0.00200	0.0998	0.0962	96	0.100	0.0847	85	13	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.0927	93	0.100	0.0862	86	7	70-130	35	
m,p-Xylenes	<0.00399	0.200	0.189	95	0.200	0.175	88	8	70-130	35	
o-Xylene	<0.00200	0.0998	0.0958	96	0.100	0.0919	92	4	70-130	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Order #: 580869 **Project ID:**

Analyst: OJS **Date Prepared:** 03/30/2018 **Date Analyzed:** 03/30/2018

Lab Batch ID: 3045400 **Sample:** 7641808-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	242	97	250	239	96	1	90-110	20	

Analyst: OJS **Date Prepared:** 04/02/2018 **Date Analyzed:** 04/02/2018

Lab Batch ID: 3045512 **Sample:** 7641818-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	249	100	250	251	100	1	90-110	20	

Analyst: OJS **Date Prepared:** 04/02/2018 **Date Analyzed:** 04/02/2018

Lab Batch ID: 3045514 **Sample:** 7641873-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	263	105	250	245	98	7	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Order #: 580869 **Project ID:**

Analyst: OJS **Date Prepared:** 04/02/2018 **Date Analyzed:** 04/03/2018

Lab Batch ID: 3045518 **Sample:** 7641894-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	265	106	250	253	101	5	90-110	20	

Analyst: ARM **Date Prepared:** 03/31/2018 **Date Analyzed:** 04/01/2018

Lab Batch ID: 3045441 **Sample:** 7641861-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1040	104	1000	1040	104	0	70-135	20	
Diesel Range Organics (DRO)	<15.0	1000	1070	107	1000	1070	107	0	70-135	20	

Analyst: ARM **Date Prepared:** 04/01/2018 **Date Analyzed:** 04/02/2018

Lab Batch ID: 3045471 **Sample:** 7641866-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1040	104	1000	1020	102	2	70-135	20	
Diesel Range Organics (DRO)	<15.0	1000	1080	108	1000	1050	105	3	70-135	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Order # : 580869 **Project ID:**

Lab Batch ID: 3045469 **QC- Sample ID:** 580997-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/02/2018 **Date Prepared:** 04/02/2018 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.0865	87	0.100	0.0956	96	10	70-130	35	
Toluene	<0.00200	0.0998	0.0735	74	0.100	0.0844	84	14	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.0622	62	0.100	0.0714	71	14	70-130	35	X
m,p-Xylenes	<0.00399	0.200	0.136	68	0.200	0.160	80	16	70-130	35	X
o-Xylene	<0.00200	0.0998	0.0708	71	0.100	0.0830	83	16	70-130	35	

Lab Batch ID: 3045487 **QC- Sample ID:** 580869-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/30/2018 **Date Prepared:** 03/30/2018 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00202	0.101	0.0847	84	0.100	0.0769	77	10	70-130	35	
Toluene	<0.00202	0.101	0.0840	83	0.100	0.0759	76	10	70-130	35	
Ethylbenzene	<0.00202	0.101	0.0849	84	0.100	0.0766	77	10	70-130	35	
m,p-Xylenes	<0.00403	0.202	0.172	85	0.201	0.156	78	10	70-130	35	
o-Xylene	<0.00202	0.101	0.0889	88	0.100	0.0796	80	11	70-130	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Order # : 580869 **Project ID:**

Lab Batch ID: 3045400 **QC- Sample ID:** 580869-041 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/30/2018 **Date Prepared:** 03/30/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	62.1	250	310	99	250	311	100	0	90-110	20	

Lab Batch ID: 3045400 **QC- Sample ID:** 580869-046 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/30/2018 **Date Prepared:** 03/30/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	25.8	245	283	105	245	277	103	2	90-110	20	

Lab Batch ID: 3045512 **QC- Sample ID:** 580869-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/02/2018 **Date Prepared:** 04/02/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	65.7	249	302	95	249	308	97	2	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Order # : 580869 **Project ID:**

Lab Batch ID: 3045512 **QC- Sample ID:** 580948-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/02/2018 **Date Prepared:** 04/02/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<4.95	248	249	100	248	247	100	1	90-110	20	

Lab Batch ID: 3045514 **QC- Sample ID:** 580869-016 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/02/2018 **Date Prepared:** 04/02/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	443	250	670	91	250	673	92	0	90-110	20	

Lab Batch ID: 3045514 **QC- Sample ID:** 580892-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/02/2018 **Date Prepared:** 04/02/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	7.09	250	264	103	250	250	97	5	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Order # : 580869 **Project ID:**

Lab Batch ID: 3045518 **QC- Sample ID:** 580869-021 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/03/2018 **Date Prepared:** 04/02/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	302	250	542	96	250	565	105	4	90-110	20	

Lab Batch ID: 3045518 **QC- Sample ID:** 580869-031 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/03/2018 **Date Prepared:** 04/02/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	38.8	249	310	109	249	304	107	2	90-110	20	

Lab Batch ID: 3045441 **QC- Sample ID:** 580869-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/01/2018 **Date Prepared:** 03/31/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1030	103	1000	1060	106	3	70-135	20	
Diesel Range Organics (DRO)	<15.0	1000	1080	108	1000	1100	110	2	70-135	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: GJ Eddy Coop Unit #108

Work Order # : 580869 **Project ID:**

Lab Batch ID: 3045471 **QC- Sample ID:** 580869-049 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/02/2018 **Date Prepared:** 04/01/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	1010	101	997	1030	103	2	70-135	20	
Diesel Range Organics (DRO)	<15.0	999	1060	106	997	1070	107	1	70-135	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

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Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Job # 580869

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation
Company Address: 2057 Commerce Drive, Midland, TX 79703
Email: jlowry@trcsolutions.com, zconder@trcsolutions.com
Phone No: 432-466-4450
Project Contact: Joel Lowry
Samplers's Name: Zach Conder

Project Information

Project Name/Number: GJ West Coop Unit #108
Project Location: Eddy Co, NM
Invoice To: COG Operating C/O Becky Haskell
Invoice:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	SE-1A @ 18' ✓	18'	3/22/2018	9:00	S	1									X	X	X		
2	SE-1B @ 10' ✓	10'	3/22/2018	9:05	S	1									X	X	X		
3	SE-1B @ 20' ✓	20'	3/22/2018	9:10	S	1									X	X	X		
4	SE-1C @ 3' ✓	3'	3/22/2018	9:15	S	1										X			
5	SE-1C @ 12' ✓	12'	3/22/2018	9:20	S	1										X			
6	SE-1C @ 20' ✓	20'	3/22/2018	9:25	S	1										X			
7	SE-2A @ 18' ✓	18'	3/22/2018	9:30	S	1									X	X	X		
8	SE-2B @ 10' ✓	10'	3/22/2018	9:35	S	1									X	X	X		
9	SE-2B @ 20' ✓	20'	3/22/2018	9:40	S	1									X	X	X		
10	SE-2C @ 3' ✓	3'	3/22/2018	9:45	S	1										X			
11	SE-2C @ 6' ✓	6'	3/22/2018	9:50	S	1										X			
12	SE-2C @ 12' ✓	12'	3/22/2018	9:55	S	1										X			
13	SE-2C @ 20' ✓	20'	3/22/2018	10:00	S	1										X			
14	SE-2D @ 3' ✓	3'	3/22/2018	10:05	S	1										X			
15	SE-2D @ 9' ✓	9'	3/22/2018	10:10	S	1										X			

Temp: 2.6 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.4

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

jlowry@trcsolutions.com zconder@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com
FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		3/26 4:35pm				
2					3/28/18	KRAMER 10:14
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
						1.4

CHAIN OF CUSTODY

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www.xenco.com

Xenco Job # 580869

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation
Company Address: 2057 Commerce Drive, Midland, TX 79703
Email: jlowry@trcsolutions.com, zconder@trcsolutions.com
Phone No: 432-466-4450
Project Contact: Joel Lowry
Samplers's Name: Zach Conder

Project Information

Project Name/Number: GJ West Coop Unit #108
Project Location: Eddy Co, NM
Invoice To: COG Operating C/O Becky Haskell
Invoice:

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	SE-2D @ 12'	12'	3/22/2018	10:15	S	1										X			
2	SE-2D @ 20'	20'	3/22/2018	10:20	S	1										X			
3	SE-2E @ 3'	3'	3/22/2018	10:25	S	1										X			
4	SE-2E @ 6'	6'	3/22/2018	10:30	S	1										X			
5	NE-1A @ 18'	18'	3/22/2018	10:35	S	1									X	X	X		
6	NE-1B @ 10'	10'	3/22/2018	10:40	S	1									X	X	X		
7	NE-1B @ 20'	20'	3/22/2018	10:45	S	1									X	X	X		
8	NE-1C @ 3'	3'	3/22/2018	10:50	S	1										X			
9	NE-1C @ 12'	12'	3/22/2018	10:55	S	1										X			
10	NE-1C @ 20'	20'	3/22/2018	11:00	S	1										X			
11	N-1A @ 18'	18'	3/22/2018	11:05	S	1									X	X	X		
12	N-1B @ 10'	10'	3/22/2018	11:10	S	1									X	X	X		
13	N-1B @ 20'	20'	3/22/2018	11:15	S	1									X	X	X		
14	N-1C @ 3'	3'	3/22/2018	11:20	S	1										X			

