

Hall, Brittany, EMNRD

From: Rebecca Haskell <RHaskell@concho.com>
Sent: Friday, January 11, 2019 2:16 PM
To: Cooper, Brian; Stoffel, Jared
Subject: FW: (Resubmittal) 2RP-4739 - Apple 5 State SWD #001 4/29/18 - Remediation Summary, Proposed Closure Strategy & Variance Request

Follow Up Flag: Follow up
Flag Status: Flagged

Becky Haskell
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From: Billings, Bradford, EMNRD [mailto:Bradford.Billings@state.nm.us]
Sent: Friday, January 11, 2019 3:13 PM
To: Rebecca Haskell <RHaskell@concho.com>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; DeAnn Grant <agrant@concho.com>; Dakota Neel <DNeel2@concho.com>; Sheldon Hitchcock <SLHitchcock@concho.com>; Ike Tavarez <itavarez@concho.com>
Subject: [External] RE: (Resubmittal) 2RP-4739 - Apple 5 State SWD #001 4/29/18 - Remediation Summary, Proposed Closure Strategy & Variance Request

**** External email. Use caution. ****

Rebecca Haskell
Concho/COG
1/11/2019

As per your request for site work and variance thereof, the following:

Remediation plan hopefully leading to closure (11/9/2018) is approved as written with following stipulation,

In the area of T-1 needs to be excavated to a depth of six feet as opposed to the four feet requested. It is allowed to replace the 4-6 foot interval with non-impacted materials to allow for safe placement of the liner at four feet.

The variance relative to remaining/left in place chloride contamination and process to minimize risk and being equally protective is agreed to for this location and effort.

Please inform District staff of schedule as indicated in Rule 29 for field work. Please insure that sidewalls and bottom data are well documented, again as per new rule 29, in closure report. All speed would be appreciated as the depth to water is of particular concern at this location.

Thank you for your time and efforts.

Sincerely,

Bradford Billings
EMNRD/OCD
Santa Fe

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Rebecca Haskell <RHaskell@concho.com>
Sent: Tuesday, January 8, 2019 8:51 AM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; DeAnn Grant <agrants@concho.com>; Dakota Neel <DNeel2@concho.com>; Sheldon Hitchcock <SLHitchcock@concho.com>; Ike Tavarez <itavarez@concho.com>; Rebecca Haskell <RHaskell@concho.com>
Subject: [EXT] (Resubmittal) 2RP-4739 - Apple 5 State SWD #001 4/29/18 - Remediation Summary, Proposed Closure Strategy & Variance Request

Mr. Billings,

Please find the attached Work Plan for the COG Apple 5 State SWD #001 (2RP-4739) Release which occurred on 4/29/18. The work plan was originally submitted to the NMOCDD District 2 Office on November 9, 2018. COG is requesting that you review this work plan.

Thank You,

Becky Haskell
Senior HSE Coordinator
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From: Conder, Zachary [<mailto:ZConder@trcsolutions.com>]

Sent: Friday, November 09, 2018 1:52 PM

To: maria.pruett@state.nm.us

Cc: mike.bratcher@state.nm.us; Rebecca Haskell <RHaskell@concho.com>; Ike Tavarez <itavarez@concho.com>

Subject: [External] 2RP-4739 - Apple 5 State SWD #001 - Remediation Summary, Proposed Closure Strategy & Variance Request

Ms. Pruett and Mr. Bratcher,

Please find attached the *Remediation Summary, Proposed Closure Strategy & Variance Request* that has been prepared for the COG Operating, LLC Release Site known as the Apple 5 State SWD #001. The site is located in UL "N", Section 32, Township 25 South, Range 28 East, in Eddy County, New Mexico. If you have any questions or need any additional information, please feel free to contact Becky Haskell, Ike Tavarez, or myself.

Respectfully,

Zachary Conder
Operations Manager



2771 State Highway 214, Denver City, TX 79323
| C: 432 234 5084

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November 9, 2018

Mike Bratcher & Maria Pruet
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District II
811 South First St.
Artesia, NM 88210

Re: Remediation Summary, Proposed Closure Strategy & Variance Request
Apple 5 State SWD #001 (2RP-4739)
GPS: N 32.079207° W 104.111194°
Unit Letter "N", Section 32, Township 25 South, Range 28 East
Eddy County, New Mexico

Dear Mr. Bratcher,

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG) has prepared this *Remediation Summary, Proposed Closure Strategy & Variance Request* (Closure Strategy) for the Apple 5 State SWD #001 (Release Site). The purpose of this Closure Strategy is to propose remediation activities designed to advance the Release Site toward a New Mexico Oil Conservation Division (NMOCD) approved Site Closure Status. The legal description of the Release Site is Unit Letter "N", Section 32, Township 25 South, Range 28 East, in Eddy County, New Mexico. The GPS coordinates for the site are N 32.079207° W 104.111194°. The subject property is located on private land. Figure 1- Site Location Map and Figure 2- Site & Sample Location Map are provided as Attachment #1 and Attachment #2, respectively.

On April 29, 2018, a release was discovered on the Apple 5 State SWD #001 trunk line. The initial Release Notification and Corrective Action (Form C-141) indicated failure of a valve resulted in the release of approximately twelve thousand, eight hundred ninety-seven (12,897) barrels (bbls) of produced water. During initial response activities, the affected valve was replaced and vacuum trucks were utilized to recover approximately four thousand, six hundred thirty-three (4,633) bbls of produced water. The release affected an area within the pasture measuring approximately fourteen thousand, three hundred (14,300) square feet (sq. ft.) before flowing into a dry dirt tank. The total surface area affected measured approximately thirty-seven thousand (37,000) sq. ft. Upon discovering the release, a COG representative notified NMOCD and a Release Notification and Corrective Action (Form C-141) was submitted to the NMOCD on May 3, 2018. The Form C-141 is provided as Attachment #9.

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 32, Township 25 South, Range 28 East. A reference map utilized by the NMOCD Artesia District Office indicates groundwater should be encountered at approximately twenty-five (25) feet below ground surface (bgs). A one thousand (1,000) meter radius search of the groundwater database maintained by the NMOSE indicated depth to groundwater information was not available for the closest well (C 02478) which is inferred to have been located approximately two hundred forty-five (245) meters southwest of the site. The well was drilled in 1916 and could not be located during the initial site assessment. A three thousand (3,000) meter radius search of the groundwater database indicated the average depth to groundwater as measured in the two wells with available information is sixty (60) feet bgs with a minimum well depth of thirty (30) feet bgs. Based upon the reference map utilized by the NMOCD, information available on the groundwater databased maintained by the NMOSE and the topography of the area, the depth to groundwater is estimated to be approximately thirty (30) to thirty-five (35) ft. bgs. Based on the NMOCD site classification system, twenty (20) points will be assigned to the subject area ranking as a result of this criterion. Results of the NMOSE database search are provided as Attachment #7.

A one thousand (1,000) meter radius search of the groundwater database maintained by the NMOSE indicated one (1) well (C 02478) was drilled in 1916 approximately two hundred forty-five (245) meters southwest of the release site. Depth to groundwater information is not available for the well and the well could not be located during the initial site assessment. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

The release affected a dirt tank, which was dry at the time of the release, but has held water in the past. Based on the NMOCD site classification system, twenty (20) 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) for a Site with a ranking score of greater than nineteen (>19) points are 10 mg/kg for benzene, 50 mg/kg for benzene, toluene, ethylbenzene and xylenes (BTEX), and one hundred (100) milligrams per kilogram (mg/kg) for total petroleum hydrocarbons (TPH).

Field Activities

Upon discovering the release, an immediate response was initiated. Vacuum trucks were utilized to recover free-standing liquids. Upon removing free-standing liquids, remediation activities commenced at the release site. Heavily saturated soil was excavated and stockpiled on-site, atop an impacted area in the eastern portion of the release site pending transportation to an NMOCD-approved disposal facility.

On May 4, 2018, TRC conducted an initial investigation at the release site. During the initial investigation a series of test trenches (T-1, T-3 and T-4) were advanced within the affected area in an effort to determine the vertical extent of soil impacts. Test trench T-1 was advanced in the southeastern portion of the release site proximate to the release point. During the advancement of the test trench, seven (7) soil samples (T-1 @ 2', T-1 @ 4', T-1 @ 6', T-1 @ 8', T-1 @ 10', T-1 @ 12' and T-1 @ 14') were collected and submitted to Xenco Laboratories in Midland, Texas for determination of chloride concentrations using Method E300. Laboratory analytical results indicated chloride concentrations ranged from 12,900 mg/kg in soil sample T-1 @ 2' to 405 mg/kg in soil sample T-1 @ 12'. Soil sample T-1 @ 2' was also analyzed for concentrations of BTEX using Method SW 846-8021B and TPH using Method SW 846-8015M, and results were determined to be less than

the applicable laboratory sample detection limit (SDL). A table summarizing concentrations of Benzene, BTEX, TPH and Chloride, in Soil, in vertical delineation soil samples is provided as Attachment #4. A table summarizing Concentrations of Benzene, BTEX, TPH and Chloride in Soil in horizontal delineation soil samples is provided as Attachment #5. Laboratory analytical reports are provided as Attachment #6.

Test trench T-3 was advanced in the central portion of the affected dry dirt tank. During the advancement of the test trench, two (2) soil samples (T-3 @ 4' and T-3 @ 6') were collected and submitted to the laboratory for analysis of chloride, BTEX and TPH. Laboratory analytical results indicated soil samples T-3 @ 4' and T-3 @ 6' exhibited chloride concentrations of 300 mg/kg and 52.9 mg/kg, respectively. BTEX and TPH concentrations were less than the applicable laboratory SDL in each of the submitted soil samples.

Test trench T-4 was advanced in the northern portion of the affected dry dirt tank. During the advancement of the test trench, two (2) soil samples (T-4 @ 4' and T-4 @ 6') were collected and submitted to the laboratory for analysis of chloride, BTEX and TPH concentrations. Laboratory analytical results indicated soil samples T-4 @ 4' and T-4 @ 6' exhibited chloride concentrations of 375 mg/kg and 39.0 mg/kg, respectively. BTEX and TPH concentrations were less than the applicable laboratory SDL in each of the submitted soil samples.

On May 10, 2018, TRC advanced one (1) test trench (T-2) at the site in an effort to further characterize affected soil at the site. Test trench T-2 was advanced in the southern portion of the affected dry dirt tank. During the advancement of the test trench, four (4) soil samples (T-2 @ 4', T-2 @ 6', T-2 @ 8' and T-2 @ 10') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 3,210 mg/kg in soil sample T-2 @ 4' to 33.1 mg/kg in soil sample T-2 @ 10'. Soil samples T-2 @ 4' and T-2 @ 10' were also analyzed for concentrations of BTEX and TPH, which were determined to be less than the applicable laboratory SDL.

In addition, TRC collected fourteen (14) excavation confirmation soil samples (T-1 NSW, T-1 NEW, T-2 WW1, T-2 SSW, T-2 SWW, T-3 WW1, T-3 WW2, T-4 EW1, T-4 EW2, T-4 WW2, T-4 NWW, T-4 NEW, T-5 NSW and T-5 SSW) from the sidewalls of the excavated area. The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the NMOCD RRAL in each of the submitted soil samples with the exception of soil sample T-1 NSW, which exhibited a concentration of 832 mg/kg.

On May 16, 2018, TRC collected five (5) excavation confirmation soil samples (T-1 SSW1, T-1 SSW2, T-1 SSW3, T-1 SSW4 and T-5 SSW) from the sidewalls of the excavated area. The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the NMOCD RRAL in each of the submitted soil samples.

May 31, 2018, TRC advanced five (5) test trenches (T-5 through T-9) at the site in an effort to further characterize affected soil at the site. Test trench T-5 was advanced in the southwest portion of the affected dry dirt tank. During the advancement of the test trench, four (4) soil samples (T-5 @ 5', T-5 @ 7', T-5 @ 9' and T-5 @ 11') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 6,310 mg/kg in soil sample T-5 @ 5' to 177 mg/kg in soil sample T-5 @ 11'.

Test trench T-6 was advanced in the southern portion of the release site on the east side of the affected dry dirt tank. During the advancement of the test trench, three (3) soil samples (T-6 @ 6', T-6 @ 8' and T-6 @ 10') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory

analytical results indicated chloride concentrations ranged from 3,240 mg/kg in soil sample T-6 @ 6' to 35.2 mg/kg in soil sample T-6 @ 10'.

Test trench T-7 was advanced in the southern portion of the release site on the southeast side of the affected dry dirt tank. During the advancement of the test trench, three (3) soil samples (T-7 @ 6', T-7 @ 8' and T-7 @ 10') 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 T-7 @ 6' to 121 mg/kg in soil sample T-7 @ 10'.

Test trench T-8 was advanced outside the dry dirt tank in the southeast portion of the release site. During the advancement of the test trench, four (4) soil samples (T-8 @ 6', T-8 @ 8', T-8 @ 10' and T-8 @ 12') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,100 mg/kg in soil sample T-8 @ 8' to 216 mg/kg in soil sample T-8 @ 6'.

Test trench T-9 was advanced outside the dry dirt tank in the southeast portion of the release site near the release point. During the advancement of the test trench, four (4) soil samples (T-9 @ 6', T-9 @ 8', T-9 @ 10' and T-9 @ 12') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 745 mg/kg in soil sample T-9 @ 8' to 506 mg/kg in soil sample T-9 @ 10'.

In addition, thirteen (13) excavation confirmation soil samples (G1 through G-13) were collected from the floor of the excavated dry dirt pond. The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 4,230 mg/kg in soil sample G-1 to less than the laboratory SDL in soil sample G-8. Chloride concentrations were below the NMODC RRAL in each of the submitted soil samples with the exception of soil sample G-1 (4,230 mg/kg), G-2 (3,590 mg/kg), G-3 (3,600 mg/kg), G-5 (1,900 mg/kg), G-7 (2,960 mg/kg) and G-11 (3,420 mg/kg).

On June 7, 2018, TRC advanced nine (9) test trenches (T-12, T-14 through T-18, G-2, G-7 and G-11) at the site in an effort to further characterize affected soil at the site. Test trench T-12 was advanced outside the dry dirt tank in the western portion of the release site. During the advancement of the test trench, three (3) soil samples (T-12 @ 4', T-12 @ 10' and T-12 @ 12') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 4,390 mg/kg in soil sample T-12 @ 4' to 39.5 mg/kg in soil sample T-12 @ 12'.

Test trench T-14 was advanced outside the dry dirt tank in the northeastern portion of the release site. During the advancement of the test trench, three (3) soil samples (T-14 @ 4', T-14 @ 8' and T-14 @ 10') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,630 mg/kg in soil sample T-14 @ 4' to 59.1 mg/kg in soil sample T-14 @ 10'.

Test trench T-15 was advanced outside the dry dirt tank in the northeastern portion of the release site. During the advancement of the test trench, three (3) soil samples (T-15 @ 6', T-15 @ 8' and T-15 @ 10') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 4,790 mg/kg in soil sample T-15 @ 6' to 319 mg/kg in soil sample T-15 @ 10'.

Test trench T-16 was advanced outside the dry dirt tank in the northwestern portion of the release site. During the advancement of the test trench, two (2) soil samples (T-16 @ 2' and T-16 @ 6') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated soil samples T-16 @ 2' and T-16 @ 6' exhibited chloride concentrations of 8,980 mg/kg and 37.4 mg/kg, respectively.

Test trench T-17 was advanced outside the dry dirt tank in the northwestern portion of the release site. During the advancement of the test trench, two (2) soil samples (T-17 @ 4' and T-17 @ 6') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated soil samples T-17 @ 4' and T-17 @ 6' exhibited chloride concentrations of 1,820 mg/kg and 135 mg/kg, respectively.

Test trench T-18 was advanced outside the dry dirt tank in the southeastern portion of the release site. During the advancement of the test trench, three (3) soil samples (T-18 @ 2', T-18 @ 6' and T-18 @ 8') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 10,000 mg/kg in soil sample T-18 @ 2' to 111 mg/kg in soil sample T-18 @ 8'.

In addition, four (4) excavation confirmation soil sample (T-3 ESW1, T-3 ESW2, T-3 ESW2b and T-14 SWSW) were collected from the excavation sidewall and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 3,750 mg/kg in soil sample T-3 ESW2 to 177 mg/kg in soil sample T-3 ESW1. Chloride concentrations were above the NMODC RRAL in each of the submitted soil samples with the exception of soil sample T-3 ESW1.

Test trench G-2 was advanced in the area characterized by soil sample G-2. During the advancement of the test trench, one (1) soil sample (G-2 @ 6') was collected and submitted to the laboratory for analysis of chloride concentrations, which were determined to be 305 mg/kg.

Test trench G-7 was advanced in the area characterized by soil sample G-7. During the advancement of the test trench, one (1) soil sample (G-7 @ 6') was collected and submitted to the laboratory for analysis of chloride concentrations, which were determined to be 33.1 mg/kg.