Temp: 1.6 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.4

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dneel2@concho.com
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	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		3/26 9:38				
2					3/28/18	
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
						X / 1.4

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www.xenco.com

Xenco Job # 580869

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Phone No: 432-466-4450

Project Contact: Joel Lowry

Samplers's Name: Zach Conder

Project Information

Project Name/Number: GJ West Coop Unit #108

Project Location: Eddy Co, NM

Invoice To: COG Operating C/O Becky Haskell

Invoice:

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GW =Ground Water
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P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
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A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	NW-1A @ 18'	18'	3/23/2018	11:25	S	1									X	X	X		
2	NW-1B @ 10'	10'	3/23/2018	11:30	S	1									X	X	X		
3	NW-1B @ 20'	20'	3/23/2018	11:35	S	1									X	X	X		
4	NW-1C @ 3'	3'	3/23/2018	11:40	S	1										X			
5	NW-1C @ 6'	6'	3/23/2018	11:45	S	1										X			
6	NW-1C @ 9'	9'	3/23/2018	11:50	S	1										X			
7	NW-1C @ 20'	20'	3/23/2018	11:55	S	1										X			
8	NW-1D @ 3'	3'	3/23/2018	12:00	S	1										X			
9	NW-1D @ 6'	6'	3/23/2018	12:05	S	1										X			
10	NW-1D @ 9'	9'	3/23/2018	12:10	S	1										X			
11	NW-1D @ 20'	20'	3/23/2018	12:15	S	1										X			
12	SW-1A @ 18'	18'	3/23/2018	12:20	S	1									X	X	X		
13	SW-1B @ 10'	10'	3/23/2018	12:25	S	1									X	X	X		
14	SW-1B @ 20'	20'	3/23/2018	12:30	S	1									X	X	X		
15	SW-1C @ 3'	3'	3/23/2018	12:35	S	1										X			

Temp: 1.6 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 1.4

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1		3/26 9:30		2	3/26/18	
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. 1.4 / Thermo. Corr. Factor

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CHAIN OF CUSTODY

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www.xenco.com

Xenco Job # 580869

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation

Company Address: 2057 Commerce Drive, Midland, TX 79703

Email: jlowry@trcsolutions.com, zconder@trcsolutions.com

Phone No: 432-466-4450

Project Contact: Joel Lowry

Samplers's Name: Zach Conder

Project Information

Project Name/Number: GJ West Coop Unit #108

Project Location: Eddy Co, NM

Invoice To: COG Operating C/O Becky Haskell

Invoice:

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GW =Ground Water
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WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	SW-1C @ 12' ✓	~~12'~~ 18'	3/23/2018	12:40	S	1										X			
2	SW-1C @ 20' ✓	~~20'~~ 10'	3/23/2018	12:45	S	1										X			
3	S-1A @ 18' ✓	~~18'~~ 20'	3/23/2018	12:50	S	1									X	X	X		
4	S-1B @ 10' ✓	~~10'~~ 8'	3/23/2018	12:55	S	1									X	X	X		
5	S-1B @ 20' ✓	~~20'~~ 6'	3/23/2018	13:00	S	1									X	X	X		
6	S-1C @ 3' ✓	~~3'~~ 4'	3/23/2018	13:05	S	1										X			
7	S-1C @ 12' ✓	~~12'~~ 20'	3/23/2018	13:10	S	1										X			
8	S-1C @ 20' ✓	~~20'~~ 8'	3/23/2018	13:15	S	1										X			
9	S-2 @ 3' ✓	~~3'~~ 6'	3/23/2018	13:20	S	1										X			
10	S-2 @ 12' ✓	~~12'~~ 8'	3/23/2018	13:25	S	1										X			
11	S-2 @ 20' ✓	20'	3/23/2018	13:30	S	1										X			
12																			

Temp: 1.6 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.4

Turnaround Time (Business days)

- ☐ Same Day TAT
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- ☐ Level III Std QC+ Forms
- ☐ TRRP Level IV
- ☐ Level 3 (CLP Forms)
- ☐ UST / RG -411
- ☐ TRRP Checklist

Notes:

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rhaskell@concho.com
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dneel2@concho.com
FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		3/26 9:36AM	1	2	3/26/18	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: ☒ Cooler Temp. 1.4 Thermo. Corr. Factor

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 03/29/2018 04:14:00 PM

Work Order #: 580869

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	TPH RECEIVED IN BULK CONTAINER
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 03/29/2018

Checklist reviewed by: Jessica Kramer Date: 03/30/2018

Jessica Kramer

Analytical Report 581272

for

TRC Solutions, Inc

Project Manager: Joel Lowry

GJ West Coop Unit #108

09-APR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

09-APR-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **581272**
GJ West Coop Unit #108
Project Address: Eddy Co, NM

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 581272. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 581272 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 581272

TRC Solutions, Inc, Midland, TX

GJ West Coop Unit #108

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
RP-N @28'	W	03-29-18 09:00	28 ft	581272-001
RP-N @37'	W	03-29-18 09:05	37 ft	581272-002
RP-S @28'	W	03-29-18 09:10	28 ft	581272-003
RP-S @ 31'	W	03-29-18 09:15	31 ft	581272-004
RP-S @ 34'	W	03-29-18 09:20	34 ft	581272-005
N-A@20'	W	03-29-18 09:25	20 ft	581272-006
N-A@23'	W	03-29-18 09:30	23 ft	581272-007
N-A@26'	W	03-29-18 09:35	26 ft	581272-008
NW-A@20'	W	03-29-18 09:40	20 ft	581272-009
NW-A@23'	W	03-29-18 09:45	23 ft	581272-010
NW-A@29'	W	03-29-18 09:50	29 ft	581272-011

Client Name: TRC Solutions, Inc

Project Name: GJ West Coop Unit #108

Project ID:
Work Order Number(s): *581272*

Report Date: *09-APR-18*
Date Received: *04/04/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3045902 Inorganic Anions by EPA 300
Nitrate as N RPD was outside laboratory control limits.
Samples in the analytical batch are: 581272-004, -005, -010, -011

Certificate of Analysis Summary 581272

TRC Solutions, Inc, Midland, TX

Project Name: GJ West Coop Unit #108

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co, NM

Date Received in Lab: Wed Apr-04-18 10:48 am
Report Date: 09-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	581272-001		581272-002		581272-003		581272-004		581272-005		581272-006	
	Field Id:	RP-N @28'		RP-N @37'		RP-S @28'		RP-S @ 31'		RP-S @ 34'		N-A@20'	
	Depth:	28- ft		37- ft		28- ft		31- ft		34- ft		20- ft	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	Mar-29-18 09:00		Mar-29-18 09:05		Mar-29-18 09:10		Mar-29-18 09:15		Mar-29-18 09:20		Mar-29-18 09:25	
Chloride by EPA 300	***Extracted:***	Apr-05-18 15:00		Apr-05-18 15:00		Apr-05-18 15:00		Apr-05-18 17:00		Apr-05-18 17:00		Apr-05-18 15:00	
	Analyzed:	Apr-05-18 17:58		Apr-05-18 18:04		Apr-05-18 18:09		Apr-05-18 23:01		Apr-05-18 23:06		Apr-05-18 15:45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3440	25.0	8560	98.8	1830	25.0	1030	24.8	853	4.90	564	4.98

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 581272

TRC Solutions, Inc, Midland, TX

Project Name: GJ West Coop Unit #108

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co, NM

Date Received in Lab: Wed Apr-04-18 10:48 am
Report Date: 09-APR-18
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	581272-007		581272-008		581272-009		581272-010		581272-011	
	Field Id:	N-A@23'		N-A@26'		NW-A@20'		NW-A@23'		NW-A@29'	
	Depth:	23- ft		26- ft		20- ft		23- ft		29- ft	
	Matrix:	WATER		WATER		WATER		WATER		WATER	
	Sampled:	Mar-29-18 09:30		Mar-29-18 09:35		Mar-29-18 09:40		Mar-29-18 09:45		Mar-29-18 09:50	
Chloride by EPA 300	***Extracted:***	Apr-05-18 15:00		Apr-05-18 15:00		Apr-05-18 15:00		Apr-05-18 17:00		Apr-05-18 17:00	
	Analyzed:	Apr-05-18 16:01		Apr-05-18 16:06		Apr-05-18 16:59		Apr-05-18 23:12		Apr-05-18 23:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		486	24.9	412	4.91	179	4.97	375	5.00	265	4.97

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

BS / BSD Recoveries

Project Name: GJ West Coop Unit #108

Work Order #: 581272 **Project ID:**

Analyst: OJS **Date Prepared:** 04/05/2018 **Date Analyzed:** 04/05/2018

Lab Batch ID: 3045906 **Sample:** 7642124-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	236	94	250	232	93	2	90-110	20	

Analyst: OJS **Date Prepared:** 04/05/2018 **Date Analyzed:** 04/05/2018

Lab Batch ID: 3045902 **Sample:** 7642125-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	252	101	250	242	97	4	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: GJ West Coop Unit #108

Work Order # : 581272 **Project ID:**

Lab Batch ID: 3045902 **QC- Sample ID:** 581273-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/05/2018 **Date Prepared:** 04/05/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	145	250	393	99	250	394	100	0	90-110	20	

Lab Batch ID: 3045902 **QC- Sample ID:** 581462-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/05/2018 **Date Prepared:** 04/05/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	35.5	246	278	99	246	277	98	0	90-110	20	

Lab Batch ID: 3045906 **QC- Sample ID:** 581272-006 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 04/05/2018 **Date Prepared:** 04/05/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	564	249	800	95	249	812	100	1	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: GJ West Coop Unit #108

Work Order # : 581272 **Project ID:**

Lab Batch ID: 3045906 **QC- Sample ID:** 581272-009 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 04/05/2018 **Date Prepared:** 04/05/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	179	249	423	98	249	415	95	2	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

CHAIN OF CUSTODY

Samples had water

XENCO LABORATORIES
Setting the Standard since 1990
Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Job # 581272

Client / Reporting Information	Project Information
Company Name / Branch: TRC Environmental Corporation	Project Name/Number: GJ West Coop Unit #108
Company Address: 2057 Commerce Drive, Midland, TX 79703	Project Location: Eddy Co, NM
Email: jlowry@trcsolutions.com, zconder@trcsolutions.com — Phone No: 432-466-4450	Invoice To: COG Operating C/O Becky Haskell
Project Contact: Joel Lowry	Invoice:
Samplers's Name: Zach Conder	

Matrix Codes: W = Water; S = Soil/Sed/Solid; GW = Ground Water; DW = Drinking Water; P = Product; SW = Surface water; SL = Sludge; OW = Ocean/Sea Water; WI = Wipe; O = Oil; WW = Waste Water; A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	RP-N @ 28'	28'	3/29/2018	9:00	S	1										X			
2	RP-N @ 37'	37'	3/29/2018	9:05	S	1										X			
3	RP-S @ 28'	28'	3/29/2018	9:10	S	1										X			
4	RP-S @ 31'	31'	3/29/2018	9:15	S	1										X			
5	RP-S @ 34'	34'	3/29/2018	9:20	S	1										X			
6	N-A @ 20'	20'	3/29/2018	9:25	S	1										X			
7	N-A @ 23'	23'	3/29/2018	9:30	S	1										X			
8	N-A @ 26'	26'	3/29/2018	9:35	S	1										X			
9	NW-A @20'	20'	3/29/2018	9:40	S	1										X			
10	NW-A @23'	23'	3/29/2018	9:45	S	1										X			
11	NW-A @29'	29'	3/29/2018	9:50	S	1										X			
12																			

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

jlowry@trcsolutions.com zconder@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		4/3/18 3:36		2		4/4/18 1048
3	Relinquished by:	Date Time:	Received By:			
5	Relinquished by:	Date Time:	Received By:			

Temp: 3.6 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.4

On Ice	Cooler Temp.	Thermo. Corr. Factor
X	0.2	

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and s any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to terms will be enforced unless previously negotiated under a fully executed client contract.

able only for the cost of samples and shall not assume any responsibility for eceived by Xenco but not analyzed will be invoiced at $5 per sample. These

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 04/04/2018 10:48:00 AM

Work Order #: 581272

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**No**	"Relinquished By" signature not there. Received samples by mail
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 04/04/2018

Checklist reviewed by: Jessica Kramer Date: 04/05/2018

Analytical Report 583692

for

TRC Solutions, Inc

Project Manager: Joel Lowry

GJ West Coop Unit #108

30-APR-18

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

30-APR-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **583692**
GJ West Coop Unit #108
Project Address: Eddy Co. N.M.

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 583692. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 583692 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 583692

TRC Solutions, Inc, Midland, TX

GJ West Coop Unit #108

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-3	S	04-24-18 11:00	4 ft	583692-001

Client Name: TRC Solutions, Inc

Project Name: GJ West Coop Unit #108

Project ID:
Work Order Number(s): *583692*

Report Date: *30-APR-18*
Date Received: *04/25/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 583692

TRC Solutions, Inc, Midland, TX

Project Name: GJ West Coop Unit #108

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. N.M.

Date Received in Lab: Wed Apr-25-18 04:10 pm

Report Date: 30-APR-18

Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	583692-001					
	Field Id:	S-3					
	Depth:	4- ft					
	Matrix:	SOIL					
	Sampled:	Apr-24-18 11:00					
Chloride by EPA 300	***Extracted:***	Apr-26-18 10:00					
	Analyzed:	Apr-26-18 17:59					
	Units/RL:	mg/kg	RL				
Chloride		10000	2500				

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

BS / BSD Recoveries

Project Name: GJ West Coop Unit #108

Work Order #: 583692 **Project ID:**

Analyst: RNL **Date Prepared:** 04/26/2018 **Date Analyzed:** 04/26/2018

Lab Batch ID: 3048167 **Sample:** 7643571-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	253	101	250	253	101	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: GJ West Coop Unit #108

Work Order # : 583692 **Project ID:**

Lab Batch ID: 3048167 **QC- Sample ID:** 583697-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/26/2018 **Date Prepared:** 04/26/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	33.3	250	324	116	250	327	117	1	80-120	20	

Lab Batch ID: 3048167 **QC- Sample ID:** 583724-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/26/2018 **Date Prepared:** 04/26/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	273	109	250	273	109	0	80-120	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

583692

Xenco Job # 583692

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation
Company Address: 2057 Commerce Drive, Midland, TX 79703
Email: jlowry@trcsolutions.com, zconder@trcsolutions.com
Phone No: 432-466-4450
Project Contact: Joel Lowry
Samplers's Name: Zach Conder

Project Information

Project Name/Number: GJ West Coop Unit #108
Project Location: Eddy Co, NM
Invoice To: COG Operating C/O Becky Haskell
Invoice:

Analytical Information

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	S-3	4'	4/24/2018	11:00	S	1										X			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

ilowry@trcsolutions.com zconder@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com
FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		4/25/18 16:10		2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
			5			1.8 3.2

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 04/25/2018 04:10:00 PM

Work Order #: 583692

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-3

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 04/26/2018
Brenda Ward

Checklist reviewed by: Kelsey Brooks Date: 04/30/2018
Kelsey Brooks

Analytical Report 581273

for

TRC Solutions, Inc

Project Manager: Joel Lowry

GJ West Coop Unit #011

11-APR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

11-APR-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **581273**
GJ West Coop Unit #011
Project Address: Eddy Co, NM

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 581273. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 581273 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 581273

TRC Solutions, Inc, Midland, TX

GJ West Coop Unit #011

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
RP @3'	S	03-30-18 10:50	3 ft	581273-001
RP @9'	S	03-30-18 10:55	9 ft	581273-002
RP @18'	S	03-30-18 11:00	18 ft	581273-003
RP-2 @3'	S	03-30-18 11:05	3 ft	581273-004
RP-2 @6'	S	03-30-18 11:10	6 ft	581273-005
RP-2 @18'	S	03-30-18 11:15	18 ft	581273-006
N @3'	S	03-30-18 11:20	3 ft	581273-007
N @6'	S	03-30-18 11:25	6 ft	581273-008
N @18'	S	03-30-18 11:30	18 ft	581273-009
N-2 @3'	S	03-30-18 11:35	3 ft	581273-010
N-2 @6'	S	03-30-18 11:40	6 ft	581273-011
N-2 @18'	S	03-30-18 11:45	18 ft	581273-012
E @3'	S	03-30-18 11:50	3 ft	581273-013
E @9'	S	03-30-18 11:55	9 ft	581273-014
E @18'	S	03-30-18 12:00	18 ft	581273-015
E-2 @3'	S	03-30-18 12:05	3 ft	581273-016
E-2 @9'	S	03-30-18 12:10	9 ft	581273-017
E-2 @18'	S	03-30-18 12:15	18 ft	581273-018
W @3'	S	03-30-18 12:20	3 ft	581273-019
W @6'	S	03-30-18 12:25	6 ft	581273-020
W @18'	S	03-30-18 12:30	18 ft	581273-021
W-2 @SURFACE'	S	03-30-18 12:35	0 - 3 ft	581273-022
W-2 @2'	S	03-30-18 12:40	2 ft	581273-023
W-2 @8'	S	03-30-18 12:45	8 ft	581273-024
S@SURFACE	S	04-02-18 10:00	0 - 3 ft	581273-025
S@2'	S	04-02-18 10:05	2 ft	581273-026
S@8'	S	04-02-18 10:10	8 ft	581273-027
DT-1@3'	S	04-02-18 11:00	3 ft	581273-028
DT-1@6'	S	04-02-18 11:05	6 ft	581273-029
DT-1@18'	S	04-02-18 11:10	18 ft	581273-030
DT-2@SURFACE	S	04-02-18 11:15	0 - 3 ft	581273-031
DT-2@4'	S	04-02-18 11:20	2 ft	581273-032
DT-2@8'	S	04-02-18 11:25	8 ft	581273-033
DT-3@SURFACE	S	04-02-18 11:30	0 - 3 ft	581273-034
DT-3@4'	S	04-02-18 11:35	4 ft	581273-035
DT-3@8'	S	04-02-18 11:40	8 ft	581273-036