Test trench G-11 was advanced in the area characterized by soil sample G-2. During the advancement of the test trench, one (1) soil sample (G-11 @ 6') was collected and submitted to the laboratory for analysis of chloride concentrations, which were determined to be 23.1 mg/kg.

On June 13, 2018, COG and NMOCD representatives met to discuss remediation activities at the Site. During the meeting, the results of laboratory analysis from soil samples collected to date and site conditions were discussed, along with proposed remediation strategies.

June 19, 2018, TRC advanced six (6) test trenches (T-8b, T-9b, T-10, G-1b, G-3b and G-5b) at the site in an effort to further characterize affected soil at the site. Test trench T-8b was advanced in the area characterized by test trench T-8. During the advancement of the test trench, one (1) soil sample (T-8b @ 16') was collected and submitted to the laboratory for analysis of chloride concentrations, which were determined to be 676 mg/kg.

Test trench T-9b was advanced in the area characterized by test trench T-9. During the advancement of the test trench, one (1) soil sample (T-9b @ 16') was collected and submitted to the laboratory for analysis of chloride concentrations, which were determined to be 1,360 mg/kg.

Test trench T-10 was advanced outside the dry dirt tank in the southern portion of the release site. During the advancement of the test trench, four (4) soil samples (T-10 @ 2', T-10 @ 6', T-10 @ 10' and T-10 @ 12') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 8,410 mg/kg in soil sample T-10 @ 6' to 378 mg/kg in soil sample T-10 @ 12'.

Test trench G-1b was advanced in the area characterized by soil sample G-1. During the advancement of the test trench, two (2) soil samples (G-1b @ 5' and G-1b @ 6') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated soil samples G-1b @ 5' and G-1b @ 6' exhibited chloride concentrations of 134 mg/kg and 50.6 mg/kg, respectively.

Test trench G-3b was advanced in the area characterized by soil sample G-3. During the advancement of the test trench, one (1) soil sample (G-3b @ 7') was collected and submitted to the laboratory for analysis of chloride concentrations, which were determined to be less than the laboratory SDL.

Test trench G-5b was advanced in the area characterized by soil sample G-5. During the advancement of the test trench, two (2) soil samples (G-5b @ 5' and G-5b @ 6') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated soil samples G-1b @ 5' and G-1b @ 6' exhibited chloride concentrations of 26.4 mg/kg and less than the laboratory SDL, respectively.

In addition, three (3) excavation confirmation soil samples (T-1 NSWb, T-1 NWW1 and T-1 NWW 2) were collected from the sidewalls of the excavated area. The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the NMODC RRAL in each of the submitted soil samples.

June 20, 2018, TRC advanced three (3) test trenches (T-11, T-13 and T-19) at the site in an effort to further characterize affected soil at the site.

Test trench T-11 was advanced outside the dry dirt tank in the southern portion of the release site. During the advancement of the test trench, four (4) soil samples (T-11 @ 2', T-11 @ 6', T-11 @ 10' and T-11 @ 12') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 3,840 mg/kg in soil sample T-11 @ 6' to 40.8 mg/kg in soil sample T-11 @ 12'.

Test trench T-13 was advanced on the west side of the dry dirt tank in the central portion of the release site. During the advancement of the test trench, three (3) soil samples (T-13 @ 4', T-13 @ 8' and T-13 @ 10') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 5,330 mg/kg in soil sample T-13 @ 4' to 37.0 mg/kg in soil sample T-13 @ 10'.

Test trench T-19 was advanced outside the dry dirt tank in the northeastern portion of the release site. During the advancement of the test trench, three (3) soil samples (T-19 @ 4', T-19 @ 10' and T-19 @ 12') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 3,530 mg/kg in soil sample T-19 @ 4' to 34.3 mg/kg in soil sample T-19 @ 12'.

In addition, eighteen (18) excavation confirmation soil samples (T-1 ESW, T-4 NEWb, T-4 NWWb, T-4 WW1, T-5 WSW, T-12 SSW, T-12 WSW, T-12 ESW, T-14 ESW, T-15 WSW, T-15 ESW, T-16 ESW1, T-

16 ESW2, T-16 WSW1, T-16 WSW2, T-16 NWW, T-16 NSW and T-17 NSW) were collected from the sidewalls of the excavated area. The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the NMODC RRAL in each of the submitted soil samples, with the exception of soil sample T-1 ESW which exhibited a chloride concentration of 727 mg/kg and soil sample T-4 NWWb, which exhibited a chloride concentration of 682 mg/kg.

On October 4, 2018, TRC revisited the release site in an effort to further investigate an anomalous analytical result from a soil sample collected in the area represented by test trenches T-9 and T-9B. During the site visit, a Geoprobe[®] was utilized to collect two (2) discrete soil samples (SB-9B @ 16' and SB-9B @ 18') from the area characterized by test trenches T-8 and T-8B. The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated soil samples SB-9B @ 16' and SB-9B @ 18' exhibited chloride concentrations of 481 mg/kg and 430 mg/kg, respectively. Laboratory analytical results from soil samples collected utilizing the Geoprobe[®] suggests the detected chloride concentration in soil sample T-9B @ 16' is not representative of conditions at the Site.

Between May 9 and June 18, 2018, approximately sixteen thousand, two hundred eight (16,280) cubic yards of impacted soil was transported to R360 Environmental Solutions, LLC, Red Bluff Facility. A "Photographic Log" is provided at Attachment #8.

PROPOSED CLOSURE STRATEGY AND VARIANCE REQUEST

The release occurred on April 29, 2018. Due to the size of the release and sensitive nature of the release site, excavation and remediation activities commenced immediately upon discovery. Remediation and delineation activities were conducted in accordance with the industry standards at the time of the release. On June 13, 2018, COG and NMOCD representatives met to discuss remediation activities at the Site. During the meeting, the results of laboratory analysis from soil samples collected to date and site conditions were discussed, along a *Proposed Closure Strategy* designed to advance the site toward an NMOCD-approved closure. Upon determining a *Proposed Closure Strategy*, remediation and delineation activities continued in accordance with the objectives set forth during the NMOCD meeting.

Based on field observations, site conditions, laboratory analytical results and the NMOCD meeting, COG proposes the following field activities designed to advance the Apple 5 State SWD #001 release site toward an NMOCD-approved closure:

- In accordance with the NMOCD meeting, impacted soil in the areas characterized by test trenches T-2, T-16 and T-17 will be excavated to a minimum depth of four (4) ft. bgs. Impacted soil in the area characterized by test trenches T-5, T-6 and T-14 will be excavated to a minimum depth of six (6) ft. bgs. Impacted soil in the area characterized by test trenches T-7 and T-15 will be excavated to a minimum depth of eight (8) ft. bgs. Chloride concentrations remaining in-situ for the above mentioned excavation depths are in accordance with the June 13, 2018 meeting with NMOCD. A "Proposed Excavation & Liner Installation Map" is provided as Attachment #3.
- Impacted soil in the areas characterized by test trenches T-3, T-4, T-10, T-11, T-12, T-13 and T-19 will be excavated until laboratory analytical results from confirmation soil samples collected from the floor of the excavated area indicate concentrations of chloride are below 1,000 mg/kg.
- Impacted soil in the areas characterized by test trenches G-1, G-2, G-3, G-5, G-7 and G-11 will be excavated until laboratory analytical results from confirmation soil samples collected from the floor of the excavated area indicate concentrations of chloride are below 1,000 mg/kg.

- Impacted soil in the southeastern portion of the release site, in the areas characterized by test trenches T-1, T-8, T-8b T-9, T-9b and T-18 will be excavated to a depth of approximately four (4) ft. bgs. During the course of remediation activities, a delineation trench will be advanced vertically in the area characterized by test trench T-9b until laboratory analytical results from confirmation soil samples indicate chloride concentrations are below 600 mg/kg.
- COG proposes to install an engineering control (40-mil polyurethane liner) within the affected area on the north side of the produced water transfer line in the southeast portion of the remediation site. Upon excavating impacted soil in the areas characterized by test trenches T-1, T-8, T-9 and T-18, a 40-mil polyurethane liner will be installed on the floor of the excavated area. This engineering control is designed to inhibit the vertical migration of contaminants left in-situ. The edges of the liner will be “key set” to a depth of approximately ten (10) ft. bgs in an effort to inhibit potential contact between percolating rainwater and impacted soil affected above the NMOCD RRAL beneath the polyurethane liner. The base of the excavation beneath the liner will be mounded in the center in an effort to shed percolating rainwater to the liner’s edges.
- The liner will be cushioned by an approximate six (6) inch layer of pad sand above and below the liner in an effort to maintain its integrity during backfilling activities.
- Excavation sidewalls will be advanced horizontally until chloride field test results indicate chloride concentrations are below 600 mg/kg. Excavation confirmation soil samples will be collected from the sidewalls of the excavated area at approximate fifty (50) ft. intervals, where horizontal delineation is not adequately defined with existing data.
- As per the NMOCD, laboratory analysis of excavation confirmation soil samples collected from the floor of the excavated areas at depths greater than six (6) ft. will not be required.
- Impacted soil excavated from the release site will be transported to an NMOCD-approved disposal facility.
- Upon receiving laboratory analytical results from excavation confirmation soil samples and NMOCD permission, the excavated areas outside the dry dirt tank will be backfilled with locally-sourced, non-impacted “like” material.
- The excavated areas within the affected dry dirt tank will be backfilled to approximately four (4) ft. bgs. Upon backfilling the excavated areas within the affected dry dirt tank, an approximate six (6) in. layer of suitable clay material will be installed in the floor and up the sloped sidewalls of the excavated area characterized as the former dry dirt pond.
- Upon backfilling the excavated areas and restoring the affected pond, water diversions and erosion controls will be installed, as necessary. The affected area outside the dry dirt tank will be reseeded in accordance with the landowner.

VARIANCE JUSTIFICATION

COG maintains excavating portions of the release site to depths up to and beyond eighteen (18) ft. bgs adjacent to the produced water transfer line, or in other areas where soil stability may be an issue, and the disposal of the associated soil poses a risk to human health that exceeds the benefits of the excavation and disposal of impacted soil affected above the NMOCD Closure Criteria. This assertion is based primarily on the inherent dangers of continued and/or substantial excavation adjacent to oil and gas infrastructure, or in areas where soil stability may be an issue, and the risks associated with transporting the associated soil on public highways to a disposal facility. The assertion is further substantiated by the understanding that additional remediation activities, beyond that which has been proposed, will result in increasing the duration of exposure among environmental field personnel and/or exposure of additional environmental field personnel. Based on the aforementioned; the Site’s distance from populated areas and/or drinking water

supplies; a proposed cover consisting of a minimum of four (4) ft. of non-impacted soil and/or a 40-mil polyurethane liner, further reducing the potential for future exposure; and the relative unlikelihood of future exposure resulting in diminished public health, COG maintains the proposed variance will provide equal or better protection of public health.

Laboratory analytical results indicate BTEX and TPH concentrations were less than the NMOCD Closure Criteria in each of the analyzed soil samples. Analytical results indicate affected soil exhibiting chloride concentrations above the NMOCD Closure Criteria has been delineated to less than 600 mg/kg in each of the vertical sample locations, with the exception of test trench T-8B, which exhibited a chloride concentration of 676 mg/kg at eighteen (18) ft. bgs. Analytical results indicate the maximum chloride concentration COG proposes to leave in-situ is 8,010 mg/kg (T-1 @ 4'). COG proposed to install a 40-mil polyurethane liner on the floor of the excavation at four (4) ft. bgs in the areas represented by test trenches T-1, T-8, T-8b, T-9, T-9b and T-18. This engineering control is designed to inhibit the vertical migration of contaminants left in-situ. Based on the aforementioned, and given 19.15.29 NMAC allows for impacted soil exhibiting chloride concentrations ranging from 600 mg/kg to 20,000 mg/kg to remain in-situ at depths of greater than four (4) ft. bgs, where the distance between impacted soil and groundwater is not defined, COG maintains the proposed variance will provide equal or better protection of fresh water and the environment.

COG is prepared to begin the activities outlined in this *Remediation Summary, Proposed Closure Strategy & Variance Request* upon receiving NMOCD approval. Upon completion of remediation activities, a Remediation Summary and Risk-Based Closure Report will be prepared detailing field activities and laboratory analytical results from confirmation soil samples.

If you have any questions, or need any additional information, please feel free to contact myself or Rebecca Haskell by phone or email.

Respectfully,



Joel Lowry
Project Manager
TRC Environmental Corporation



Cynthia K. Crain, PG
Senior Project Manager
TRC Environmental Corporation

Attachments:

- #1 Figure 1 - Site Location Map
- #2 Figure 2 – Site & Sample Location Map
- #3 Figure 3 – Proposed Excavation & Liner Installation Map
- #4 Table 1 - Concentrations of Benzene, BTEX, TPH and Chloride in Soil (Vertical)
- #5 Table 2 - Concentrations of Benzene, BTEX, TPH and Chloride in Soil (Horizontal)
- #6 Laboratory Analytical Results
- #7 NMOSE Database Search
- #8 Photographic Log
- #9 Release Notification and Corrective Action (Form C-141)

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

File

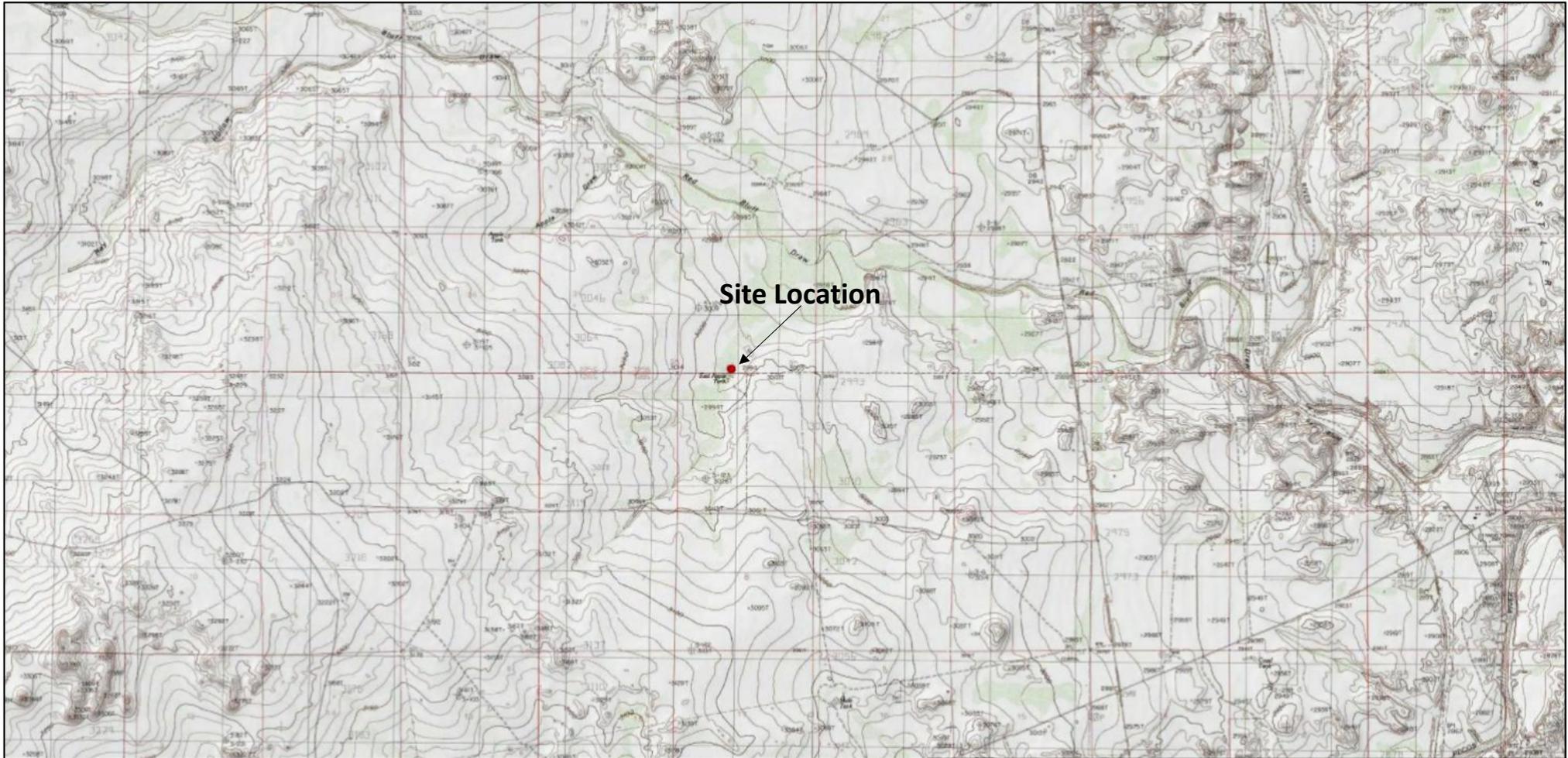


Figure 1

Site Location Map
COG Operating, LLC
APPLE 5 STATE SWD #001
Eddy County, New Mexico