Client Name: TRC Solutions, Inc

Project Name: GJ West Coop Unit #011

Project ID:
Work Order Number(s): *581273*

Report Date: *11-APR-18*
Date Received: *04/04/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3046056 BTEX by EPA 8021B

Lab Sample ID 581273-031 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 581273-028, -031, -034.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3046139 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 581273

TRC Solutions, Inc, Midland, TX

Project Name: GJ West Coop Unit #011

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co, NM

Date Received in Lab: Wed Apr-04-18 10:48 am
Report Date: 11-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	581273-001		581273-002		581273-003		581273-004		581273-005		581273-006	
	Field Id:	RP @3'		RP @9'		RP @18'		RP-2 @3'		RP-2 @6'		RP-2 @18'	
	Depth:	3- ft		9- ft		18- ft		3- ft		6- ft		18- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-30-18 10:50		Mar-30-18 10:55		Mar-30-18 11:00		Mar-30-18 11:05		Mar-30-18 11:10		Mar-30-18 11:15	
BTEX by EPA 8021B	***Extracted:***	Apr-05-18 16:30						Apr-05-18 16:30					
	Analyzed:	Apr-06-18 02:46						Apr-06-18 03:05					
	Units/RL:	mg/kg	RL					mg/kg	RL				
Benzene		<0.00199	0.00199					<0.00198	0.00198				
Toluene		<0.00199	0.00199					<0.00198	0.00198				
Ethylbenzene		<0.00199	0.00199					<0.00198	0.00198				
m,p-Xylenes		<0.00398	0.00398					<0.00396	0.00396				
o-Xylene		<0.00199	0.00199					<0.00198	0.00198				
Total Xylenes		<0.00199	0.00199					<0.00198	0.00198				
Total BTEX		<0.00199	0.00199					<0.00198	0.00198				
Chloride by EPA 300	***Extracted:***	Apr-05-18 17:00		Apr-05-18 17:00		Apr-05-18 17:00		Apr-05-18 17:00		Apr-05-18 17:00		Apr-05-18 17:00	
	Analyzed:	Apr-05-18 23:33		Apr-05-18 23:38		Apr-05-18 23:43		Apr-05-18 23:49		Apr-05-18 23:54		Apr-06-18 00:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		977	4.94	1890	24.9	241	4.93	1410	49.8	145	4.99	105	4.97
TPH by SW8015 Mod	***Extracted:***	Apr-06-18 06:00				Apr-06-18 06:00		Apr-06-18 06:00				Apr-06-18 06:00	
	Analyzed:	Apr-06-18 08:20				Apr-06-18 09:37		Apr-06-18 10:04				Apr-06-18 10:30	
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL			mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0			<15.0	15.0	<15.0	15.0			<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0			<15.0	15.0	<15.0	15.0			<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0			<15.0	15.0	<15.0	15.0			<15.0	15.0
Total TPH		<15	15			<15	15	<15	15			<15	15

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 581273

TRC Solutions, Inc, Midland, TX

Project Name: GJ West Coop Unit #011

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co, NM

Date Received in Lab: Wed Apr-04-18 10:48 am
Report Date: 11-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	581273-007		581273-008		581273-009		581273-010		581273-011		581273-012	
	Field Id:	N @3'		N @6'		N @18'		N-2 @3'		N-2 @6'		N-2 @18'	
	Depth:	3- ft		6- ft		18- ft		3- ft		6- ft		18- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-30-18 11:20		Mar-30-18 11:25		Mar-30-18 11:30		Mar-30-18 11:35		Mar-30-18 11:40		Mar-30-18 11:45	
BTEX by EPA 8021B	***Extracted:***	Apr-05-18 16:30						Apr-05-18 16:30					
	Analyzed:	Apr-06-18 03:24						Apr-06-18 03:43					
	Units/RL:	mg/kg	RL					mg/kg	RL				
Benzene		<0.00201	0.00201					<0.00201	0.00201				
Toluene		<0.00201	0.00201					<0.00201	0.00201				
Ethylbenzene		<0.00201	0.00201					<0.00201	0.00201				
m,p-Xylenes		<0.00402	0.00402					<0.00402	0.00402				
o-Xylene		<0.00201	0.00201					<0.00201	0.00201				
Total Xylenes		<0.00201	0.00201					<0.00201	0.00201				
Total BTEX		<0.00201	0.00201					<0.00201	0.00201				
Chloride by EPA 300	***Extracted:***	Apr-05-18 17:00		Apr-05-18 17:00		Apr-05-18 17:00		Apr-05-18 17:00		Apr-05-18 17:00		Apr-05-18 17:00	
	Analyzed:	Apr-06-18 00:15		Apr-06-18 00:31		Apr-06-18 00:36		Apr-06-18 00:42		Apr-06-18 00:47		Apr-06-18 00:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		178	4.97	1390	24.6	1310	24.9	21.6	4.97	322	4.90	119	4.96
TPH by SW8015 Mod	***Extracted:***	Apr-06-18 06:00				Apr-06-18 06:00		Apr-06-18 06:00				Apr-06-18 06:00	
	Analyzed:	Apr-06-18 10:56				Apr-06-18 11:23		Apr-06-18 11:49				Apr-06-18 12:18	
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL			mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9			<15.0	15.0	<15.0	15.0			<15.0	15.0
Diesel Range Organics (DRO)		<14.9	14.9			<15.0	15.0	<15.0	15.0			<15.0	15.0
Oil Range Hydrocarbons (ORO)		<14.9	14.9			<15.0	15.0	<15.0	15.0			<15.0	15.0
Total TPH		<14.9	14.9			<15	15	<15	15			<15	15

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 581273

TRC Solutions, Inc, Midland, TX

Project Name: GJ West Coop Unit #011

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co, NM

Date Received in Lab: Wed Apr-04-18 10:48 am
Report Date: 11-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	581273-013		581273-014		581273-015		581273-016		581273-017		581273-018	
	Field Id:	E @3'		E @9'		E @18'		E-2 @3'		E-2 @9'		E-2 @18'	
	Depth:	3- ft		9- ft		18- ft		3- ft		9- ft		18- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-30-18 11:50		Mar-30-18 11:55		Mar-30-18 12:00		Mar-30-18 12:05		Mar-30-18 12:10		Mar-30-18 12:15	
BTEX by EPA 8021B	***Extracted:***	Apr-05-18 16:30						Apr-05-18 16:30					
	Analyzed:	Apr-06-18 04:02						Apr-06-18 04:19					
	Units/RL:	mg/kg	RL					mg/kg	RL				
Benzene		<0.00202	0.00202					<0.00198	0.00198				
Toluene		<0.00202	0.00202					<0.00198	0.00198				
Ethylbenzene		<0.00202	0.00202					<0.00198	0.00198				
m,p-Xylenes		<0.00404	0.00404					<0.00397	0.00397				
o-Xylene		<0.00202	0.00202					<0.00198	0.00198				
Total Xylenes		<0.00202	0.00202					<0.00198	0.00198				
Total BTEX		<0.00202	0.00202					<0.00198	0.00198				
Chloride by EPA 300	***Extracted:***	Apr-05-18 17:00		Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55	
	Analyzed:	Apr-06-18 00:57		Apr-06-18 10:27		Apr-06-18 10:43		Apr-06-18 10:48		Apr-06-18 10:53		Apr-06-18 10:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		214	4.99	84.1	4.93	36.0	4.95	82.7	5.00	54.6	4.99	23.8	4.96
TPH by SW8015 Mod	***Extracted:***	Apr-06-18 06:00				Apr-06-18 06:00		Apr-06-18 06:00				Apr-06-18 06:00	
	Analyzed:	Apr-06-18 12:48				Apr-06-18 13:17		Apr-06-18 14:41				Apr-06-18 15:08	
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL			mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0			<14.9	14.9	<15.0	15.0			<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0			<14.9	14.9	<15.0	15.0			<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0			<14.9	14.9	<15.0	15.0			<15.0	15.0
Total TPH		<15	15			<14.9	14.9	<15	15			<15	15