Scale 1" = ~1 Mile

Drafted by: BC | Checked by: JL

Draft: August 1, 2018

Lat. N 32.079207 Long. W 104.111194

UL "N", Sec. 32, T25S, R28E

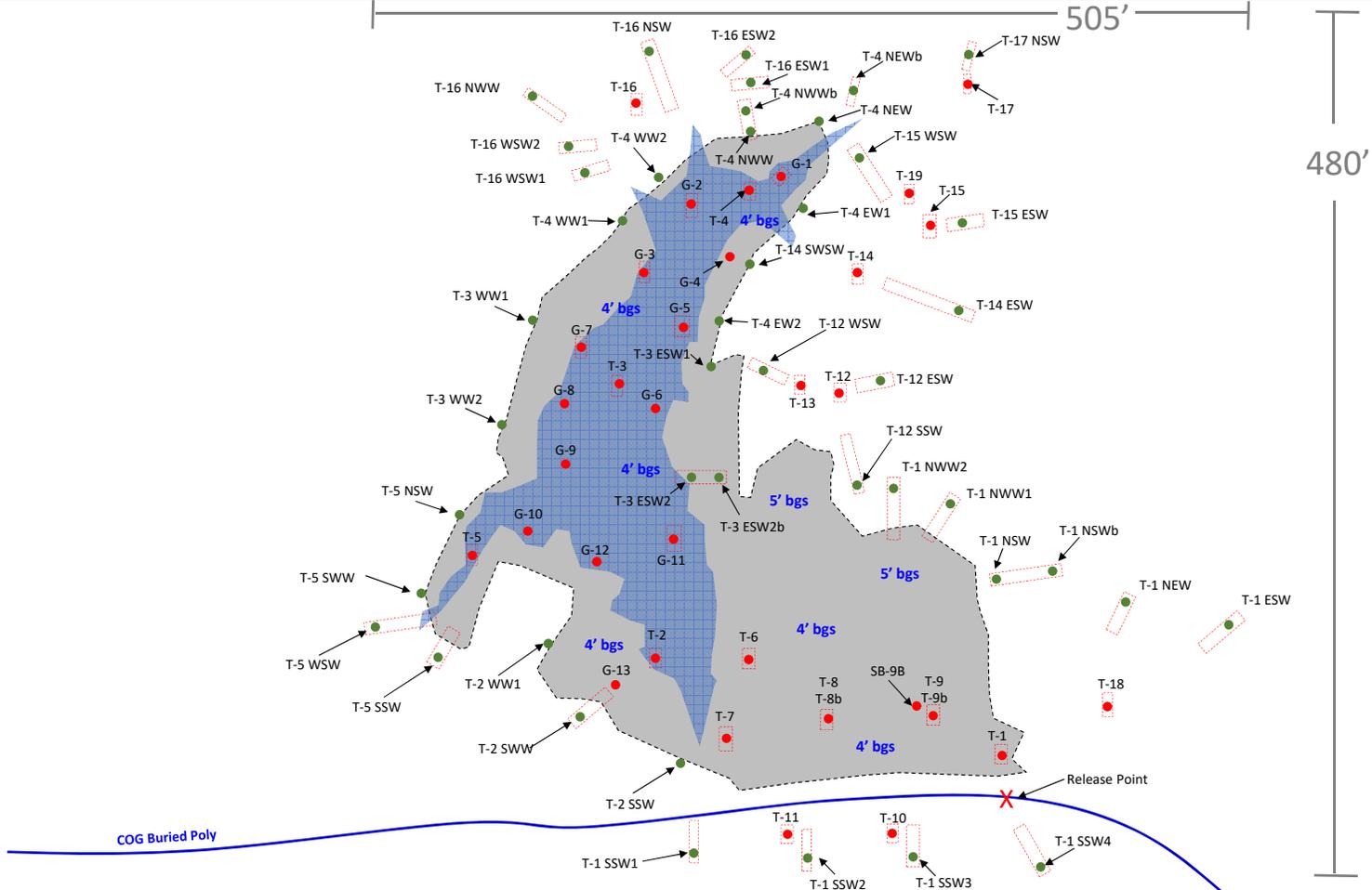
TRC Proj. No.: 304702



10 Desta Drive Suite 150E
Midland, TX 79705

432.520.7720 PHONE
432.520.7701 FAX

www.trcsolutions.com



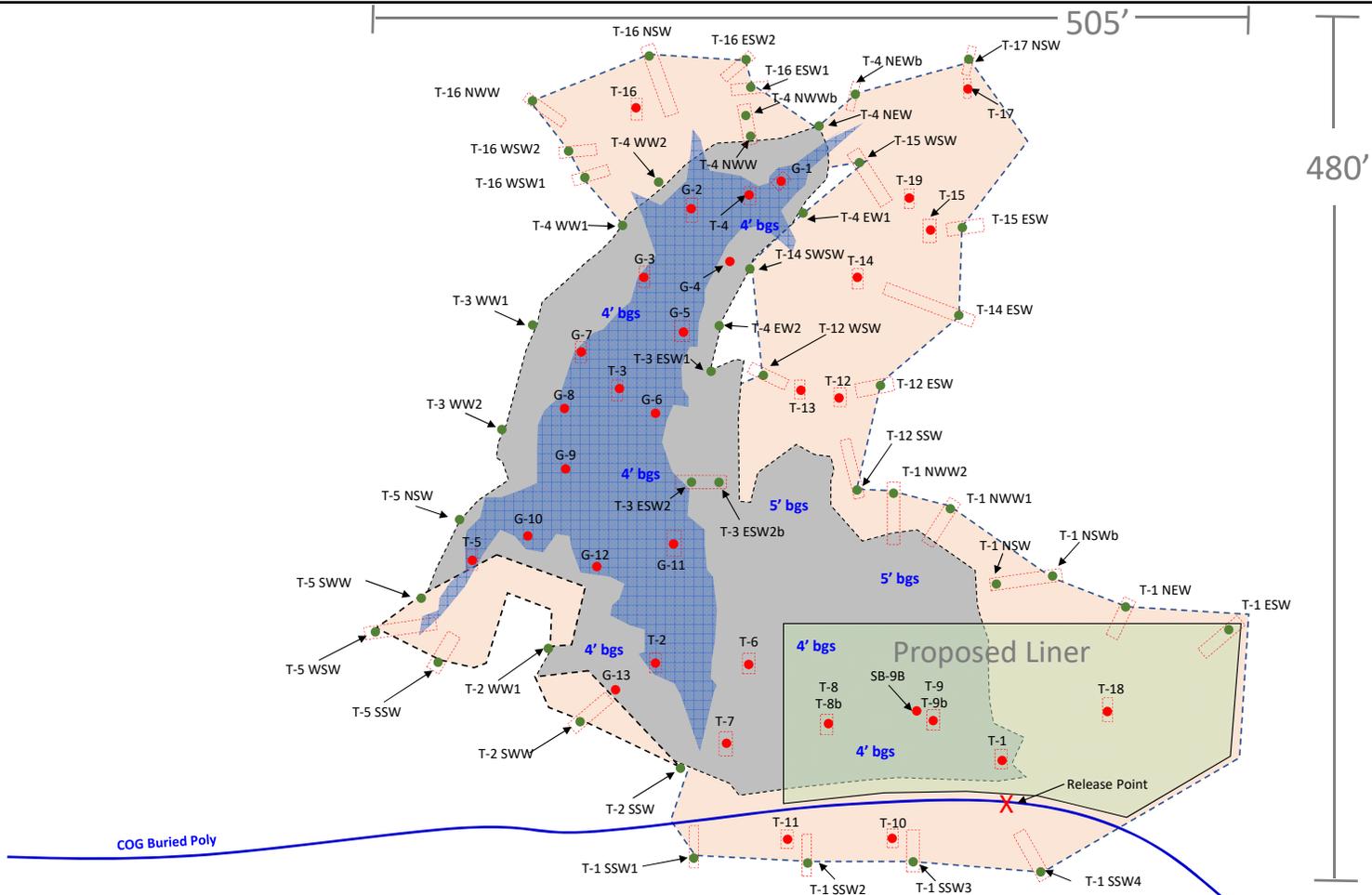
LEGEND:

● Vertical Sample Location	 Test Trench
● Horizontal Sample Location	 Former Dry Dirt Tank
 Excavated Area	 4' bgs
	 5' bgs
	 Current Grade

Figure 2
Site & Sample Location Map
 COG Operating, LLC
 APPLE 5 STATE SWD #001
 Eddy County, New Mexico

Scale 1" = ~100'	
Drafted by: BC	Checked by: JL
Draft: October 17, 2018	
Lat. N 32.079207 Long. W 104.111194	
UL "N", Sec. 32, T25S, R28E	
TRC Proj. No.: 304702	

 <small>Results you can rely on</small>	10 Desta Drive Suite 150E Midland, TX 79705 432.520.7720 PHONE 432.520.7701 FAX www.trcsolutions.com
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LEGEND:

● Vertical Sample Location	 Test Trench	4' bgs Current Grade
● Horizontal Sample Location	 Former Dry Dirt Tank	 Proposed Liner
 Excavated Area	 Anticipated Excavation	

Figure 3
 Proposed Excavation & Liner Installation Map
 COG Operating, LLC
 APPLE 5 STATE SWD #001
 Eddy County, New Mexico

Scale 1" = ~100'	
Drafted by: BC	Checked by: JL
Draft: October 17, 2018	
Lat. N 32.079207 Long. W 104.111194	
UL "N", Sec. 32, T25S, R28E	
TRC Proj. No.: 304702	

 <small>Results you can rely on</small>	10 Desta Drive Suite 150E Midland, TX 79705 432.520.7720 PHONE 432.520.7701 FAX www.trcsolutions.com
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TABLE 1

CONCENTRATION OF BENZENE, BTEX, TPH and CHLORIDE IN SOIL (Vertical)

COG OPERATING, LLC
 APPLE 5 STATE SWD #001
 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
T-1 @ 2'	2'	5/4/2018	Excavated	<0.0187	<0.0187	<0.0187	<0.0187	<0.0187	<3.74	<25.1	<25.1	<25.1	12,900
T-1 @ 4'	4'	5/4/2018	Excavated	-	-	-	-	-	-	-	-	-	8,010
T-1 @ 6'	6'	5/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	4,710
T-1 @ 8'	8'	5/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	762
T-1 @ 10'	10'	5/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	412
T-1 @ 12'	12'	5/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	405
T-1 @ 14'	14'	5/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	533
T-2 @ 4'	4'	5/10/2018	Proposed Excavation	<0.0187	<0.0187	<0.0187	<0.0187	<0.0187	<3.75	<25.2	<25.2	<25.2	3,210
T-2 @ 6'	6'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	702
T-2 @ 8'	8'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	47.3
T-2 @ 10'	10'	5/10/2018	In-Situ	<0.0179	<0.0179	<0.0179	<0.0179	<0.0179	<3.58	<24.8	<24.8	<24.8	33.1
T-3 @ 4'	1'	5/4/2018	In-Situ	<0.0182	<0.0182	<0.0182	<0.0182	<0.0182	<3.64	<24.9	<24.9	<24.9	300
T-3 @ 6'	2'	5/4/2018	In-Situ	<0.0183	<0.0183	<0.0183	<0.0183	<0.0183	<3.66	<24.9	<24.9	<24.9	52.9
T-4 @ 4'	4'	5/4/2018	In-Situ	<0.0189	<0.0189	<0.0189	<0.0189	<0.0189	<3.77	<25.0	<25.0	<25.0	375
T-4 @ 6'	6'	5/4/2018	In-Situ	<0.0190	<0.0190	<0.0190	<0.0190	<0.0190	<3.81	<25.2	<25.2	<25.2	39.0
T-5 @ 5'	5'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	6,310
T-5 @ 7'	7'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	1,400
T-5 @ 9'	9'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	946
T-5 @ 11'	11'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	177
T-6 @ 6'	6'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	3,240
T-6 @ 8'	8'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	423
T-6 @ 10'	10'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	35.2
T-7 @ 6'	6'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	2,900
T-7 @ 8'	8'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	1,910
T-7 @ 10'	10'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	121
T-8 @ 6'	6'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	216
T-8 @ 8'	8'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	1,100
T-8 @ 10'	10'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	653
T-8 @ 12'	12'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	719
T-8B @ 16'	16'	6/20/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	676
T-9 @ 6'	6'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	598
T-9 @ 8'	8'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	745
T-9 @ 10'	10'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	506
T-9 @ 12'	12'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	655
T-9B @ 16'	16'	6/20/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	1,360
SB-9B @ 16'	16'	10/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	481
SB-9B @ 18'	18'	10/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	430
T-10 @ 2'	2'	6/19/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	5,240
T-10 @ 6'	6'	6/19/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	8,410
T-10 @ 10'	10'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	841
T-10 @ 12'	12'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	378
T-11 @ 2'	2'	6/19/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	133
T-11 @ 6'	6'	6/19/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	3,840
T-11 @ 10'	10'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	511
T-11 @ 12'	12'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	40.8
T-12 @ 4'	4'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	4,390
T-12 @ 8'	8'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	1,084*
T-12 @ 10'	10'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	46.1
T-12 @ 12'	12'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	39.5
T-13 @ 4'	4'	6/19/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	5,330
T-13 @ 8'	8'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	505
T-13 @ 10'	10'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	37.0
NMOC Recommended Remediation Action Level				10	-	-	-	50	-	-	-	5,000	600

* Denotes Hach Quantab Chloride Field Test Results

- In-Situ
- Excavated/Proposed Excavation
- Proposed Risk-Based

TABLE 1

CONCENTRATION OF BENZENE, BTEX, TPH and CHLORIDE IN SOIL (Vertical)

COG OPERATING, LLC
 APPLE 5 STATE SWD #001
 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
T-14 @ 4'	4'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	1,630
T-14 @ 6'	6'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	2,256*
T-14 @ 8'	8'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	622
T-14 @ 10'	10'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	59.1
T-15 @ 6'	6'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	4,790
T-15 @ 8'	8'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	2,280
T-15 @ 10'	10'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	319
T-16 @ 2'	2'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	8,980
T-16 @ 4'	4'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	>2,600*
T-16 @ 6'	6'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	37.4
T-17 @ 2'	2'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	1,932*
T-17 @ 4'	4'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	1,820
T-17 @ 6'	6'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	135
T-18 @ 2'	2'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	10,000
T-18 @ 4'	4'	6/7/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	>2,600*
T-18 @ 6'	6'	6/7/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	540
T-18 @ 8'	8'	6/7/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	111
T-19 @ 4'	4'	6/20/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	3,530
T-19 @ 10'	10'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	506
T-19 @ 12'	12'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	34.3
G-1	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	4,230
G-1b @ 5'	5'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	134
G-1b @ 6'	6'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	50.6
G-2	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	3,590
G-2	6'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	305
G-3	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	3,600
G-3b @ 7'	7'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
G-4	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	151
G-5	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	1,900
G-5b @ 5'	5'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	26.4
G-5b @ 6'	6'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
G-6	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	292
G-7	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	2,960
G-7	6'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	33.1
G-8	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
G-9	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	348
G-10	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	241
G-11	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	3,420
G-11	6'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	23.1
G-12	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	367
G-13	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	340
NMOCD Recommended Remediation Action Level				10	-	-	-	50	-	-	-	5,000	600

* Denotes Hach Quantab Chloride Field Test Results

- In-Situ
- Excavated/Proposed Excavation
- Proposed Risk-Based

TABLE 2

CONCENTRATION OF BENZENE, BTEX, TPH and CHLORIDE IN SOIL (Horizontal)

COG OPERATING, LLC
 APPLE 5 STATE SWD #001
 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
T-1 NSW	3'	5/10/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	832
T-1 NEW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	29.6
T-1 SSW1	3'	5/16/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-1 SSW2	3'	5/16/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-1 SSW3	3'	5/16/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-1 SSW5	3'	5/16/2018	In-Situ	-	-	-	-	-	-	-	-	-	30.0
T-1 NSWb	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	84.3
T-1 NWW 1	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	27.3
T-1 NWW 2	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	168
T-1 ESW	4'	6/20/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	727
T-2 WW1	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	34.1
T-2 SSW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-2 SWW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	238
T-3 WW1	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-3 WW2	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-3 ESW1	3'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	177
T-3 ESW2	3'	6/7/2018	Excavated	-	-	-	-	-	-	-	-	-	3,750
T-3 ESW2b	3'	6/7/2018	Excavated	-	-	-	-	-	-	-	-	-	1,140
T-4 EW1	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-4 EW2	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-4 WW2	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	29.7
T-4 NWW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	25.9
T-4 NEW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	175
T-4 NEWb	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-4 NWWb	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	682
T-4 WW1	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	51.4
T-5 NSW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-5 SSW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	34.2
T-5 SSW**	3'	5/16/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-5 WSW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-12 SSW	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	38.0
T-12 WSW	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	220
T-12 ESW	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	210
T-14 SWSW	3'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	1,790
T-14 ESW	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-15 WSW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	183
T-15 ESW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
T-16 ESW1	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	479
T-16 ESW2	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	438
T-16 WSW1	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	574
T-16 WSW2	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	422
T-16 NWW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	147
T-16 NSW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	205
T-17 NSW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0
NMOCD Recommended Remediation Action Level				10	-	-	-	50	-	-	-	5,000	600

** Denotes Duplicate Sample Name

- In-Situ
- Excavated/Proposed Excavation
- Proposed Risk-Based

Analytical Report 585303

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Apple State 5 SWD #1

18-MAY-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-25), 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)



18-MAY-18

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

Reference: XENCO Report No(s): **585303**
Apple State 5 SWD #1
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) 585303. 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. 585303 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', written over a horizontal line.