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 581273

TRC Solutions, Inc, Midland, TX

Project Name: GJ West Coop Unit #011

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co, NM

Date Received in Lab: Wed Apr-04-18 10:48 am
Report Date: 11-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	581273-019		581273-020		581273-021		581273-022		581273-023		581273-024	
	Field Id:	W @3'		W @6'		W @18'		W-2 @SURFACE'		W-2 @2'		W-2 @8'	
	Depth:	3- ft		6- ft		18- ft		0-3 ft		2- ft		8- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-30-18 12:20		Mar-30-18 12:25		Mar-30-18 12:30		Mar-30-18 12:35		Mar-30-18 12:40		Mar-30-18 12:45	
BTEX by EPA 8021B	***Extracted:***	Apr-05-18 16:30						Apr-05-18 16:30					
	Analyzed:	Apr-06-18 04:38						Apr-06-18 04:58					
	Units/RL:	mg/kg	RL					mg/kg	RL				
Benzene		<0.00200	0.00200					<0.00202	0.00202				
Toluene		<0.00200	0.00200					<0.00202	0.00202				
Ethylbenzene		<0.00200	0.00200					<0.00202	0.00202				
m,p-Xylenes		<0.00399	0.00399					<0.00403	0.00403				
o-Xylene		<0.00200	0.00200					<0.00202	0.00202				
Total Xylenes		<0.002	0.002					<0.00202	0.00202				
Total BTEX		<0.002	0.002					<0.00202	0.00202				
Chloride by EPA 300	***Extracted:***	Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55	
	Analyzed:	Apr-06-18 14:33		Apr-06-18 14:38		Apr-06-18 14:43		Apr-06-18 14:48		Apr-06-18 14:54		Apr-06-18 14:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		78.7	4.99	245	4.95	73.4	4.92	253	4.99	9.55	4.97	<4.95	4.95
TPH by SW8015 Mod	***Extracted:***	Apr-06-18 06:00				Apr-06-18 06:00		Apr-06-18 06:00				Apr-06-18 06:00	
	Analyzed:	Apr-06-18 15:35				Apr-06-18 16:01		Apr-06-18 16:27				Apr-06-18 16:52	
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL			mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0			<15.0	15.0	<15.0	15.0			<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0			<15.0	15.0	<15.0	15.0			<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0			<15.0	15.0	<15.0	15.0			<15.0	15.0
Total TPH		<15	15			<15	15	<15	15			<15	15

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 581273

TRC Solutions, Inc, Midland, TX

Project Name: GJ West Coop Unit #011

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co, NM

Date Received in Lab: Wed Apr-04-18 10:48 am
Report Date: 11-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	581273-025		581273-026		581273-027		581273-028		581273-029		581273-030	
	Field Id:	S@SURFACE		S@2'		S@8'		DT-1@3'		DT-1@6'		DT-1@18'	
	Depth:	0-3 ft		2- ft		8- ft		3- ft		6- ft		18- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-02-18 10:00		Apr-02-18 10:05		Apr-02-18 10:10		Apr-02-18 11:00		Apr-02-18 11:05		Apr-02-18 11:10	
BTEX by EPA 8021B	***Extracted:***	Apr-05-18 16:30						Apr-06-18 09:30					
	Analyzed:	Apr-06-18 05:17						Apr-06-18 11:39					
	Units/RL:	mg/kg	RL					mg/kg	RL				
Benzene		<0.00201	0.00201					<0.00200	0.00200				
Toluene		<0.00201	0.00201					<0.00200	0.00200				
Ethylbenzene		<0.00201	0.00201					<0.00200	0.00200				
m,p-Xylenes		<0.00402	0.00402					<0.00399	0.00399				
o-Xylene		<0.00201	0.00201					<0.00200	0.00200				
Total Xylenes		<0.00201	0.00201					<0.002	0.002				
Total BTEX		<0.00201	0.00201					<0.002	0.002				
Chloride by EPA 300	***Extracted:***	Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55	
	Analyzed:	Apr-06-18 15:15		Apr-06-18 15:20		Apr-06-18 15:44		Apr-06-18 15:49		Apr-06-18 15:54		Apr-06-18 16:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1840	25.0	34.4	4.95	11.8	5.00	2900	25.0	101	4.90	124	4.90
TPH by SW8015 Mod	***Extracted:***	Apr-06-18 06:00				Apr-06-18 06:00		Apr-06-18 06:00				Apr-05-18 12:00	
	Analyzed:	Apr-06-18 17:18				Apr-06-18 17:46		Apr-06-18 18:11				Apr-05-18 17:18	
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL			mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0			<14.9	14.9	<15.0	15.0			<14.9	14.9
Diesel Range Organics (DRO)		36.3	15.0			<14.9	14.9	<15.0	15.0			<14.9	14.9
Oil Range Hydrocarbons (ORO)		<15.0	15.0			<14.9	14.9	<15.0	15.0			<14.9	14.9
Total TPH		36.3	15			<14.9	14.9	<15	15			<14.9	14.9

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 581273

TRC Solutions, Inc, Midland, TX

Project Name: GJ West Coop Unit #011

Project Id:
Contact: Joel Lowry
Project Location: Eddy Co, NM

Date Received in Lab: Wed Apr-04-18 10:48 am
Report Date: 11-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	581273-031		581273-032		581273-033		581273-034		581273-035		581273-036	
	Field Id:	DT-2@SURFACE		DT-2@4'		DT-2@8'		DT-3@SURFACE		DT-3@4'		DT-3@8'	
	Depth:	0-3 ft		2- ft		8- ft		0-3 ft		4- ft		8- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-02-18 11:15		Apr-02-18 11:20		Apr-02-18 11:25		Apr-02-18 11:30		Apr-02-18 11:35		Apr-02-18 11:40	
BTEX by EPA 8021B	***Extracted:***	Apr-06-18 09:30						Apr-06-18 09:30					
	Analyzed:	Apr-06-18 11:20						Apr-06-18 14:13					
	Units/RL:	mg/kg	RL					mg/kg	RL				
Benzene		<0.00200	0.00200					<0.00198	0.00198				
Toluene		<0.00200	0.00200					<0.00198	0.00198				
Ethylbenzene		<0.00200	0.00200					<0.00198	0.00198				
m,p-Xylenes		<0.00401	0.00401					<0.00397	0.00397				
o-Xylene		<0.00200	0.00200					<0.00198	0.00198				
Total Xylenes		<0.002	0.002					<0.00198	0.00198				
Total BTEX		<0.002	0.002					<0.00198	0.00198				
Chloride by EPA 300	***Extracted:***	Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 08:55		Apr-06-18 09:30		Apr-06-18 09:30		Apr-06-18 09:30	
	Analyzed:	Apr-06-18 16:05		Apr-06-18 16:10		Apr-06-18 16:16		Apr-06-18 12:44		Apr-06-18 11:41		Apr-06-18 12:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		53100	245	16.4	4.98	19.4	4.97	15600	250	7.10	4.94	7.30	4.97
TPH by SW8015 Mod	***Extracted:***	Apr-05-18 12:00				Apr-05-18 12:00		Apr-05-18 12:00				Apr-05-18 12:00	
	Analyzed:	Apr-05-18 17:39				Apr-05-18 18:02		Apr-06-18 05:26				Apr-06-18 05:46	
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL			mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0			<14.9	14.9	<15.0	15.0			<15.0	15.0
Diesel Range Organics (DRO)		26.1	15.0			<14.9	14.9	46.2	15.0			<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0			<14.9	14.9	19.9	15.0			<15.0	15.0
Total TPH		26.1	15			<14.9	14.9	66.1	15			<15	15

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3045830 **Sample:** 581273-030 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/05/18 17:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.7	99.6	97	70-135	
o-Terphenyl	50.0	49.8	100	70-135	

Lab Batch #: 3045830 **Sample:** 581273-031 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/05/18 17:39

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.0	99.7	98	70-135	
o-Terphenyl	50.1	49.9	100	70-135	

Lab Batch #: 3045830 **Sample:** 581273-033 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/05/18 18:02

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.6	99.6	96	70-135	
o-Terphenyl	50.0	49.8	100	70-135	

Lab Batch #: 3046139 **Sample:** 581273-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 02:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	70-130	
4-Bromofluorobenzene	0.0246	0.0300	82	70-130	

Lab Batch #: 3046139 **Sample:** 581273-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 03:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	70-130	
4-Bromofluorobenzene	0.0292	0.0300	97	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3046139 **Sample:** 581273-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 03:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	70-130	
4-Bromofluorobenzene	0.0297	0.0300	99	70-130	

Lab Batch #: 3046139 **Sample:** 581273-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 03:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	70-130	
4-Bromofluorobenzene	0.0296	0.0300	99	70-130	

Lab Batch #: 3046139 **Sample:** 581273-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 04:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	70-130	
4-Bromofluorobenzene	0.0277	0.0300	92	70-130	

Lab Batch #: 3046139 **Sample:** 581273-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 04:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	70-130	
4-Bromofluorobenzene	0.0304	0.0300	101	70-130	

Lab Batch #: 3046139 **Sample:** 581273-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 04:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	70-130	
4-Bromofluorobenzene	0.0292	0.0300	97	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3046139 **Sample:** 581273-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 04:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	70-130	
4-Bromofluorobenzene	0.0289	0.0300	96	70-130	

Lab Batch #: 3046139 **Sample:** 581273-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 05:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	70-130	
4-Bromofluorobenzene	0.0283	0.0300	94	70-130	

Lab Batch #: 3045830 **Sample:** 581273-034 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 05:26

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	99.8	100	70-135	
o-Terphenyl	51.4	49.9	103	70-135	