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 585303

TRC Solutions, Inc, Midland, TX

Apple State 5 SWD #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 @ 2'	S	05-04-18 09:00	2 ft	585303-001
T-1 @ 4'	S	05-04-18 09:05	4 ft	585303-002
T-1 @ 6'	S	05-04-18 09:10	6 ft	585303-003
T-1 @ 8'	S	05-04-18 09:15	8 ft	585303-004
T-1 @ 10'	S	05-04-18 09:20	10 ft	585303-005
T-1 @ 12'	S	05-04-18 09:25	12 ft	585303-006
T-1 @ 14'	S	05-04-18 09:30	14 ft	585303-007
T-3 @ 4'	S	05-04-18 10:05	4 ft	585303-014
T-3 @ 6'	S	05-04-18 10:10	6 ft	585303-015
T-4 @ 4'	S	05-04-18 10:15	4 ft	585303-016
T-4 @ 6'	S	05-04-18 10:20	6 ft	585303-017
NP @ 1'	S	05-04-18 10:30	1 ft	585303-018
NP @ 3'	S	05-04-18 10:35	3 ft	585303-019
NP @ 6'	S	05-04-18 10:40	6 ft	585303-020
NP @ 9'	S	05-04-18 10:45	9 ft	585303-021
NP @ 12'	S	05-04-18 10:50	12 ft	585303-022
T-1 @ 16'	S	05-04-18 09:35	16 ft	Not Analyzed
T-1 @ 18'	S	05-04-18 09:40	18 ft	Not Analyzed
T-2 @ 4'	S	05-04-18 09:45	4 ft	Not Analyzed
T-2 @ 6'	S	05-04-18 09:50	6 ft	Not Analyzed
T-2 @ 8'	S	05-04-18 09:55	8 ft	Not Analyzed
T-2 @ 10'	S	05-04-18 10:00	10 ft	Not Analyzed



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple State 5 SWD #1

Project ID:
Work Order Number(s): 585303

Report Date: 18-MAY-18
Date Received: 05/08/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3049784 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3049788 TPH GRO by EPA 8015 Mod.
Surrogate a,a,a-Trifluorotoluene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7644525-1-BLK.

Batch: LBA-3049899 Chloride by EPA 300
Lab Sample ID 585303-020 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 585303-004, -005, -006, -007, -008, -009, -013, -017, -019, -020, -021, -022.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3049901 Chloride by EPA 300
Lab Sample ID 585303-018 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 585303-001, -002, -003, -010, -011, -012, -014, -015, -016, -018.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analysis Summary 585303

TRC Solutions, Inc, Midland, TX

Project Name: Apple State 5 SWD #1

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

Date Received in Lab: Tue May-08-18 12:40 pm
Report Date: 18-MAY-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	585303-001	585303-002	585303-003	585303-004	585303-005	585303-006
	<i>Field Id:</i>	T-1 @ 2'	T-1 @ 4'	T-1 @ 6'	T-1 @ 8'	T-1 @ 10'	T-1 @ 12'
	<i>Depth:</i>	2- ft	4- ft	6- ft	8- ft	10- ft	12- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	May-04-18 09:00	May-04-18 09:05	May-04-18 09:10	May-04-18 09:15	May-04-18 09:20	May-04-18 09:25
BTEX by EPA 8021B	<i>Extracted:</i>	May-10-18 13:00					
	<i>Analyzed:</i>	May-11-18 06:12					
	<i>Units/RL:</i>	mg/kg RL					
Benzene		<0.0187 0.0187					
Toluene		<0.0187 0.0187					
Ethylbenzene		<0.0187 0.0187					
m,p-Xylenes		<0.0374 0.0374					
o-Xylene		<0.0187 0.0187					
Total Xylenes		<0.0187 0.0187					
Total BTEX		<0.0187 0.0187					
Chloride by EPA 300	<i>Extracted:</i>	May-11-18 09:00					
	<i>Analyzed:</i>	May-11-18 11:34	May-11-18 11:46	May-11-18 11:58	May-11-18 18:25	May-11-18 18:37	May-11-18 18:50
	<i>Units/RL:</i>	mg/kg RL					
Chloride		12900 2500	8010 1250	4710 2500	762 125	412 125	405 125
DRO-ORO By SW8015B	<i>Extracted:</i>	May-11-18 12:00					
	<i>Analyzed:</i>	May-11-18 21:08					
	<i>Units/RL:</i>	mg/kg RL					
Diesel Range Organics (DRO)		<25.1 25.1					
Oil Range Hydrocarbons (ORO)		<25.1 25.1					
TPH GRO by EPA 8015 Mod.	<i>Extracted:</i>	May-10-18 13:00					
	<i>Analyzed:</i>	May-11-18 06:12					
	<i>Units/RL:</i>	mg/kg RL					
TPH-GRO		<3.74 3.74					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 585303

TRC Solutions, Inc, Midland, TX

Project Name: Apple State 5 SWD #1

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

Date Received in Lab: Tue May-08-18 12:40 pm
Report Date: 18-MAY-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	585303-007	585303-014	585303-015	585303-016	585303-017	585303-018
	<i>Field Id:</i>	T-1 @ 14	T-3 @ 4'	T-3 @ 6'	T-4 @ 4'	T-4 @ 6'	NP @ 1'
	<i>Depth:</i>	14- ft	4- ft	6- ft	4- ft	6- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	May-04-18 09:30	May-04-18 10:05	May-04-18 10:10	May-04-18 10:15	May-04-18 10:20	May-04-18 10:30
BTEX by EPA 8021B	<i>Extracted:</i>		May-10-18 13:00				
	<i>Analyzed:</i>		May-11-18 10:15	May-11-18 10:42	May-11-18 11:09	May-11-18 11:36	May-11-18 12:03
	<i>Units/RL:</i>		mg/kg RL				
Benzene			<0.0182 0.0182	<0.0183 0.0183	<0.0189 0.0189	<0.0190 0.0190	<0.0195 0.0195
Toluene			<0.0182 0.0182	<0.0183 0.0183	<0.0189 0.0189	<0.0190 0.0190	<0.0195 0.0195
Ethylbenzene			<0.0182 0.0182	<0.0183 0.0183	<0.0189 0.0189	<0.0190 0.0190	<0.0195 0.0195
m,p-Xylenes			<0.0364 0.0364	<0.0366 0.0366	<0.0377 0.0377	<0.0381 0.0381	<0.0389 0.0389
o-Xylene			<0.0182 0.0182	<0.0183 0.0183	<0.0189 0.0189	<0.0190 0.0190	<0.0195 0.0195
Total Xylenes			<0.0182 0.0182	<0.0183 0.0183	<0.0189 0.0189	<0.019 0.019	<0.0195 0.0195
Total BTEX			<0.0182 0.0182	<0.0183 0.0183	<0.0189 0.0189	<0.019 0.019	<0.0195 0.0195
Chloride by EPA 300	<i>Extracted:</i>	May-11-18 09:00					
	<i>Analyzed:</i>	May-11-18 19:02	May-11-18 13:25	May-11-18 15:42	May-11-18 15:54	May-11-18 19:52	May-11-18 14:15
	<i>Units/RL:</i>	mg/kg RL					
Chloride		533 125	300 125	52.9 50.0	375 125	39.0 25.0	<25.0 25.0
DRO-ORO By SW8015B	<i>Extracted:</i>		May-11-18 12:00				
	<i>Analyzed:</i>		May-12-18 00:30	May-12-18 01:04	May-12-18 01:37	May-12-18 02:11	May-12-18 02:45
	<i>Units/RL:</i>		mg/kg RL				
Diesel Range Organics (DRO)			<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.2 25.2	<24.8 24.8
Oil Range Hydrocarbons (ORO)			<24.9 24.9	<24.9 24.9	<25.0 25.0	<25.2 25.2	<24.8 24.8
TPH GRO by EPA 8015 Mod.	<i>Extracted:</i>		May-10-18 13:00				
	<i>Analyzed:</i>		May-11-18 10:15	May-11-18 10:42	May-11-18 11:09	May-11-18 11:36	May-11-18 12:03
	<i>Units/RL:</i>		mg/kg RL				
TPH-GRO			<3.64 3.64	<3.66 3.66	<3.77 3.77	<3.81 3.81	<3.89 3.89

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 585303

TRC Solutions, Inc, Midland, TX

Project Name: Apple State 5 SWD #1

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

Date Received in Lab: Tue May-08-18 12:40 pm
Report Date: 18-MAY-18
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	585303-019	585303-020	585303-021	585303-022		
	Field Id:	NP @ 3'	NP @ 6'	NP @ 9'	NP @ 12'		
	Depth:	3- ft	6- ft	9- ft	12- ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	May-04-18 10:35	May-04-18 10:40	May-04-18 10:45	May-04-18 10:50		
Chloride by EPA 300	Extracted:	May-11-18 09:00	May-11-18 09:00	May-11-18 09:00	May-11-18 09:00		
	Analyzed:	May-11-18 17:48	May-11-18 20:41	May-11-18 20:04	May-11-18 20:29		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		<25.0 25.0	72.4 25.0	<25.0 25.0	<25.0 25.0		

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Kelsey Brooks
 Project Manager



Form 2 - Surrogate Recoveries

Project Name: Apple State 5 SWD #1

Work Orders : 585303, 585303

Project ID:

Lab Batch #: 3049784

Sample: 585303-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 06:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.102	0.100	102	68-120	
a,a,a-Trifluorotoluene	1.78	1.87	95	71-121	

Lab Batch #: 3049788

Sample: 585303-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 06:12

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0987	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.55	1.87	83	69-120	

Lab Batch #: 3049784

Sample: 585303-014 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 10:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0962	0.100	96	68-120	
a,a,a-Trifluorotoluene	1.73	1.82	95	71-121	

Lab Batch #: 3049788

Sample: 585303-014 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 10:15

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0955	0.100	96	76-123	
a,a,a-Trifluorotoluene	1.62	1.82	89	69-120	

Lab Batch #: 3049784

Sample: 585303-015 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 10:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0977	0.100	98	68-120	
a,a,a-Trifluorotoluene	1.78	1.83	97	71-121	

* 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: Apple State 5 SWD #1

Work Orders : 585303, 585303

Project ID:

Lab Batch #: 3049788

Sample: 585303-015 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 10:42

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0964	0.100	96	76-123	
a,a,a-Trifluorotoluene	1.66	1.83	91	69-120	

Lab Batch #: 3049784

Sample: 585303-016 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 11:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0946	0.100	95	68-120	
a,a,a-Trifluorotoluene	1.88	1.89	99	71-121	

Lab Batch #: 3049788

Sample: 585303-016 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 11:09

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0938	0.100	94	76-123	
a,a,a-Trifluorotoluene	1.76	1.89	93	69-120	

Lab Batch #: 3049784

Sample: 585303-017 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 11:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0969	0.100	97	68-120	
a,a,a-Trifluorotoluene	1.79	1.90	94	71-121	

Lab Batch #: 3049788

Sample: 585303-017 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 11:36

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0959	0.100	96	76-123	
a,a,a-Trifluorotoluene	1.67	1.90	88	69-120	

* 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: Apple State 5 SWD #1

Work Orders : 585303, 585303

Project ID:

Lab Batch #: 3049784

Sample: 585303-018 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 12:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0957	0.100	96	68-120	
a,a,a-Trifluorotoluene	1.84	1.95	94	71-121	

Lab Batch #: 3049788

Sample: 585303-018 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 12:03

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0952	0.100	95	76-123	
a,a,a-Trifluorotoluene	1.74	1.95	89	69-120	

Lab Batch #: 3049907

Sample: 585303-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 21:08

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	9.54	10.0	95	65-144	
n-Triacontane	8.29	10.0	83	46-152	

Lab Batch #: 3049907

Sample: 585303-014 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/12/18 00:30

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	10.1	9.95	102	65-144	
n-Triacontane	9.39	9.95	94	46-152	

Lab Batch #: 3049907

Sample: 585303-015 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/12/18 01:04

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	9.27	9.96	93	65-144	
n-Triacontane	8.03	9.96	81	46-152	

* 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: Apple State 5 SWD #1

Work Orders : 585303, 585303

Project ID:

Lab Batch #: 3049907

Sample: 585303-016 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/12/18 01:37

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	9.05	9.98	91	65-144	
n-Triacontane	7.48	9.98	75	46-152	

Lab Batch #: 3049907

Sample: 585303-017 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/12/18 02:11

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	9.31	10.1	92	65-144	
n-Triacontane	7.68	10.1	76	46-152	

Lab Batch #: 3049907

Sample: 585303-018 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/12/18 02:45

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	8.40	9.91	85	65-144	
n-Triacontane	7.81	9.91	79	46-152	

Lab Batch #: 3049784

Sample: 7644524-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/11/18 05:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0912	0.100	91	68-120	
a,a,a-Trifluorotoluene	1.72	2.00	86	71-121	

Lab Batch #: 3049788

Sample: 7644525-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/11/18 05:45

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0909	0.100	91	76-123	
a,a,a-Trifluorotoluene	2.51	2.00	126	69-120	**

* 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: Apple State 5 SWD #1

Work Orders : 585303, 585303

Project ID:

Lab Batch #: 3049907

Sample: 7644548-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/11/18 19:29

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	10.2	10.0	102	65-144	
n-Triacontane	9.00	10.0	90	46-152	

Lab Batch #: 3049784

Sample: 7644524-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/11/18 03:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0885	0.100	89	68-120	
a,a,a-Trifluorotoluene	1.54	2.00	77	71-121	

Lab Batch #: 3049788

Sample: 7644525-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/11/18 03:57

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.100	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.85	2.00	93	69-120	

Lab Batch #: 3049907

Sample: 7644548-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/11/18 20:02

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	10.3	10.0	103	65-144	
n-Triacontane	8.00	10.0	80	46-152	

Lab Batch #: 3049784

Sample: 7644524-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/11/18 03:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0885	0.100	89	68-120	
a,a,a-Trifluorotoluene	1.54	2.00	77	71-121	

* 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: Apple State 5 SWD #1

Work Orders : 585303, 585303

Project ID:

Lab Batch #: 3049788

Sample: 7644525-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/11/18 04:24

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0992	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.77	2.00	89	69-120	

Lab Batch #: 3049907

Sample: 7644548-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/11/18 20:36

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.7	10.0	117	65-144	
n-Triacontane	9.64	10.0	96	46-152	

Lab Batch #: 3049784

Sample: 585303-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 06:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0935	0.100	94	68-120	
a,a,a-Trifluorotoluene	1.69	1.96	86	71-121	

Lab Batch #: 3049788

Sample: 585303-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 07:31

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.100	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.53	1.94	79	69-120	

Lab Batch #: 3049907

Sample: 585303-013 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 23:23

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	10.2	10.0	102	65-144	
n-Triacontane	8.18	10.0	82	46-152	

* 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: Apple State 5 SWD #1

Work Orders : 585303, 585303

Project ID:

Lab Batch #: 3049784

Sample: 585303-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 07:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0946	0.100	95	68-120	
a,a,a-Trifluorotoluene	1.61	1.89	85	71-121	

Lab Batch #: 3049788

Sample: 585303-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 07:59

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.104	0.100	104	76-123	
a,a,a-Trifluorotoluene	1.51	1.98	76	69-120	

Lab Batch #: 3049907

Sample: 585303-013 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/11/18 23:56

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Tricosane	9.90	10.0	99	65-144	
n-Triacontane	8.01	10.0	80	46-152	

* 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: Apple State 5 SWD #1

Work Order #: 585303, 585303

Project ID:

Analyst: MIT

Date Prepared: 05/10/2018

Date Analyzed: 05/11/2018

Lab Batch ID: 3049784

Sample: 7644524-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	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
Analytes											
Benzene	<0.0200	2.00	1.75	88	2.00	1.78	89	2	55-120	20	
Toluene	<0.0200	2.00	1.76	88	2.00	1.80	90	2	77-120	20	
Ethylbenzene	<0.0200	2.00	1.77	89	2.00	1.86	93	5	77-120	20	
m,p-Xylenes	<0.0400	4.00	3.55	89	4.00	3.73	93	5	78-120	20	
o-Xylene	<0.0200	2.00	1.79	90	2.00	1.89	95	5	78-120	20	