Lab Batch #: 3045830 **Sample:** 581273-036 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 05:46

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.5	99.7	98	70-135	
o-Terphenyl	50.8	49.9	102	70-135	

Lab Batch #: 3046079 **Sample:** 581273-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 08:20

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.6	99.9	100	70-135	
o-Terphenyl	51.0	50.0	102	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3046079 **Sample:** 581273-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 09:37

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.1	99.7	95	70-135	
o-Terphenyl	48.5	49.9	97	70-135	

Lab Batch #: 3046079 **Sample:** 581273-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 10:04

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.7	99.8	98	70-135	
o-Terphenyl	48.3	49.9	97	70-135	

Lab Batch #: 3046079 **Sample:** 581273-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 10:30

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.3	99.8	99	70-135	
o-Terphenyl	50.2	49.9	101	70-135	

Lab Batch #: 3046079 **Sample:** 581273-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 10:56

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.6	99.6	99	70-135	
o-Terphenyl	48.3	49.8	97	70-135	

Lab Batch #: 3046056 **Sample:** 581273-031 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 11:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3046079 **Sample:** 581273-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 11:23

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.1	99.7	97	70-135	
o-Terphenyl	49.1	49.9	98	70-135	

Lab Batch #: 3046056 **Sample:** 581273-028 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 11:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	70-130	
4-Bromofluorobenzene	0.0284	0.0300	95	70-130	

Lab Batch #: 3046079 **Sample:** 581273-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 11:49

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.3	99.9	96	70-135	
o-Terphenyl	47.0	50.0	94	70-135	

Lab Batch #: 3046079 **Sample:** 581273-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 12:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.7	99.7	98	70-135	
o-Terphenyl	47.7	49.9	96	70-135	

Lab Batch #: 3046079 **Sample:** 581273-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 12:48

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.1	99.7	93	70-135	
o-Terphenyl	45.5	49.9	91	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3046079 **Sample:** 581273-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 13:17

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.0	99.6	93	70-135	
o-Terphenyl	47.5	49.8	95	70-135	

Lab Batch #: 3046056 **Sample:** 581273-034 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 14:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	70-130	
4-Bromofluorobenzene	0.0312	0.0300	104	70-130	

Lab Batch #: 3046079 **Sample:** 581273-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 14:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.8	99.9	94	70-135	
o-Terphenyl	45.3	50.0	91	70-135	

Lab Batch #: 3046079 **Sample:** 581273-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 15:08

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.3	100	93	70-135	
o-Terphenyl	46.0	50.0	92	70-135	

Lab Batch #: 3046079 **Sample:** 581273-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 15:35

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.8	99.8	95	70-135	
o-Terphenyl	47.3	49.9	95	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3046079 **Sample:** 581273-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 16:01

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.9	99.8	98	70-135	
o-Terphenyl	48.7	49.9	98	70-135	

Lab Batch #: 3046079 **Sample:** 581273-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 16:27

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.7	102	70-135	
o-Terphenyl	51.6	49.9	103	70-135	

Lab Batch #: 3046079 **Sample:** 581273-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 16:52

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.2	100	97	70-135	
o-Terphenyl	49.6	50.0	99	70-135	

Lab Batch #: 3046079 **Sample:** 581273-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 17:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.1	99.9	98	70-135	
o-Terphenyl	49.0	50.0	98	70-135	

Lab Batch #: 3046079 **Sample:** 581273-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 17:46

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.4	99.6	95	70-135	
o-Terphenyl	46.9	49.8	94	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3046079 **Sample:** 581273-028 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 18:11

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.1	99.8	97	70-135	
o-Terphenyl	48.3	49.9	97	70-135	

Lab Batch #: 3045830 **Sample:** 7642101-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/05/18 13:09

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.7	100	93	70-135	
o-Terphenyl	43.3	50.0	87	70-135	

Lab Batch #: 3046139 **Sample:** 7642137-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/05/18 22:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	70-130	
4-Bromofluorobenzene	0.0252	0.0300	84	70-130	

Lab Batch #: 3046079 **Sample:** 7642256-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/06/18 07:04

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	52.0	50.0	104	70-135	

Lab Batch #: 3046056 **Sample:** 7642251-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/06/18 11:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0274	0.0300	91	70-130	
4-Bromofluorobenzene	0.0268	0.0300	89	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3045830 **Sample:** 7642101-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/05/18 13:31

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.1	100	97	70-135	
o-Terphenyl	48.5	50.0	97	70-135	

Lab Batch #: 3046139 **Sample:** 7642137-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/05/18 20:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	70-130	
4-Bromofluorobenzene	0.0257	0.0300	86	70-130	

Lab Batch #: 3046079 **Sample:** 7642256-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/06/18 07:29

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	54.2	50.0	108	70-135	

Lab Batch #: 3046056 **Sample:** 7642251-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/06/18 09:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0287	0.0300	96	70-130	

Lab Batch #: 3045830 **Sample:** 7642101-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/05/18 13:52

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	100	99	70-135	
o-Terphenyl	49.3	50.0	99	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3046139 **Sample:** 7642137-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/05/18 20:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	70-130	
4-Bromofluorobenzene	0.0254	0.0300	85	70-130	

Lab Batch #: 3046079 **Sample:** 7642256-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/06/18 07:54

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	60.5	50.0	121	70-135	

Lab Batch #: 3046056 **Sample:** 7642251-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/06/18 09:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	70-130	
4-Bromofluorobenzene	0.0295	0.0300	98	70-130	

Lab Batch #: 3045830 **Sample:** 581096-005 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/05/18 15:36

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.8	109	70-135	
o-Terphenyl	53.5	49.9	107	70-135	

Lab Batch #: 3046139 **Sample:** 581096-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/05/18 20:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0324	0.0300	108	70-130	
4-Bromofluorobenzene	0.0287	0.0300	96	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3046079 **Sample:** 581273-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 08:46

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.8	109	70-135	
o-Terphenyl	52.7	49.9	106	70-135	

Lab Batch #: 3046056 **Sample:** 581273-031 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 09:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	70-130	
4-Bromofluorobenzene	0.0312	0.0300	104	70-130	

Lab Batch #: 3045830 **Sample:** 581096-005 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/05/18 15:57

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	47.7	50.0	95	70-135	

Lab Batch #: 3046139 **Sample:** 581096-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/05/18 21:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	70-130	
4-Bromofluorobenzene	0.0271	0.0300	90	70-130	

Lab Batch #: 3046079 **Sample:** 581273-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 09:11

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.9	110	70-135	
o-Terphenyl	53.4	50.0	107	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: GJ West Coop Unit #011

Work Orders : 581273,

Project ID:

Lab Batch #: 3046056 **Sample:** 581273-031 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/06/18 10:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	70-130	
4-Bromofluorobenzene	0.0318	0.0300	106	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: GJ West Coop Unit #011

Work Order #: 581273 **Project ID:**

Analyst: ALJ **Date Prepared:** 04/05/2018 **Date Analyzed:** 04/05/2018

Lab Batch ID: 3046139 **Sample:** 7642137-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00201	0.100	0.122	122	0.0998	0.115	115	6	70-130	35	
Toluene	<0.00201	0.100	0.116	116	0.0998	0.109	109	6	70-130	35	
Ethylbenzene	<0.00201	0.100	0.111	111	0.0998	0.104	104	7	70-130	35	
m,p-Xylenes	<0.00402	0.201	0.229	114	0.200	0.213	107	7	70-130	35	
o-Xylene	<0.00201	0.100	0.115	115	0.0998	0.107	107	7	70-130	35	

Analyst: ALJ **Date Prepared:** 04/06/2018 **Date Analyzed:** 04/06/2018

Lab Batch ID: 3046056 **Sample:** 7642251-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.120	120	0.100	0.122	122	2	70-130	35	
Toluene	<0.00200	0.0998	0.114	114	0.100	0.116	116	2	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.112	112	0.100	0.112	112	0	70-130	35	
m,p-Xylenes	<0.00399	0.200	0.230	115	0.201	0.230	114	0	70-130	35	
o-Xylene	<0.00200	0.0998	0.114	114	0.100	0.115	115	1	70-130	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: GJ West Coop Unit #011

Work Order #: 581273 **Project ID:**

Analyst: OJS **Date Prepared:** 04/05/2018 **Date Analyzed:** 04/05/2018

Lab Batch ID: 3045902 **Sample:** 7642125-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	252	101	250	242	97	4	90-110	20	

Analyst: SCM **Date Prepared:** 04/06/2018 **Date Analyzed:** 04/06/2018

Lab Batch ID: 3045932 **Sample:** 7642190-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	275	110	250	273	109	1	90-110	20	

Analyst: OJS **Date Prepared:** 04/06/2018 **Date Analyzed:** 04/06/2018

Lab Batch ID: 3046059 **Sample:** 7642201-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	273	109	250	272	109	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: GJ West Coop Unit #011

Work Order #: 581273 **Project ID:**

Analyst: ARM **Date Prepared:** 04/05/2018 **Date Analyzed:** 04/05/2018

Lab Batch ID: 3045830 **Sample:** 7642101-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	859	86	1000	897	90	4	70-135	20	
Diesel Range Organics (DRO)	<15.0	1000	910	91	1000	951	95	4	70-135	20	