Analyst: RNL

Date Prepared: 05/11/2018

Date Analyzed: 05/11/2018

Lab Batch ID: 3049899

Sample: 7644599-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	266	106	250	264	106	1	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: Apple State 5 SWD #1

Work Order #: 585303, 585303

Project ID:

Analyst: RNL

Date Prepared: 05/11/2018

Date Analyzed: 05/11/2018

Lab Batch ID: 3049901

Sample: 7644605-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	265	106	250	266	106	0	90-110	20	

Analyst: PGM

Date Prepared: 05/11/2018

Date Analyzed: 05/11/2018

Lab Batch ID: 3049907

Sample: 7644548-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B	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
Analytes											
Diesel Range Organics (DRO)	<25.0	100	88.3	88	100	97.0	97	9	63-139	20	

Analyst: MIT

Date Prepared: 05/10/2018

Date Analyzed: 05/11/2018

Lab Batch ID: 3049788

Sample: 7644525-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.	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
Analytes											
TPH-GRO	<4.00	20.0	21.3	107	20.0	22.4	112	5	35-129	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: Apple State 5 SWD #1

Work Order # : 585303

Project ID:

Lab Batch ID: 3049784

QC- Sample ID: 585303-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/11/2018

Date Prepared: 05/10/2018

Analyst: MIT

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	<0.0196	1.96	1.60	82	1.89	1.50	79	6	54-120	25	
Toluene	<0.0196	1.96	1.73	88	1.89	1.65	87	5	57-120	25	
Ethylbenzene	<0.0196	1.96	1.82	93	1.89	1.75	93	4	58-131	25	
m,p-Xylenes	<0.0392	3.92	3.63	93	3.77	3.49	93	4	62-124	25	
o-Xylene	<0.0196	1.96	1.84	94	1.89	1.75	93	5	62-124	25	

Lab Batch ID: 3049899

QC- Sample ID: 585303-019 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/11/2018

Date Prepared: 05/11/2018

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	267	107	250	271	108	1	80-120	20	

Lab Batch ID: 3049899

QC- Sample ID: 585303-020 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/11/2018

Date Prepared: 05/11/2018

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	<125	250	1410	564	250	1420	568	1	80-120	20	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: Apple State 5 SWD #1

Work Order # : 585303

Project ID:

Lab Batch ID: 3049901

QC- Sample ID: 585303-014 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/11/2018

Date Prepared: 05/11/2018

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	300	250	632	133	250	632	133	0	80-120	20	X

Lab Batch ID: 3049901

QC- Sample ID: 585303-018 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/11/2018

Date Prepared: 05/11/2018

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	283	113	250	285	114	1	80-120	20	

Lab Batch ID: 3049907

QC- Sample ID: 585303-013 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/11/2018

Date Prepared: 05/11/2018

Analyst: PGM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B 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
Diesel Range Organics (DRO)	<25.0	100	80.7	81	100	83.3	83	3	63-139	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: Apple State 5 SWD #1

Work Order # : 585303

Project ID:

Lab Batch ID: 3049788

QC- Sample ID: 585303-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/11/2018

Date Prepared: 05/10/2018

Analyst: MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 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
TPH-GRO	<3.88	19.4	10.0	52	19.8	11.0	56	10	35-129	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.



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 05/08/2018 12:40:00 PM

Work Order #: 585303

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)?	3.6
#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
Brenda Ward Date: 05/08/2018

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks Date: 05/09/2018



Certificate of Analysis Summary 586204

TRC Solutions, Inc, Midland, TX

Project Name: Apple S State SWD

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

Date Received in Lab: Wed May-16-18 08:55 am
Report Date: 23-MAY-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	586204-001	586204-002	586204-003	586204-004	586204-005	586204-006
	<i>Field Id:</i>	T-1 NSW	T-1 NEW	T-2 @ 4'	T-2 @ 6'	T-2 @ 8'	T-2 @ 10'
	<i>Depth:</i>	2- ft	2- ft	4- ft	6- ft	8- ft	10- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	May-10-18 08:00	May-10-18 08:05	May-10-18 08:10	May-10-18 08:15	May-10-18 08:20	May-10-18 08:25
BTEX by EPA 8021B	<i>Extracted:</i>			May-21-18 12:30			May-21-18 12:30
	<i>Analyzed:</i>			May-22-18 08:37			May-22-18 08:09
	<i>Units/RL:</i>			mg/kg RL			mg/kg RL
Benzene				<0.0187 0.0187			<0.0179 0.0179
Toluene				<0.0187 0.0187			<0.0179 0.0179
Ethylbenzene				<0.0187 0.0187			<0.0179 0.0179
m,p-Xylenes				<0.0375 0.0375			<0.0358 0.0358
o-Xylene				<0.0187 0.0187			<0.0179 0.0179
Xylenes, Total				<0.0187 0.0187			<0.0179 0.0179
Total BTEX				<0.0187 0.0187			<0.0179 0.0179
Chloride by EPA 300	<i>Extracted:</i>	May-18-18 10:30	May-21-18 10:30				
	<i>Analyzed:</i>	May-21-18 12:32	May-21-18 17:54	May-21-18 18:06	May-21-18 18:18	May-21-18 18:31	May-21-18 18:43
	<i>Units/RL:</i>	mg/kg RL					
Chloride		832 125	29.6 25.0	3210 250	702 125	47.3 25.0	33.1 25.0
DRO-ORO By SW8015B	<i>Extracted:</i>			May-21-18 16:00			May-21-18 16:00
	<i>Analyzed:</i>			May-21-18 18:46			May-21-18 20:38
	<i>Units/RL:</i>			mg/kg RL			mg/kg RL
Diesel Range Organics (DRO)				<25.2 25.2			<24.8 24.8
Oil Range Hydrocarbons (ORO)				<25.2 25.2			<24.8 24.8
TPH GRO by EPA 8015 Mod.	<i>Extracted:</i>			May-21-18 12:30			May-21-18 12:30
	<i>Analyzed:</i>			May-22-18 08:37			May-22-18 08:09
	<i>Units/RL:</i>			mg/kg RL			mg/kg RL
TPH-GRO				<3.75 3.75			<3.58 3.58

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 586204

TRC Solutions, Inc, Midland, TX

Project Name: Apple S State SWD

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

Date Received in Lab: Wed May-16-18 08:55 am
Report Date: 23-MAY-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	586204-007	586204-008	586204-009	586204-010	586204-011	586204-012
	<i>Field Id:</i>	T-2 WW1	T-3 WW1	T-3 WW2	T-4 EW1	T-4 EW2	T-4 WW2
	<i>Depth:</i>	2- ft					
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	May-10-18 08:30	May-10-18 08:35	May-10-18 08:40	May-10-18 08:45	May-10-18 08:50	May-10-18 08:55
Chloride by EPA 300	<i>Extracted:</i>	May-18-18 10:00	May-18-18 10:30				
	<i>Analyzed:</i>	May-18-18 20:04	May-18-18 20:53	May-18-18 21:18	May-18-18 21:43	May-18-18 22:08	May-21-18 12:57
	<i>Units/RL:</i>	mg/kg RL					
Chloride		34.1 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	29.7 25.0

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Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 586204

TRC Solutions, Inc, Midland, TX

Project Name: Apple S State SWD

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

Date Received in Lab: Wed May-16-18 08:55 am
Report Date: 23-MAY-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	586204-013	586204-014	586204-015	586204-016	586204-017	586204-018
	<i>Field Id:</i>	T-4 NWW	T-4 NEW	T-5 NSW	T-5 SWW	T-2 SSW	T-2 SWW
	<i>Depth:</i>	2- ft					
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	May-10-18 09:00	May-10-18 09:05	May-10-18 09:10	May-10-18 09:15	May-10-18 09:20	May-10-18 09:25
Chloride by EPA 300	<i>Extracted:</i>	May-18-18 10:30	May-18-18 10:30	May-18-18 10:30	May-18-18 10:30	May-21-18 10:30	May-18-18 10:30
	<i>Analyzed:</i>	May-21-18 11:18	May-21-18 11:43	May-21-18 12:08	May-21-18 14:12	May-21-18 17:04	May-21-18 14:37
	<i>Units/RL:</i>	mg/kg RL					
Chloride		25.9 25.0	175 25.0	<25.0 25.0	34.2 25.0	<25.0 25.0	238 25.0

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Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
 Project Manager

Analytical Report 586204

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Apple S State SWD

23-MAY-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-25), 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)



23-MAY-18

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

Reference: XENCO Report No(s): **586204**
Apple S State SWD
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) 586204. 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. 586204 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', written over a horizontal line.

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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Sample Cross Reference 586204

TRC Solutions, Inc, Midland, TX

Apple S State SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 NSW	S	05-10-18 08:00	2 ft	586204-001
T-1 NEW	S	05-10-18 08:05	2 ft	586204-002
T-2 @ 4'	S	05-10-18 08:10	4 ft	586204-003
T-2 @ 6'	S	05-10-18 08:15	6 ft	586204-004
T-2 @ 8'	S	05-10-18 08:20	8 ft	586204-005
T-2 @ 10'	S	05-10-18 08:25	10 ft	586204-006
T-2 WW1	S	05-10-18 08:30	2 ft	586204-007
T-3 WW1	S	05-10-18 08:35	2 ft	586204-008
T-3 WW2	S	05-10-18 08:40	2 ft	586204-009
T-4 EW1	S	05-10-18 08:45	2 ft	586204-010
T-4 EW2	S	05-10-18 08:50	2 ft	586204-011
T-4 WW2	S	05-10-18 08:55	2 ft	586204-012
T-4 NWW	S	05-10-18 09:00	2 ft	586204-013
T-4 NEW	S	05-10-18 09:05	2 ft	586204-014
T-5 NSW	S	05-10-18 09:10	2 ft	586204-015
T-5 SWW	S	05-10-18 09:15	2 ft	586204-016
T-2 SSW	S	05-10-18 09:20	2 ft	586204-017
T-2 SSW	S	05-10-18 09:25	2 ft	586204-018



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple S State SWD

Project ID:
Work Order Number(s): 586204

Report Date: 23-MAY-18
Date Received: 05/16/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3050718 Chloride by EPA 300

Lab Sample ID 586204-007 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 586204-007, -008, -009, -010, -011.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3050891 Chloride by EPA 300

Lab Sample ID 586207-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 586204-002, -003, -004, -005, -006, -017.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3050908 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 586204-003 S,586204-003 SD,586204-003.



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple S State SWD

Project ID:
Work Order Number(s): 586204

Report Date: 23-MAY-18
Date Received: 05/16/2018

Batch: LBA-3050917 BTEX by EPA 8021B

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

Lab Sample ID 586204-003 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.

Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 586204-003, -006.

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

Surrogate 4-Bromofluorobenzene, Surrogate a,a,a-Trifluorotoluene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 586204-003 S.

Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 586204-003, -006

Batch: LBA-3050920 TPH GRO by EPA 8015 Mod.

Surrogate a,a,a-Trifluorotoluene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7645206-1-BLK.



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX

Apple S State SWD

Sample Id: T-1 NSW	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-001	Date Collected: 05.10.18 08.00	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.18.18 10.30	Basis: Wet Weight
Seq Number: 3050795		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	832	125	mg/kg	05.21.18 12.32		5



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX

Apple S State SWD

Sample Id: T-1 NEW
Lab Sample Id: 586204-002

Matrix: Soil
Date Collected: 05.10.18 08.05

Date Received: 05.16.18 08.55
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 05.21.18 10.30

Basis: Wet Weight

Seq Number: 3050891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.6	25.0	mg/kg	05.21.18 17.54		1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX

Apple S State SWD

Sample Id: T-2 @ 4' Matrix: Soil Date Received: 05.16.18 08.55
 Lab Sample Id: 586204-003 Date Collected: 05.10.18 08.10 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: RNL % Moisture:
 Analyst: RNL Date Prep: 05.21.18 10.30 Basis: Wet Weight
 Seq Number: 3050891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3210	250	mg/kg	05.21.18 18.06		10

Analytical Method: DRO-ORO By SW8015B Prep Method: SW8015P
 Tech: PGM % Moisture:
 Analyst: PGM Date Prep: 05.21.18 16.00 Basis: Wet Weight
 Seq Number: 3050908

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.2	25.2	mg/kg	05.21.18 18.46	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.2	25.2	mg/kg	05.21.18 18.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	157	%	65-144	05.21.18 18.46	**
n-Triacontane	638-68-6	130	%	46-152	05.21.18 18.46	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: MIT % Moisture:
 Analyst: MIT Date Prep: 05.21.18 12.30 Basis: Wet Weight
 Seq Number: 3050917

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0187	0.0187	mg/kg	05.22.18 08.37	U	1
Toluene	108-88-3	<0.0187	0.0187	mg/kg	05.22.18 08.37	U	1
Ethylbenzene	100-41-4	<0.0187	0.0187	mg/kg	05.22.18 08.37	U	1
m,p-Xylenes	179601-23-1	<0.0375	0.0375	mg/kg	05.22.18 08.37	U	1
o-Xylene	95-47-6	<0.0187	0.0187	mg/kg	05.22.18 08.37	U	1
Xylenes, Total	1330-20-7	<0.0187	0.0187	mg/kg	05.22.18 08.37	U	1
Total BTEX		<0.0187	0.0187	mg/kg	05.22.18 08.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	68-120	05.22.18 08.37	
a,a,a-Trifluorotoluene	98-08-8	100	%	71-121	05.22.18 08.37	



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX
 Apple S State SWD

Sample Id: T-2 @ 4'	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-003	Date Collected: 05.10.18 08.10	Sample Depth: 4 ft
Analytical Method: TPH GRO by EPA 8015 Mod.		Prep Method: SW5030B
Tech: MIT		% Moisture:
Analyst: MIT	Date Prep: 05.21.18 12.30	Basis: Wet Weight
Seq Number: 3050920		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.75	3.75	mg/kg	05.22.18 08.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	76-123	05.22.18 08.37		
a,a,a-Trifluorotoluene	98-08-8	107	%	69-120	05.22.18 08.37		



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX Apple S State SWD

Sample Id: T-2 @ 6'	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-004	Date Collected: 05.10.18 08.15	Sample Depth: 6 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.21.18 10.30	Basis: Wet Weight
Seq Number: 3050891		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	702	125	mg/kg	05.21.18 18.18		5



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX Apple S State SWD

Sample Id: T-2 @ 8'	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-005	Date Collected: 05.10.18 08.20	Sample Depth: 8 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.21.18 10.30	Basis: Wet Weight
Seq Number: 3050891		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	47.3	25.0	mg/kg	05.21.18 18.31		1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX

Apple S State SWD

Sample Id: T-2 @ 10'	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-006	Date Collected: 05.10.18 08.25	Sample Depth: 10 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.21.18 10.30	Basis: Wet Weight
Seq Number: 3050891		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	33.1	25.0	mg/kg	05.21.18 18.43		1

Analytical Method: DRO-ORO By SW8015B	Prep Method: SW8015P
Tech: PGM	% Moisture:
Analyst: PGM	Date Prep: 05.21.18 16.00
Seq Number: 3050908	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<24.8	24.8	mg/kg	05.21.18 20.38	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<24.8	24.8	mg/kg	05.21.18 20.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	127	%	65-144	05.21.18 20.38	
n-Triacontane	638-68-6	119	%	46-152	05.21.18 20.38	

Analytical Method: BTEX by EPA 8021B	Prep Method: SW5030B
Tech: MIT	% Moisture:
Analyst: MIT	Date Prep: 05.21.18 12.30
Seq Number: 3050917	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0179	0.0179	mg/kg	05.22.18 08.09	U	1
Toluene	108-88-3	<0.0179	0.0179	mg/kg	05.22.18 08.09	U	1
Ethylbenzene	100-41-4	<0.0179	0.0179	mg/kg	05.22.18 08.09	U	1
m,p-Xylenes	179601-23-1	<0.0358	0.0358	mg/kg	05.22.18 08.09	U	1
o-Xylene	95-47-6	<0.0179	0.0179	mg/kg	05.22.18 08.09	U	1
Xylenes, Total	1330-20-7	<0.0179	0.0179	mg/kg	05.22.18 08.09	U	1
Total BTEX		<0.0179	0.0179	mg/kg	05.22.18 08.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	68-120	05.22.18 08.09	
a,a,a-Trifluorotoluene	98-08-8	101	%	71-121	05.22.18 08.09	



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX
 Apple S State SWD

Sample Id: T-2 @ 10'	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-006	Date Collected: 05.10.18 08.25	Sample Depth: 10 ft
Analytical Method: TPH GRO by EPA 8015 Mod.		Prep Method: SW5030B
Tech: MIT		% Moisture:
Analyst: MIT	Date Prep: 05.21.18 12.30	Basis: Wet Weight
Seq Number: 3050920		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.58	3.58	mg/kg	05.22.18 08.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	05.22.18 08.09		
a,a,a-Trifluorotoluene	98-08-8	104	%	69-120	05.22.18 08.09		



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX

Apple S State SWD

Sample Id: T-2 WW1	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-007	Date Collected: 05.10.18 08.30	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.18.18 10.00	Basis: Wet Weight
Seq Number: 3050718		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.1	25.0	mg/kg	05.18.18 20.04		1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX Apple S State SWD

Sample Id: T-3 WW1	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-008	Date Collected: 05.10.18 08.35	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.18.18 10.00	Basis: Wet Weight
Seq Number: 3050718		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<25.0	25.0	mg/kg	05.18.18 20.53	U	1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX Apple S State SWD

Sample Id: T-3 WW2	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-009	Date Collected: 05.10.18 08.40	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.18.18 10.00	Basis: Wet Weight
Seq Number: 3050718		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<25.0	25.0	mg/kg	05.18.18 21.18	U	1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX Apple S State SWD

Sample Id: T-4 EW1	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-010	Date Collected: 05.10.18 08.45	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.18.18 10.00	Basis: Wet Weight
Seq Number: 3050718		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<25.0	25.0	mg/kg	05.18.18 21.43	U	1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX Apple S State SWD

Sample Id: T-4 EW2	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-011	Date Collected: 05.10.18 08.50	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.18.18 10.00	Basis: Wet Weight
Seq Number: 3050718		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<25.0	25.0	mg/kg	05.18.18 22.08	U	1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX Apple S State SWD

Sample Id: T-4 WW2	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-012	Date Collected: 05.10.18 08.55	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.18.18 10.30	Basis: Wet Weight
Seq Number: 3050795		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.7	25.0	mg/kg	05.21.18 12.57		1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX
Apple S State SWD

Sample Id: T-4 NWW	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-013	Date Collected: 05.10.18 09.00	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.18.18 10.30	Basis: Wet Weight
Seq Number: 3050795		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.9	25.0	mg/kg	05.21.18 11.18		1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX

Apple S State SWD

Sample Id: T-4 NEW

Matrix: Soil

Date Received: 05.16.18 08.55

Lab Sample Id: 586204-014

Date Collected: 05.10.18 09.05

Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 05.18.18 10.30

Basis: Wet Weight

Seq Number: 3050795

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	175	25.0	mg/kg	05.21.18 11.43		1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX Apple S State SWD

Sample Id: T-5 NSW	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-015	Date Collected: 05.10.18 09.10	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.18.18 10.30	Basis: Wet Weight
Seq Number: 3050795		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<25.0	25.0	mg/kg	05.21.18 12.08	U	1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX Apple S State SWD

Sample Id: T-5 SWW	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-016	Date Collected: 05.10.18 09.15	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.18.18 10.30	Basis: Wet Weight
Seq Number: 3050795		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.2	25.0	mg/kg	05.21.18 14.12		1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX Apple S State SWD

Sample Id: T-2 SSW	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-017	Date Collected: 05.10.18 09.20	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.21.18 10.30	Basis: Wet Weight
Seq Number: 3050891		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<25.0	25.0	mg/kg	05.21.18 17.04	U	1



Certificate of Analytical Results 586204

TRC Solutions, Inc, Midland, TX

Apple S State SWD

Sample Id: T-2 SWW	Matrix: Soil	Date Received: 05.16.18 08.55
Lab Sample Id: 586204-018	Date Collected: 05.10.18 09.25	Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 05.18.18 10.30	Basis: Wet Weight
Seq Number: 3050795		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	238	25.0	mg/kg	05.21.18 14.37		1



TRC Solutions, Inc
Apple S State SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3050718 Matrix: Solid Prep Method: E300P
 MB Sample Id: 7645106-1-BLK LCS Sample Id: 7645106-1-BKS Date Prep: 05.18.18
 LCSD Sample Id: 7645106-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	262	105	264	106	90-110	1	20	mg/kg	05.18.18 16:57	

Analytical Method: Chloride by EPA 300

Seq Number: 3050795 Matrix: Solid Prep Method: E300P
 MB Sample Id: 7645135-1-BLK LCS Sample Id: 7645135-1-BKS Date Prep: 05.18.18
 LCSD Sample Id: 7645135-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	257	103	258	103	90-110	0	20	mg/kg	05.21.18 09:51	

Analytical Method: Chloride by EPA 300

Seq Number: 3050891 Matrix: Solid Prep Method: E300P
 MB Sample Id: 7645195-1-BLK LCS Sample Id: 7645195-1-BKS Date Prep: 05.21.18
 LCSD Sample Id: 7645195-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	260	104	249	100	90-110	4	20	mg/kg	05.21.18 16:39	

Analytical Method: Chloride by EPA 300

Seq Number: 3050718 Matrix: Soil Prep Method: E300P
 Parent Sample Id: 586204-007 MS Sample Id: 586204-007 S Date Prep: 05.18.18
 MSD Sample Id: 586204-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<50.0	250	302	121	305	122	80-120	1	20	mg/kg	05.18.18 20:28	X

Analytical Method: Chloride by EPA 300

Seq Number: 3050795 Matrix: Soil Prep Method: E300P
 Parent Sample Id: 585987-001 MS Sample Id: 585987-001 S Date Prep: 05.18.18
 MSD Sample Id: 585987-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	35.9	250	292	102	285	100	80-120	2	20	mg/kg	05.21.18 10:28	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
 Relative Percent Difference RPD = 200* |(C-E) / (C+E)|
 LCS/LCSD Recovery [D] = 100 * (C) / [B]
 Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)
 LCS = Laboratory Control Sample MS = Matrix Spike
 A = Parent Result B = Spike Added
 C = MS/LCS Result D = MSD/LCSD % Rec
 E = MSD/LCSD Result



TRC Solutions, Inc
Apple S State SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3050795

Parent Sample Id: 586204-012

Matrix: Soil

MS Sample Id: 586204-012 S

Prep Method: E300P

Date Prep: 05.18.18

MSD Sample Id: 586204-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<50.0	250	250	100	255	102	80-120	2	20	mg/kg	05.21.18 13:22	

Analytical Method: Chloride by EPA 300

Seq Number: 3050891

Parent Sample Id: 586204-017

Matrix: Soil

MS Sample Id: 586204-017 S

Prep Method: E300P

Date Prep: 05.21.18

MSD Sample Id: 586204-017 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<125	250	315	126	318	127	80-120	1	20	mg/kg	05.21.18 17:29	X

Analytical Method: Chloride by EPA 300

Seq Number: 3050891

Parent Sample Id: 586207-004

Matrix: Soil

MS Sample Id: 586207-004 S

Prep Method: E300P

Date Prep: 05.21.18

MSD Sample Id: 586207-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	48.8	250	290	96	295	98	80-120	2	20	mg/kg	05.21.18 19:58	

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3050908

MB Sample Id: 7645186-1-BLK

Matrix: Solid

LCS Sample Id: 7645186-1-BKS

Prep Method: SW8015P

Date Prep: 05.21.18

LCSD Sample Id: 7645186-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	105	105	100	100	63-139	5	20	mg/kg	05.21.18 17:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	118		124		115		65-144	%	05.21.18 17:27
n-Triacontane	106		99		81		46-152	%	05.21.18 17:27

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result
MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



TRC Solutions, Inc
Apple S State SWD

Analytical Method: DRO-ORO By SW8015B
Seq Number: 3050908
Parent Sample Id: 586204-003

Matrix: Soil
MS Sample Id: 586204-003 S

Prep Method: SW8015P
Date Prep: 05.21.18
MSD Sample Id: 586204-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.1	100	99.7	100	98.7	98	63-139	1	20	mg/kg	05.21.18 19:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	176	**	178	**	65-144	%	05.21.18 19:22
n-Triacontane	126		128		46-152	%	05.21.18 19:22

Analytical Method: BTEX by EPA 8021B
Seq Number: 3050917
MB Sample Id: 7645205-1-BLK

Matrix: Solid
LCS Sample Id: 7645205-1-BKS

Prep Method: SW5030B
Date Prep: 05.21.18
LCSD Sample Id: 7645205-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.84	92	1.88	94	55-120	2	20	mg/kg	05.22.18 03:36	
Toluene	<0.0200	2.00	1.75	88	1.80	90	77-120	3	20	mg/kg	05.22.18 03:36	
Ethylbenzene	<0.0200	2.00	1.71	86	1.75	88	77-120	2	20	mg/kg	05.22.18 03:36	
m,p-Xylenes	<0.0400	4.00	3.42	86	3.54	89	78-120	3	20	mg/kg	05.22.18 03:36	
o-Xylene	<0.0200	2.00	1.76	88	1.82	91	78-120	3	20	mg/kg	05.22.18 03:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	97		91		92		68-120	%	05.22.18 03:36
a,a,a-Trifluorotoluene	95		85		82		71-121	%	05.22.18 03:36

Analytical Method: BTEX by EPA 8021B
Seq Number: 3050917
Parent Sample Id: 586204-003

Matrix: Soil
MS Sample Id: 586204-003 S

Prep Method: SW5030B
Date Prep: 05.21.18
MSD Sample Id: 586204-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0196	1.96	0.855	44	1.54	78	54-120	57	25	mg/kg	05.22.18 09:04	XF
Toluene	<0.0196	1.96	0.861	44	1.71	86	57-120	66	25	mg/kg	05.22.18 09:04	XF
Ethylbenzene	<0.0196	1.96	0.839	43	1.79	90	58-131	72	25	mg/kg	05.22.18 09:04	XF
m,p-Xylenes	<0.0392	3.92	1.57	40	3.56	90	62-124	78	25	mg/kg	05.22.18 09:04	XF
o-Xylene	<0.0196	1.96	0.845	43	1.81	91	62-124	73	25	mg/kg	05.22.18 09:04	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	49	**	102		68-120	%	05.22.18 09:04
a,a,a-Trifluorotoluene	53	**	89		71-121	%	05.22.18 09:04

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



TRC Solutions, Inc
Apple S State SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3050920

MB Sample Id: 7645206-1-BLK

Matrix: Solid

LCS Sample Id: 7645206-1-BKS

Prep Method: SW5030B

Date Prep: 05.21.18

LCSD Sample Id: 7645206-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD	Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	21.9	110	23.1	116	35-129	5	20		mg/kg	05.22.18 05:25	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date				
4-Bromofluorobenzene	102		113		112		76-123	%	05.22.18 05:25				
a,a,a-Trifluorotoluene	144	**	88		104		69-120	%	05.22.18 05:25				

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3050920

Parent Sample Id: 586204-003

Matrix: Soil

MS Sample Id: 586204-003 S

Prep Method: SW5030B

Date Prep: 05.21.18

MSD Sample Id: 586204-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD	Limit	Units	Analysis Date	Flag
TPH-GRO	<3.83	19.2	16.8	88	17.4	93	35-129	4	20		mg/kg	05.22.18 09:59	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date				
4-Bromofluorobenzene			115		122		76-123	%	05.22.18 09:59				
a,a,a-Trifluorotoluene			89		90		69-120	%	05.22.18 09:59				

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



Setting the Standard since 1990
 Stafford, Texas (281-240-4200)
 Dallas Texas (214-902-0300)

CHAIN OF CUSTODY

Page 2 Of 2

San Antonio, Texas (210-509-3334)
 Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

586204

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Client / Reporting Information		Project Information		Analytical Information		Matrix Codes								
Company Name / Branch: TRC Environmental Corporation 10 Desia Drive, Suite 150E, Midland, TX, 79705 Email: jlowry@trcsolutions.com Phone No: 432-466-4450 Project Contact: Joel Lowry Sampler's Name: Joel Lowry		Project Name/Number: Apple S State SWP Project Location: Eddy Co, NM Invoice To: COB Operating Co Rebecca Haskell Invoice To:		Analytical Information: TPH 8015 M Ext, Chloride E 300, BTEX 8021B, Hold		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		Number of preserved bottles							Field Comments			
		Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4		NaOH	NaHSO4	MEOH
10	T-4 EWL	21	5-14-18	8:45	S	1								
11	T-4 ENZ	21		8:50										
12	T-4 NNW	21		8:55										
13	T-4 NNW	21		9:10										
14	T-4 NEW	21		9:05										
15	T-5 NSW	21		9:10										
16	T-5 SSW	21		9:15										
17	T-2 SSW	21		9:20										
18	T-2 SSW	21		9:25										

Notes:
 jlowry@trcsolutions.com
 zconider@trcsolutions.com
 jblackburn@trcsolutions.com
 r.haskell@concho.com
 FED-EX / UPS: Tracking #

Turnaround Time (Business days):
 Same Day TAT
 5 Day TAT
 7 Day TAT
 2 Day EMERGENCY
 Contract TAT
 3 Day EMERGENCY

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

Reinquired by Sampler: [Signature]
 Date Time: 5-16-18 8:55
 Relinquished by: [Signature]
 Date Time: 5-16-18 8:55
 Relinquished by: [Signature]
 Date Time: 5-16-18 8:55
 Relinquished by: [Signature]
 Date Time: 5-16-18 8:55

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. 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 losses 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.



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 05/16/2018 08:55:00 AM

Work Order #: 586204

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)?	1.8
#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: 05/16/2018
Brenda Ward

Checklist reviewed by: Kelsey Brooks Date: 05/18/2018
Kelsey Brooks

Analytical Report 586531

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Apple State 5 SWD #1

24-MAY-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-25), 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)



24-MAY-18

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

Reference: XENCO Report No(s): **586531**
Apple State 5 SWD #1
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) 586531. 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. 586531 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', written in a cursive style.

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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Sample Cross Reference 586531

TRC Solutions, Inc, Midland, TX

Apple State 5 SWD #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 SSW1	S	05-16-18 10:05	2 ft	586531-001
T-1 SSW2	S	05-16-18 10:10	2 ft	586531-002
T-1 SSW3	S	05-16-18 10:15	2 ft	586531-003
T-1 SSW4	S	05-16-18 10:20	2 ft	586531-004
T-5 SSW	S	05-16-18 10:25	2 ft	586531-005



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple State 5 SWD #1

Project ID:
Work Order Number(s): 586531

Report Date: 24-MAY-18
Date Received: 05/18/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 586531

TRC Solutions, Inc, Midland, TX

Project Name: Apple State 5 SWD #1

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

Date Received in Lab: Fri May-18-18 04:20 pm
Report Date: 24-MAY-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	586531-001	586531-002	586531-003	586531-004	586531-005	
	<i>Field Id:</i>	T-1 SSW1	T-1 SSW2	T-1 SSW3	T-1 SSW4	T-5 SSW	
	<i>Depth:</i>	2- ft					
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	May-16-18 10:05	May-16-18 10:10	May-16-18 10:15	May-16-18 10:20	May-16-18 10:25	
Chloride by EPA 300	<i>Extracted:</i>	May-23-18 08:45	May-23-18 08:45	May-23-18 10:30	May-23-18 10:30	May-23-18 10:30	
	<i>Analyzed:</i>	May-23-18 13:31	May-23-18 14:21	May-23-18 20:15	May-23-18 20:53	May-23-18 21:05	
	<i>Units/RL:</i>	mg/kg RL					
Chloride		<25.0 25.0	<25.0 25.0	<25.0 25.0	30.0 25.0	<25.0 25.0	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager



BS / BSD Recoveries



Project Name: Apple State 5 SWD #1

Work Order #: 586531

Project ID:

Analyst: RNL

Date Prepared: 05/23/2018

Date Analyzed: 05/23/2018

Lab Batch ID: 3051139

Sample: 7645327-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	240	96	250	238	95	1	90-110	20	

Analyst: RNL

Date Prepared: 05/23/2018

Date Analyzed: 05/23/2018

Lab Batch ID: 3051171

Sample: 7645350-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	261	104	250	252	101	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: Apple State 5 SWD #1

Work Order # : 586531

Project ID:

Lab Batch ID: 3051139

QC- Sample ID: 586531-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/23/2018

Date Prepared: 05/23/2018

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	<50.0	250	284	114	250	267	107	6	80-120	20	

Lab Batch ID: 3051139

QC- Sample ID: 586668-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/23/2018

Date Prepared: 05/23/2018

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	263	105	250	280	112	6	80-120	20	

Lab Batch ID: 3051171

QC- Sample ID: 586531-003 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/23/2018

Date Prepared: 05/23/2018

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	267	107	250	272	109	2	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.