Analyst: ARM **Date Prepared:** 04/06/2018 **Date Analyzed:** 04/06/2018

Lab Batch ID: 3046079 **Sample:** 7642256-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	995	100	1000	1110	111	11	70-135	20	
Diesel Range Organics (DRO)	<15.0	1000	1030	103	1000	1170	117	13	70-135	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: GJ West Coop Unit #011

Work Order # : 581273 **Project ID:**

Lab Batch ID: 3046056 **QC- Sample ID:** 581273-031 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/06/2018 **Date Prepared:** 04/06/2018 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.0485	49	0.100	0.0373	37	26	70-130	35	X
Toluene	<0.00200	0.0998	0.0431	43	0.100	0.0325	33	28	70-130	35	X
Ethylbenzene	<0.00200	0.0998	0.0392	39	0.100	0.0306	31	25	70-130	35	X
m,p-Xylenes	<0.00399	0.200	0.0808	40	0.200	0.0577	29	33	70-130	35	X
o-Xylene	<0.00200	0.0998	0.0434	43	0.100	0.0356	36	20	70-130	35	X

Lab Batch ID: 3046139 **QC- Sample ID:** 581096-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/05/2018 **Date Prepared:** 04/05/2018 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.0822	82	0.0996	0.0869	87	6	70-130	35	
Toluene	<0.00200	0.100	0.0609	61	0.0996	0.0705	71	15	70-130	35	X
Ethylbenzene	<0.00200	0.100	0.0434	43	0.0996	0.0553	56	24	70-130	35	X
m,p-Xylenes	<0.00401	0.200	0.0869	43	0.199	0.111	56	24	70-130	35	X
o-Xylene	<0.00200	0.100	0.0449	45	0.0996	0.0578	58	25	70-130	35	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: GJ West Coop Unit #011

Work Order # : 581273 **Project ID:**

Lab Batch ID: 3045902 **QC- Sample ID:** 581273-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/05/2018 **Date Prepared:** 04/05/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	145	250	393	99	250	394	100	0	90-110	20	

Lab Batch ID: 3045902 **QC- Sample ID:** 581462-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/05/2018 **Date Prepared:** 04/05/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	35.5	246	278	99	246	277	98	0	90-110	20	

Lab Batch ID: 3045932 **QC- Sample ID:** 581273-035 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/06/2018 **Date Prepared:** 04/06/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	7.10	247	252	99	247	253	100	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: GJ West Coop Unit #011

Work Order # : 581273 **Project ID:**

Lab Batch ID: 3045932 **QC- Sample ID:** 581425-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/06/2018 **Date Prepared:** 04/06/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	730	248	953	90	248	969	96	2	90-110	20	

Lab Batch ID: 3046059 **QC- Sample ID:** 581273-014 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/06/2018 **Date Prepared:** 04/06/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	84.1	247	337	102	247	332	100	1	90-110	20	

Lab Batch ID: 3046059 **QC- Sample ID:** 581273-024 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/06/2018 **Date Prepared:** 04/06/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<4.95	248	251	101	248	252	102	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: GJ West Coop Unit #011

Work Order # : 581273 **Project ID:**

Lab Batch ID: 3045830 **QC- Sample ID:** 581096-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/05/2018 **Date Prepared:** 04/05/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	91.9	998	1020	93	1000	990	90	3	70-135	20	
Diesel Range Organics (DRO)	743	998	1860	112	1000	1880	114	1	70-135	20	

Lab Batch ID: 3046079 **QC- Sample ID:** 581273-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/06/2018 **Date Prepared:** 04/06/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	983	98	999	1010	101	3	70-135	20	
Diesel Range Organics (DRO)	<15.0	998	1040	104	999	1070	107	3	70-135	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

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Dallas Texas (214-902-0300) Midland, Texas (432-704-5251)
www.xenco.com

Xenco Job # 581273

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation
Company Address: 2057 Commerce Drive, Midland, TX 79703
Email: jlowry@trcsolutions.com, zconder@trcsolutions.com
Phone No: 432-466-4450
Project Contact: Joel Lowry
Samplers's Name: Zach Conder

Project Information

Project Name/Number: GJ West Coop Unit #011
Project Location: Eddy Co, NM
Invoice To: COG Operating C/O Becky Haskell
Invoice:

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	RP @ 3'	3'	3/30/2018	10:50	S	1									X	X	X		
2	RP @ 9'	9'	3/30/2018	10:55	S	1										X			
3	RP @ 18'	18'	3/30/2018	11:00	S	1									X	X			
4	RP-2 @ 3'	3'	3/30/2018	11:05	S	1									X	X	X		
5	RP-2 @ 6'	6'	3/30/2018	11:10	S	1										X			
6	RP-2 @ 18'	18'	3/30/2018	11:15	S	1									X	X			
7	N @ 3'	3'	3/30/2018	11:20	S	1									X	X	X		
8	N @ 6'	6'	3/30/2018	11:25	S	1										X			
9	N @ 18'	18'	3/30/2018	11:30	S	1									X	X			
10	N-2 @ 3'	3'	3/30/2018	11:35	S	1									X	X	X		
11	N-2 @ 6'	6'	3/30/2018	11:40	S	1										X			
12	N-2 @ 18'	18'	3/30/2018	11:45	S	1									X	X			

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

jlowry@trcsolutions.com zconder@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com
FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler: 1	Date Time: 4/3/18 3:36	Received By: 1	Relinquished By: 2	Date Time:	Received By: 2 4/4/18 1048
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By:
Relinquished by: 5	Date Time:	Received By: 5	Custo		

Temp: 3.6 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.4

Ice	Cooler Temp.	Thermo. Corr. Factor
Y	0.2	

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project terms will be enforced unless previously negotiated under a fully executed client contract.

the cost of samples and shall not assume any responsibility for Xenco but not analyzed will be invoiced at $5 per sample. These

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www.xenco.com

Xenco Job # 581273

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation
Company Address: 2057 Commerce Drive, Midland, TX 79703
Email: jlowry@trcsolutions.com; zconder@trcsolutions.com
Phone No: 432-466-4450
Project Contact: Joel Lowry
Samplers's Name: Zach Conder

Project Information

Project Name/Number: GJ West Coop Unit #011
Project Location: Eddy Co, NM
Invoice To: COG Operating C/O Becky Haskell
Invoice:

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold					Field Comments
1	E @ 3'	3'	3/30/2018	11:50	S	1									X	X	X						
2	E @ 9'	9'	3/30/2018	11:55	S	1										X							
3	E @ 18'	18'	3/30/2018	12:00	S	1									X	X							
4	E-2 @ 3'	3'	3/30/2018	12:05	S	1									X	X	X						
5	E-2 @ 9'	9'	3/30/2018	12:10	S	1										X							
6	E-2 @ 18'	18'	3/30/2018	12:15	S	1									X	X							
7	W @ 3'	3'	3/30/2018	12:20	S	1									X	X	X						
8	W @ 6'	6'	3/30/2018	12:25	S	1										X							
9	W @ 18'	18'	3/30/2018	12:30	S	1									X	X							
10	W-2 @ Surface	0-3"	3/30/2018	12:35	S	1									X	X	X						
11	W-2 @ 2'	2'	3/30/2018	12:40	S	1										X							
12	W-2 @ 8'	8'	3/30/2018	12:45	S	1									X	X							

Turnaround Time (Business days)

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- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
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jlowry@trcsolutions.com zconder@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com
FED-EX / UPS: Tracking #

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	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		4/3/18 3:36	1	2		2 4/4/18 1040
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By: 5			

Temp: 3.6 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.4

On Ice	Cooler Temp.	Thermo. Corr. Factor
X	0.2	

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Page 3 Of 3

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Analytical Information

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1	S @ Surface	0-3"	4/2/2018	10:00	S	1									X	X	X		
2	S @ 2'	2'	4/2/2018	10:05	S	1										X			
3	S @ 8'	8'	4/2/2018	10:10	S	1									X	X			
4	DT-1 @ 3'	3'	4/2/2018	11:00	S	1									X	X	X		
5	DT-1 @ 6'	6'	4/2/2018	11:05	S	1										X			
6	DT-1 @ 18'	18'	4/2/2018	11:10	S	1									X	X			
7	DT-2 @ Surface	0-3"	4/2/2018	11:15	S	1									X	X	X		
8	DT-2 @ 2'	2'	4/2/2018	11:20	S	1										X			
9	DT-2 @ 8'	8'	4/2/2018	11:25	S	1									X	X			
10	DT-3 @ Surface	0-3"	4/2/2018	11:30	S	1									X	X	X		
11	DT-3 @ 4'	4'	4/2/2018	11:35	S	1										X			
12	DT-3 @ 8'	8'	4/2/2018	11:40	S	1									X	X			

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Notes:

jlowry@trcsolutions.com, zconder@trcsolutions.com, rhaskell@concho.com, kblackburn@trcsolutions.com, dneel2@concho.com

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		4/4/18 3:36	Raul Sanchez	2		Rachel Lee 4/4/18 10:48
3	Relinquished by:	Date Time:	Received By:	Relinquished By: 4	Date Time:	
5	Relinquished by:	Date Time:	Received By:	Custody Sea		

Temp: 3.6 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 3.4

Cooler Temp. 0-2 | Thermo. Corr. Factor

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of samples and shall not assume any responsibility for not analyzed will be invoiced at $5 per sample. These

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 04/04/2018 10:48:00 AM

Work Order #: 581273

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**No**	"Relinquished By" Signature was not there. Received by mail.
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	TPH received in bulk container
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 04/04/2018

Checklist reviewed by: Jessica Kramer Date: 04/05/2018

Jessica Kramer

Photographic Log

Client: COG Operating, LLC
Project Name: GJ West #108 & #011

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Photograph No. 1 **Description:** **View of surface staining from the initial release at the GJ West Coop Unit #011.** **Direction:** **Northwest**	
Photograph No. 2 **Description:** **View of surface staining from the initial release at the GJ West Coop Unit #011.** **Direction:** **Southeast**	

Photographic Log

Client: COG Operating, LLC
Project Name: GJ West #108 & #011

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Photograph No. 3 **Description:** **View of delineation activities at the GJ West Coop Unit #011.** **Direction:** **Southwest**	
Photograph No. 4 **Description:** **View of delineation activities at the GJ West Coop Unit #011.** **Direction:** **Southwest**	

Photographic Log

Client: COG Operating, LLC
Project Name: GJ West #108 & #011

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Photograph No. 5 **Description:** **View of surface staining from the initial release at the GJ West Coop Unit #108.** **Direction:** **East**	
Photograph No. 6 **Description:** **View of initial response activities at the GJ West Coop Unit #108.** **Direction:** **Southwest**	

Photographic Log

Client: COG Operating, LLC
Project Name: GJ West #108 & #011

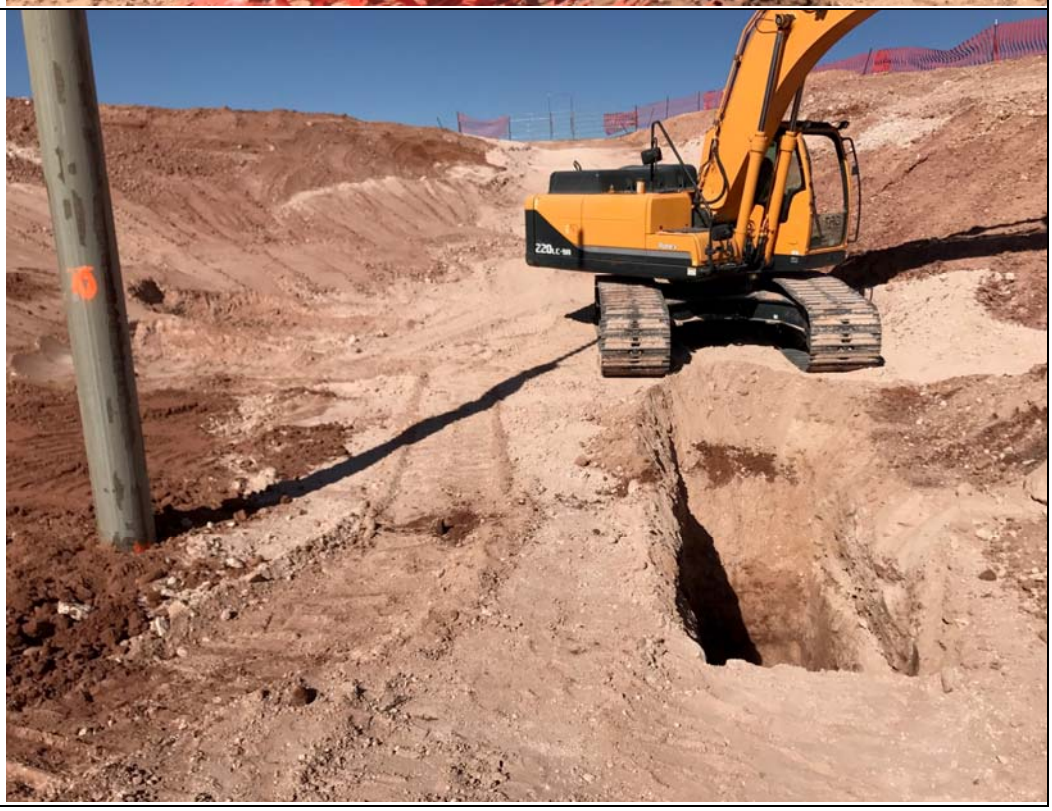
Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Photograph No. 7 **Description:** **View of delineation activities at the GJ West Coop Unit #108.** **Direction:** **North**	
Photograph No. 8 **Description:** **View of delineation activities at the GJ West Coop Unit #108.** **Direction:** **Southwest**	

Photographic Log

Client: COG Operating, LLC
Project Name: GJ West #108 & #011

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Photograph No. 9 **Description:** **View of delineation activities at the GJ West Coop Unit #108.** **Direction:** **Southwest**	
Photograph No. 10 **Description:** **View of delineation activities at the GJ West Coop Unit #108.** **Direction:** **West**	

NM OIL CONSERVATION
ARTESIA DISTRICT

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

AUG 17 2017

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1723329504

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC OGRID # 229137		Contact:	Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701		Telephone No.	432-683-7443
Facility Name: G J West Coop Unit #108		Facility Type:	Well

Surface Owner: State	Mineral Owner: State	API No. 30-015-20192

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	28	17S	29E	1980	North	660	West	Eddy

Latitude 32.8073502 **Longitude** -104.0862198

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 3,075 bbl.	Volume Recovered: 3,055 bbl.
Source of Release: Plugged Well	Date and Hour of Occurrence: August 7, 2017 12:00 pm	Date and Hour of Discovery: August 7, 2017 12:00 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Weaver – NMOCD / Ms. Groves – SLO	
By Whom? Rebecca Haskell	Date and Hour: August 9, 2017 8:42 am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release was from a well that was previously plugged in 2015. The release was discovered by air patrol and immediate actions were taken to regain control of the well. The well will be re-plugged. The release is currently under control, if additional fluids are lost subsequent to the filling of this Initial C-141 a revised C-141 will be submitted with updated volumes.

Describe Area Affected and Cleanup Action Taken.*

The release was on location. A liner was installed to capture produced water and limit impact to soil. Vacuum trucks were dispatched to remove all freestanding fluids. Approximately 1,008 cubic yards of impacted soil was excavated and taken to a NMOCD approved disposal facility. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Rebecca Haskell	OIL CONSERVATION DIVISION
Printed Name: Rebecca Haskell	Approved by Environmental Specialist:
Title: Senior HSE Coordinator	Approval Date: 8/18/17 Expiration Date: N/A
E-mail Address: rhaskell@concho.com	Conditions of Approval: see attached - Attached ☒ 2RP-4351
Date: August 17, 2017 Phone: 432-683-7443	

* Attach Additional Sheets If Necessary

Please refer to the New Mexico Oil Conservation Division Website for updated form(s) at: http://www.emnrd.state.nm.us/OCD/forms.html Thank you

Add'l AP

NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 23 2017
RECEIVED

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1729754125

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating, LLC OGRID #229137	Contact: Robert McNeil
Address: 600 West Illinois Avenue, Midland, TX 79701	Telephone No. 432-683-7443
Facility Name: G J West Coop Unit #011	Facility Type: Injection Well

Surface Owner: State	Mineral Owner: State	API No. 30-015-10827

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	28	17S	29E	1980	North	330	West	Eddy

Latitude 32.8073502 Longitude -104.0872955 NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: Unknown TBD	Volume Recovered: 8,740 bbls as of 6:00 am October 23, 2017
Source of Release: Injection Well	Date and Hour of Occurrence: October 15, 2017 10:20 am	Date and Hour of Discovery: October 15, 2017 10:20 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Weaver – NMOCD / Ms. Groves - SLO	
By Whom? Rebecca Haskell	Date and Hour: October 15, 2017 12:50 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release is from an injection well. Produced water is coming up to the surface. Immediate actions were taken to regain control of the well and are still ongoing. The well will be plugged. A berm was constructed around the well to capture the produced water and is being recovered and disposed of. The Initial C-141 will be revised with a corrected volume once the release is stopped.

Describe Area Affected and Cleanup Action Taken.*

The release is on location. A berm was constructed to capture the produced water and limit impact to soil. Vacuum trucks were dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Rebecca Haskell	OIL CONSERVATION DIVISION
Printed Name: Rebecca Haskell	Approved by Environmental Specialist:
Title: Senior HSE Coordinator	Approval Date: 10/24/17 Expiration Date: N/A
E-mail Address: rhaskell@concho.com	Conditions of Approval: see attached Attached ☒ 2RP-4154
Date: October 23, 2017 Phone: 432-683-7443	

* Attach Additional Sheets If Necessary

10/24/17 AB