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 05/18/2018 04:20:00 PM

Work Order #: 586531

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)?	4.1
#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: 05/18/2018
Brenda Ward

Checklist reviewed by: Kelsey Brooks Date: 05/21/2018
Kelsey Brooks



Certificate of Analysis Summary 588397

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

Project Id:
Contact: Joel Lowry
Project Location: Lea Co. NM

Date Received in Lab: Wed Jun-06-18 09:00 am
Report Date: 11-JUN-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	588397-001	588397-002	588397-003	588397-004	588397-005	588397-006
	<i>Field Id:</i>	G-1	G-2	G-3	G-4	G-5	G-6
	<i>Depth:</i>	4-	4-	4-	4-	4-	4-
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	May-31-18 12:10	May-31-18 12:15	May-31-18 12:20	May-31-18 12:25	May-31-18 12:30	May-31-18 12:35
Chloride by EPA 300	<i>Extracted:</i>	Jun-11-18 08:30					
	<i>Analyzed:</i>	Jun-11-18 11:11	Jun-11-18 11:23	Jun-11-18 11:35	Jun-11-18 14:04	Jun-11-18 12:00	Jun-11-18 12:13
	<i>Units/RL:</i>	mg/kg RL					
Chloride		4230 250	3590 250	3600 250	151 25.0	1900 125	292 50.0

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Version: 1.9%

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 588397

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

Project Id:
Contact: Joel Lowry
Project Location: Lea Co. NM

Date Received in Lab: Wed Jun-06-18 09:00 am
Report Date: 11-JUN-18
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	588397-007	588397-008	588397-009	588397-010		
	Field Id:	G-7	G-8	G-9	G-10		
	Depth:	4-	4-	4-	4-		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	May-31-18 12:40	May-31-18 12:45	May-31-18 12:50	May-31-18 12:55		
Chloride by EPA 300	Extracted:	Jun-11-18 08:30	Jun-11-18 08:30	Jun-11-18 08:30	Jun-11-18 08:30		
	Analyzed:	Jun-11-18 12:25	Jun-11-18 14:17	Jun-11-18 12:50	Jun-11-18 13:15		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		2960 250	<25.0 25.0	348 50.0	241 125		

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Version: 1.9%

Kelsey Brooks
 Project Manager

Analytical Report 588397

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Apple 5 State

11-JUN-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), 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)



11-JUN-18

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

Reference: XENCO Report No(s): **588397**
Apple 5 State
Project Address: Lea 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) 588397. 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.

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Respectfully,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 588397

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
G-1	S	05-31-18 12:10	4	588397-001
G-2	S	05-31-18 12:15	4	588397-002
G-3	S	05-31-18 12:20	4	588397-003
G-4	S	05-31-18 12:25	4	588397-004
G-5	S	05-31-18 12:30	4	588397-005
G-6	S	05-31-18 12:35	4	588397-006
G-7	S	05-31-18 12:40	4	588397-007
G-8	S	05-31-18 12:45	4	588397-008
G-9	S	05-31-18 12:50	4	588397-009
G-10	S	05-31-18 12:55	4	588397-010



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple 5 State

Project ID:
Work Order Number(s): 588397

Report Date: 11-JUN-18
Date Received: 06/06/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 588397

TRC Solutions, Inc, Midland, TX
Apple 5 State

Sample Id: G-1	Matrix: Soil	Date Received: 06.06.18 09.00
Lab Sample Id: 588397-001	Date Collected: 05.31.18 12.10	Sample Depth: 4
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 06.11.18 08.30	Basis: Wet Weight
Seq Number: 3053012		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4230	250	mg/kg	06.11.18 11.11		10



Certificate of Analytical Results 588397

TRC Solutions, Inc, Midland, TX
Apple 5 State

Sample Id: G-2	Matrix: Soil	Date Received: 06.06.18 09.00
Lab Sample Id: 588397-002	Date Collected: 05.31.18 12.15	Sample Depth: 4
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 06.11.18 08.30	Basis: Wet Weight
Seq Number: 3053012		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3590	250	mg/kg	06.11.18 11.23		10



Certificate of Analytical Results 588397

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id: **G-3**
Lab Sample Id: 588397-003

Matrix: Soil
Date Collected: 05.31.18 12.20

Date Received: 06.06.18 09.00
Sample Depth: 4

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 06.11.18 08.30

Basis: Wet Weight

Seq Number: 3053012

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3600	250	mg/kg	06.11.18 11.35		10



Certificate of Analytical Results 588397

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id: **G-4**
Lab Sample Id: 588397-004

Matrix: Soil
Date Collected: 05.31.18 12.25

Date Received: 06.06.18 09.00
Sample Depth: 4

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 06.11.18 08.30

Basis: Wet Weight

Seq Number: 3053012

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	151	25.0	mg/kg	06.11.18 14.04		1



Certificate of Analytical Results 588397

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id: G-5	Matrix: Soil	Date Received: 06.06.18 09.00
Lab Sample Id: 588397-005	Date Collected: 05.31.18 12.30	Sample Depth: 4
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 06.11.18 08.30	Basis: Wet Weight
Seq Number: 3053012		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1900	125	mg/kg	06.11.18 12.00		5



Certificate of Analytical Results 588397

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id: **G-6**
Lab Sample Id: 588397-006

Matrix: Soil
Date Collected: 05.31.18 12.35

Date Received: 06.06.18 09.00
Sample Depth: 4

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 06.11.18 08.30

Basis: Wet Weight

Seq Number: 3053012

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	292	50.0	mg/kg	06.11.18 12.13		2



Certificate of Analytical Results 588397

TRC Solutions, Inc, Midland, TX
Apple 5 State

Sample Id: G-7	Matrix: Soil	Date Received: 06.06.18 09.00
Lab Sample Id: 588397-007	Date Collected: 05.31.18 12.40	Sample Depth: 4
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 06.11.18 08.30	Basis: Wet Weight
Seq Number: 3053012		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2960	250	mg/kg	06.11.18 12.25		10



Certificate of Analytical Results 588397

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id: **G-8**
Lab Sample Id: 588397-008

Matrix: Soil
Date Collected: 05.31.18 12.45

Date Received: 06.06.18 09.00
Sample Depth: 4

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 06.11.18 08.30

Basis: Wet Weight

Seq Number: 3053012

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<25.0	25.0	mg/kg	06.11.18 14.17	U	1



Certificate of Analytical Results 588397

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id: **G-9**
Lab Sample Id: 588397-009

Matrix: Soil
Date Collected: 05.31.18 12.50

Date Received: 06.06.18 09.00
Sample Depth: 4

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 06.11.18 08.30

Basis: Wet Weight

Seq Number: 3053012

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	348	50.0	mg/kg	06.11.18 12.50		2



Certificate of Analytical Results 588397

TRC Solutions, Inc, Midland, TX
Apple 5 State

Sample Id: G-10	Matrix: Soil	Date Received: 06.06.18 09.00
Lab Sample Id: 588397-010	Date Collected: 05.31.18 12.55	Sample Depth: 4
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: RNL		% Moisture:
Analyst: RNL	Date Prep: 06.11.18 08.30	Basis: Wet Weight
Seq Number: 3053012		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	241	125	mg/kg	06.11.18 13.15		5



TRC Solutions, Inc
Apple 5 State

Analytical Method: Chloride by EPA 300

Seq Number: 3053012
MB Sample Id: 7656430-1-BLK

Matrix: Solid
LCS Sample Id: 7656430-1-BKS

Prep Method: E300P
Date Prep: 06.11.18
LCSD Sample Id: 7656430-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	225	90	230	92	90-110	2	20	mg/kg	06.11.18 10:01	

Analytical Method: Chloride by EPA 300

Seq Number: 3053012
Parent Sample Id: 588326-001

Matrix: Soil
MS Sample Id: 588326-001 S

Prep Method: E300P
Date Prep: 06.11.18
MSD Sample Id: 588326-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	200	80	228	91	80-120	13	20	mg/kg	06.11.18 10:38	

Analytical Method: Chloride by EPA 300

Seq Number: 3053012
Parent Sample Id: 588406-001

Matrix: Soil
MS Sample Id: 588406-001 S

Prep Method: E300P
Date Prep: 06.11.18
MSD Sample Id: 588406-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2900	250	3150	100	4040	456	80-120	25	20	mg/kg	06.11.18 13:40	XF

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result
MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

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Dallas Texas (214-902-0300)

Phoenix, Arizona (480-355-0900)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

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588397

588397

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes		
Company Name / Branch: TRC Environmental Corporation 2057 Commerce Drive Midland, TX 79703 Email: jlowry@trcsolutions.com Phone No: 432-466-4450		Project Name/Number: Apple 5 State Project Location: Lea Co, NM Invoice To: COG Operating C/O Becky Haskell Invoice:		Xenco Job # 588397		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	Sample Depth	Collection Date	Time	Matrix	# of bottles	Number of preserved bottles	Field Comments
1	G-1	4'	5/31/2018	12:10	S	1	<input type="checkbox"/> HCl <input type="checkbox"/> NaOH/Zn <input type="checkbox"/> Acetate <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> MeOH <input type="checkbox"/> NONE	TPH 8015 M Ext Chloride E 300 BTEX 8021B
2	G-2	4'	5/31/2018	12:15	S	1		
3	G-3	4'	5/31/2018	12:20	S	1		
4	G-4	4'	5/31/2018	12:25	S	1		
5	G-5	4'	5/31/2018	12:30	S	1		
6	G-6	4'	5/31/2018	12:35	S	1		
7	G-7	4'	5/31/2018	12:40	S	1		
8	G-8	4'	5/31/2018	12:45	S	1		
9	G-9	4'	5/31/2018	12:50	S	1		
10	G-10	4'	5/31/2018	12:55	S	1		

Notes:

Same Day TAT
 5 Day TAT
 Next Day EMERGENCY
 7 Day TAT
 2 Day EMERGENCY
 Contract TAT
 3 Day EMERGENCY

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

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

Relinquished by Sampler: _____
 Relinquished By: _____
 Relinquished By: _____

Received By: _____
 Received By: _____
 Received By: _____

Date Time: _____
 Date Time: _____
 Date Time: _____

Preserved where applicable: _____
 On Ice: _____
 Colder Temp: _____
 Thermo. Corr. Factor: _____

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 losses 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.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 06/06/2018 09:00:00 AM

Work Order #: 588397

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)?	3.5
#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: 06/06/2018
Brenda Ward

Checklist reviewed by: Kelsey Brooks Date: 06/07/2018
Kelsey Brooks

Analytical Report 588406

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Apple 5 State

12-JUN-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), 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 (T104704400-18-15)
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)



12-JUN-18

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

Reference: XENCO Report No(s): **588406**
Apple 5 State
Project Address: Lea 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) 588406. 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. 588406 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 588406

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-7 @ 6'	S	05-31-18 13:50	6	588406-001
T-7 @ 8'	S	05-31-18 13:55	8	588406-002
T-7 @ 10'	S	05-31-18 14:00	10	588406-003
T-8 @ 6'	S	05-31-18 14:05	6	588406-004
T-8 @ 8'	S	05-31-18 14:10	8	588406-005
T-8 @ 10'	S	05-31-18 14:15	10	588406-006
T-8 @ 12'	S	05-31-18 14:20	12	588406-007
T-9 @ 6'	S	05-31-18 14:25	6	588406-008
T-9 @ 8'	S	05-31-18 14:30	8	588406-009
T-9 @ 10'	S	05-31-18 14:35	10	588406-010



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple 5 State

Project ID:
Work Order Number(s): 588406

Report Date: 12-JUN-18
Date Received: 06/06/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3053012 Inorganic Anions by EPA 300

Lab Sample ID 588406-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 588406-001, -002, -007.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Chloride Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.

Samples in the analytical batch are: 588406-001, -002, -007



Certificate of Analysis Summary 588406

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

Project Id:
Contact: Joel Lowry
Project Location: Lea Co. NM

Date Received in Lab: Wed Jun-06-18 09:00 am
Report Date: 12-JUN-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	588406-001	588406-002	588406-003	588406-004	588406-005	588406-006
	<i>Field Id:</i>	T-7 @ 6'	T-7 @ 8'	T-7 @ 10'	T-8 @ 6'	T-8 @ 8'	T-8 @ 10'
	<i>Depth:</i>	6-	8-	10-	6-	8-	10-
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	May-31-18 13:50	May-31-18 13:55	May-31-18 14:00	May-31-18 14:05	May-31-18 14:10	May-31-18 14:15
Chloride by EPA 300	<i>Extracted:</i>	Jun-11-18 08:30	Jun-11-18 08:30	Jun-12-18 08:10	Jun-11-18 08:30	Jun-11-18 08:30	Jun-12-18 08:10
	<i>Analyzed:</i>	Jun-11-18 13:27	Jun-11-18 14:29	Jun-12-18 09:47	Jun-11-18 17:24	Jun-11-18 17:37	Jun-12-18 09:59
	<i>Units/RL:</i>	mg/kg RL					
Chloride		2900 250	1910 1250	121 25.0	216 125	1100 125	653 125

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 588406

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

Project Id:
Contact: Joel Lowry
Project Location: Lea Co. NM

Date Received in Lab: Wed Jun-06-18 09:00 am
Report Date: 12-JUN-18
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	588406-007	588406-008	588406-009	588406-010		
	Field Id:	T-8 @ 12'	T-9 @ 6'	T-9 @ 8'	T-9 @ 10'		
	Depth:	12-	6-	8-	10-		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	May-31-18 14:20	May-31-18 14:25	May-31-18 14:30	May-31-18 14:35		
Chloride by EPA 300	Extracted:	Jun-11-18 08:30	Jun-11-18 08:30	Jun-11-18 08:30	Jun-11-18 08:30		
	Analyzed:	Jun-11-18 15:31	Jun-11-18 18:39	Jun-11-18 19:04	Jun-11-18 19:29		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		719 250	598 125	745 125	506 125		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
 Project Manager



BS / BSD Recoveries



Project Name: Apple 5 State

Work Order #: 588406

Project ID:

Analyst: RNL

Date Prepared: 06/11/2018

Date Analyzed: 06/11/2018

Lab Batch ID: 3053012

Sample: 7656430-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	225	90	250	230	92	2	90-110	20	

Analyst: RNL

Date Prepared: 06/11/2018

Date Analyzed: 06/11/2018

Lab Batch ID: 3053036

Sample: 7656441-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	239	96	250	232	93	3	90-110	20	

Analyst: RNL

Date Prepared: 06/12/2018

Date Analyzed: 06/12/2018

Lab Batch ID: 3053154

Sample: 7656501-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	226	90	250	226	90	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: Apple 5 State

Work Order # : 588406

Project ID:

Lab Batch ID: 3053012

QC- Sample ID: 588326-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/11/2018

Date Prepared: 06/11/2018

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	200	80	250	228	91	13	80-120	20	

Lab Batch ID: 3053012

QC- Sample ID: 588406-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/11/2018

Date Prepared: 06/11/2018

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	2900	250	3150	100	250	4040	456	25	80-120	20	XF

Lab Batch ID: 3053036

QC- Sample ID: 588483-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/11/2018

Date Prepared: 06/11/2018

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	2400	250	3520	448	250	3860	NC	9	80-120	20	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: Apple 5 State

Work Order # : 588406

Project ID:

Lab Batch ID: 3053154

QC- Sample ID: 588483-002 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/12/2018

Date Prepared: 06/12/2018

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	367	250	602	94	250	587	88	3	80-120	20	

Lab Batch ID: 3053154

QC- Sample ID: 588483-009 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/12/2018

Date Prepared: 06/12/2018

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	<1250	250	1490	596	250	1450	580	3	80-120	20	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.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 06/06/2018 09:00:00 AM

Work Order #: 588406

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)?	3.5
#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: Date: 06/06/2018
 Brenda Ward

Checklist reviewed by: Date: 06/07/2018
 Kelsey Brooks

Analytical Report 588483

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Apple 5 State

13-JUN-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), 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)
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Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)
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)



13-JUN-18

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

Reference: XENCO Report No(s): **588483**
Apple 5 State
Project Address: Lea, 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) 588483. 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.

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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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 588483

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
G-11	S	05-31-18 13:00	4 ft	588483-001
G-12	S	05-31-18 13:05	4 ft	588483-002
G-13	S	05-31-18 13:10	4 ft	588483-003
T-5 @ 5'	S	05-31-18 13:15	5 ft	588483-004
T-5 @ 7'	S	05-31-18 13:20	7 ft	588483-005
T-5 @ 9'	S	05-31-18 13:25	9 ft	588483-006
T-5 @ 11'	S	05-31-18 13:30	11 ft	588483-007
T-6 @ 6'	S	05-31-18 13:35	6 ft	588483-008
T-6 @ 8'	S	05-31-18 13:40	8 ft	588483-009
T-6 @ 10'	S	05-31-18 13:45	10 ft	588483-010



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple 5 State

Project ID:
Work Order Number(s): 588483

Report Date: 13-JUN-18
Date Received: 06/06/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3053036 Chloride by EPA 300

Lab Sample ID 588483-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 588483-001.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3053154 Chloride by EPA 300

Lab Sample ID 588483-009 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 588483-002, -003, -004, -005, -006, -007, -008, -009, -010.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analysis Summary 588483

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Wed Jun-06-18 09:00 am
Report Date: 13-JUN-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	588483-001	588483-002	588483-003	588483-004	588483-005	588483-006
	<i>Field Id:</i>	G-11	G-12	G-13	T-5 @ 5'	T-5 @ 7'	T-5 @ 9'
	<i>Depth:</i>	4- ft	4- ft	4- ft	5- ft	7- ft	9- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	May-31-18 13:00	May-31-18 13:05	May-31-18 13:10	May-31-18 13:15	May-31-18 13:20	May-31-18 13:25
Chloride by EPA 300	<i>Extracted:</i>	Jun-11-18 08:30	Jun-12-18 08:10				
	<i>Analyzed:</i>	Jun-11-18 17:49	Jun-12-18 10:12	Jun-12-18 14:57	Jun-12-18 11:14	Jun-12-18 11:26	Jun-12-18 14:20
	<i>Units/RL:</i>	mg/kg RL					
Chloride		3420 D 250	367 25.0	340 25.0	6310 1250	1400 1250	946 125

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 588483

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Wed Jun-06-18 09:00 am
Report Date: 13-JUN-18
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	588483-007	588483-008	588483-009	588483-010		
	Field Id:	T-5 @ 11'	T-6 @ 6'	T-6 @ 8'	T-6 @ 10'		
	Depth:	11- ft	6- ft	8- ft	10- ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	May-31-18 13:30	May-31-18 13:35	May-31-18 13:40	May-31-18 13:45		
Chloride by EPA 300	Extracted:	Jun-12-18 08:10	Jun-12-18 08:10	Jun-12-18 08:10	Jun-12-18 08:10		
	Analyzed:	Jun-12-18 14:32	Jun-12-18 12:03	Jun-12-18 12:28	Jun-12-18 14:45		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		177 125	3240 1250	423 125	35.2 25.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
 Project Manager



BS / BSD Recoveries



Project Name: Apple 5 State

Work Order #: 588483

Project ID:

Analyst: RNL

Date Prepared: 06/11/2018

Date Analyzed: 06/11/2018

Lab Batch ID: 3053036

Sample: 7656441-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	239	96	250	232	93	3	90-110	20	

Analyst: RNL

Date Prepared: 06/12/2018

Date Analyzed: 06/12/2018

Lab Batch ID: 3053154

Sample: 7656501-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	226	90	250	226	90	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: Apple 5 State

Work Order # : 588483

Project ID:

Lab Batch ID: 3053036

QC- Sample ID: 588483-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/11/2018

Date Prepared: 06/11/2018

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	2400	250	3520	448	250	3860	NC	9	80-120	20	X

Lab Batch ID: 3053154

QC- Sample ID: 588483-002 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/12/2018

Date Prepared: 06/12/2018

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	367	250	602	94	250	587	88	3	80-120	20	

Lab Batch ID: 3053154

QC- Sample ID: 588483-009 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/12/2018

Date Prepared: 06/12/2018

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	<1250	250	1490	596	250	1450	580	3	80-120	20	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.



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Dallas Texas (214-902-0300)

5884F3

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CHAIN OF CUSTODY

Page 1 Of 1

Phoenix, Arizona (480-355-0900)

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes									
Company Name / Branch: TRC Environmental Corporation		Project Name/Number: Apple 5 State		Xenco Job # 5884F3		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 VW = Waste Water A = Air									
Company Address: 2057 Commerce Drive Midland, TX 79703		Project Location: Lea Co, NM		Chloride F 300		Field Comments									
Email: jlowry@trcsolutions.com		Invoice To: COG Operating C/O Becky Haskell		TPH 8015 M Ext											
Project Contact: Joel Lowry		Invoice:													
Samplers Name Joel Lowry		Phone No: 432-466-4460													
No.	Field ID / Point of Collection	Collection		Number of preserved bottles							Matrix	Time	# of bottles	Notes	
		Sample Depth	Date	HCl	NaOH/Zn	HNO3	H2SO4	NaOH	NaHSO4	MEOH					NONE
1	G-11	4'	5/31/2018										S	1	
2	G-12	4'	5/31/2018										S	1	
3	G-13	4'	5/31/2018										S	1	
4	T-5 @ 5'	5'	5/31/2018										S	1	
5	T-5 @ 7'	7'	5/31/2018										S	1	
6	T-5 @ 9'	9'	5/31/2018										S	1	
7	T-5 @ 11'	11'	5/31/2018										S	1	
8	T-6 @ 6'	6'	5/31/2018										S	1	
9	T-6 @ 8'	8'	5/31/2018										S	1	
10	T-6 @ 10'	10'	5/31/2018										S	1	
<input type="checkbox"/> Same Day TAT <input type="checkbox"/> 5 Day TAT <input type="checkbox"/> Level II Std QC <input type="checkbox"/> Level IV (Full Data Pkg (raw data)) <input type="checkbox"/> Next Day EMERGENCY <input type="checkbox"/> 7 Day TAT <input type="checkbox"/> Level III Std QC+ Forms <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> 2 Day EMERGENCY <input checked="" type="checkbox"/> Contract TAT <input type="checkbox"/> Level 3 (CLP Forms) <input type="checkbox"/> UST / RG -411 <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> TRRP Checklist															
TAT Starts Day received by Lab, if received by 5:00 pm Relinquished by Sampler: _____ Relinquished by: _____ Relinquished by: _____ Relinquished by: _____															
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY Relinquished By: _____ Date Time: _____ Relinquished By: _____ Date Time: _____ Relinquished By: _____ Date Time: _____ Relinquished By: _____ Date Time: _____															
Relinquished By: _____ Date Time: _____ Relinquished By: _____ Date Time: _____ Relinquished By: _____ Date Time: _____ Relinquished By: _____ Date Time: _____															
Relinquished By: _____ Date Time: _____ Relinquished By: _____ Date Time: _____ Relinquished By: _____ Date Time: _____ Relinquished By: _____ Date Time: _____															

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 losses 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.



Client: TRC Solutions, Inc

Date/ Time Received: 06/06/2018 09:00:00 AM

Work Order #: 588483

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)?	3.5
#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)?	N/A
#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: 06/07/2018

Checklist reviewed by:

Kelsey Brooks

Date: 06/07/2018

Analytical Report 588489

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Apple 5 State

12-JUN-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), 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 (T104704400-18-15)
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)



12-JUN-18

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

Reference: XENCO Report No(s): **588489**
Apple 5 State
Project Address: Lea 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) 588489. 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. 588489 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 588489

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-9 @ 12'	S	05-31-18 14:40	12 ft	588489-001



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple 5 State

Project ID:
Work Order Number(s): 588489

Report Date: 12-JUN-18
Date Received: 06/06/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 588489

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Wed Jun-06-18 09:00 am
Report Date: 12-JUN-18
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	588489-001				
	Field Id:	T-9 @ 12'				
	Depth:	12- ft				
	Matrix:	SOIL				
	Sampled:	May-31-18 14:40				
Chloride by EPA 300	Extracted:	Jun-12-18 08:10				
	Analyzed:	Jun-12-18 14:08				
	Units/RL:	mg/kg RL				
Chloride		655 125				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
 Project Manager



BS / BSD Recoveries

Project Name: Apple 5 State

Work Order #: 588489

Project ID:

Analyst: RNL

Date Prepared: 06/12/2018

Date Analyzed: 06/12/2018

Lab Batch ID: 3053154

Sample: 7656501-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

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 by EPA 300										
Chloride	<25.0	250	226	90	250	226	90	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: Apple 5 State

Work Order # : 588489

Project ID:

Lab Batch ID: 3053154

QC- Sample ID: 588483-002 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/12/2018

Date Prepared: 06/12/2018

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	367	250	602	94	250	587	88	3	80-120	20	

Lab Batch ID: 3053154

QC- Sample ID: 588483-009 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/12/2018

Date Prepared: 06/12/2018

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	<1250	250	1490	596	250	1450	580	3	80-120	20	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.



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 Dallas Texas (214-902-0300)

CHAIN OF CUSTODY

Page 1 of 1

San Antonio, Texas (210-509-3334)
 Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

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588489

588489

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes	
Company Name / Branch: TRC Environmental Corporation Company Address: 2057 Commerce Drive, Midland, TX, 79703 Email: jlowry@ircsolutions.com Phone No: 432-466-4450		Project Name/Number: Apple 5 State Project Location: Lea Co, NM Invoice To: COG Operating C/O Becky Haskell Invoice:		TPH 8015 M Ext Chloride E 300 BTEX 8021B		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	Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles
1	T-9 @ 12'	12'	5/31/2018	2:40	S	1	<input type="checkbox"/> NONE <input type="checkbox"/> MECH <input type="checkbox"/> NaHSO4 <input type="checkbox"/> NaOH <input type="checkbox"/> H2SO4 <input type="checkbox"/> HNO3 <input type="checkbox"/> NaOH/Zn <input type="checkbox"/> Acetate <input type="checkbox"/> HCl
2							
3							
4							
5							
6							
7							
8							
9							
10							

Data Deliverable Information		Notes:	
<input type="checkbox"/> Same Day TAT <input type="checkbox"/> 5 Day TAT <input type="checkbox"/> Next Day EMERGENCY <input type="checkbox"/> 7 Day TAT <input type="checkbox"/> 2 Day EMERGENCY <input checked="" type="checkbox"/> Contract TAT <input type="checkbox"/> 3 Day EMERGENCY	<input type="checkbox"/> Level II Std QC <input type="checkbox"/> Level IV (Full Data Pkg /raw data) <input type="checkbox"/> Level III Std QC+ Forms <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level 3 (CLP Forms) <input type="checkbox"/> UST / RG -411 <input type="checkbox"/> TRRP Checklist	jlowry@ircsolutions.com rhaske@concho.com zcorder@ircsolutions.com dneel2@concho.com FED-EX / UPS: Tracking #	bccooper@ircsolutions.com rhaske@concho.com zcorder@ircsolutions.com dneel2@concho.com

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

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

Relinquished By Sampler	Date Time	Received By	Date Time
1		2	
3		4	
5		5	

Relinquished by: [Signature] Date Time: [Blank]
 Relinquished by: [Signature] Date Time: [Blank]
 Relinquished by: [Signature] Date Time: [Blank]

On Ice Cooler Temp. Thermo. Corr. Factor 37.3

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 losses 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.

Analytical Report 588930

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Apple 5 State

01-AUG-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), 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 (T104704400-18-15)
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)



01-AUG-18

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

Reference: XENCO Report No(s): **588930**
Apple 5 State
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) 588930. 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. 588930 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

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Sample Cross Reference 588930

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-12 @4'	S	06-07-18 12:00	4 ft	588930-001
T-12 @10'	S	06-07-18 12:05	10 ft	588930-002
T-12 @12'	S	06-07-18 12:10	12 ft	588930-003
T-14 @4'	S	06-07-18 12:15	4 ft	588930-004
T-14 @8'	S	06-07-18 12:20	8 ft	588930-005
T-14 @10'	S	06-07-18 12:25	10 ft	588930-006
T-15 @6'	S	06-07-18 12:30	6 ft	588930-007
T-15 @8'	S	06-07-18 12:35	8 ft	588930-008
T-15 @10'	S	06-07-18 12:40	10 ft	588930-009
T-16 @2'	S	06-07-18 12:50	2 ft	588930-010
T-16 @6'	S	06-07-18 12:55	6 ft	588930-011
T-17 @4'	S	06-07-18 13:00	4 ft	588930-012
T-17 @6'	S	06-07-18 13:05	6 ft	588930-013
T-18 @2'	S	06-07-18 13:10	2 ft	588930-014
T-18 @6'	S	06-07-18 13:15	6 ft	588930-015
T-18 @8'	S	06-07-18 13:20	8 ft	588930-016
T-3 ESW-2	S	06-07-18 13:25	4 ft	588930-017
T-3 ESW-2b	S	06-07-18 13:30	4 ft	588930-018
T-14 SWSW	S	06-07-18 13:15	4 ft	588930-019
T-3 ESW-1	S	06-07-18 13:20	4 ft	588930-020
G2@6'	S	06-07-18 13:25	6 ft	588930-021
G7@6'	S	06-07-18 13:30	6 ft	588930-022
G11@6'	S	06-07-18 13:35	6 ft	588930-023



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple 5 State

Project ID:

Work Order Number(s): 588930

Report Date: 01-AUG-18

Date Received: 06/12/2018

Sample receipt non conformances and comments:

Sample name changes made per Joel Lowry e-mail:

T-4 ESW2 to T-3 ESW1

T-4 ESW1 to T-13 SESW

T-3 ESW1 to T-3 ESW2

T-4 ESW1 to T-14 SESW

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 588930

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Tue Jun-12-18 10:45 am
Report Date: 01-AUG-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	588930-001	588930-002	588930-003	588930-004	588930-005	588930-006
	<i>Field Id:</i>	T-12 @4'	T-12 @10'	T-12 @12'	T-14 @4'	T-14 @8'	T-14 @10'
	<i>Depth:</i>	4- ft	10- ft	12- ft	4- ft	8- ft	10- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-07-18 12:00	Jun-07-18 12:05	Jun-07-18 12:10	Jun-07-18 12:15	Jun-07-18 12:20	Jun-07-18 12:25
Chloride by EPA 300	<i>Extracted:</i>	Jun-13-18 08:00					
	<i>Analyzed:</i>	Jun-13-18 09:37	Jun-14-18 16:43	Jun-14-18 17:02	Jun-13-18 10:04	Jun-13-18 10:10	Jun-14-18 17:08
	<i>Units/RL:</i>	mg/kg RL					
Chloride		4390 100	46.1 5.00	39.5 4.96	1630 25.0	622 49.0	59.1 4.97

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 588930

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Tue Jun-12-18 10:45 am
Report Date: 01-AUG-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	588930-007	588930-008	588930-009	588930-010	588930-011	588930-012
	<i>Field Id:</i>	T-15 @6'	T-15 @8'	T-15 @10'	T-16 @2'	T-16 @6'	T-17 @4'
	<i>Depth:</i>	6- ft	8- ft	10- ft	2- ft	6- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-07-18 12:30	Jun-07-18 12:35	Jun-07-18 12:40	Jun-07-18 12:50	Jun-07-18 12:55	Jun-07-18 13:00
Chloride by EPA 300	<i>Extracted:</i>	Jun-13-18 08:00					
	<i>Analyzed:</i>	Jun-13-18 10:21	Jun-13-18 10:26	Jun-13-18 10:48	Jun-13-18 10:53	Jun-13-18 11:09	Jun-13-18 11:15
	<i>Units/RL:</i>	mg/kg RL					
Chloride		4790 98.6	2280 49.2	319 24.9	8980 98.6	37.4 25.0	1820 50.0

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Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 588930

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Tue Jun-12-18 10:45 am
Report Date: 01-AUG-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	588930-013	588930-014	588930-015	588930-016	588930-017	588930-018
	<i>Field Id:</i>	T-17 @6'	T-18 @2'	T-18 @6'	T-18 @8'	T-3 ESW-2	T-3 ESW-2b
	<i>Depth:</i>	6- ft	2- ft	6- ft	8- ft	4- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-07-18 13:05	Jun-07-18 13:10	Jun-07-18 13:15	Jun-07-18 13:20	Jun-07-18 13:25	Jun-07-18 13:30
Chloride by EPA 300	<i>Extracted:</i>	Jun-13-18 08:00	Jun-13-18 15:00				
	<i>Analyzed:</i>	Jun-13-18 11:20	Jun-13-18 11:25	Jun-13-18 11:31	Jun-13-18 11:36	Jun-13-18 11:42	Jun-14-18 14:23
	<i>Units/RL:</i>	mg/kg RL					
Chloride		135 50.0	10000 250	540 49.7	111 49.8	3750 49.9	1140 24.6

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Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 588930

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Tue Jun-12-18 10:45 am
Report Date: 01-AUG-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	588930-019	588930-020	588930-021	588930-022	588930-023	
	<i>Field Id:</i>	T-14 SWSW	T-3 ESW-1	G2@6'	G7@6'	G11@6'	
	<i>Depth:</i>	4- ft	4- ft	6- ft	6- ft	6- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Jun-07-18 13:15	Jun-07-18 13:20	Jun-07-18 13:25	Jun-07-18 13:30	Jun-07-18 13:35	
Chloride by EPA 300	<i>Extracted:</i>	Jun-13-18 15:00					
	<i>Analyzed:</i>	Jun-14-18 14:28	Jun-14-18 14:34	Jun-14-18 14:44	Jun-15-18 12:15	Jun-14-18 15:05	
	<i>Units/RL:</i>	mg/kg RL					
Chloride		1790 24.9	177 4.96	305 4.97	33.1 4.92	23.1 4.95	

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Kelsey Brooks
 Project Manager



BS / BSD Recoveries



Project Name: Apple 5 State

Work Order #: 588930

Project ID:

Analyst: SCM

Date Prepared: 06/13/2018

Date Analyzed: 06/13/2018

Lab Batch ID: 3053394

Sample: 7656558-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<5.00	250	248	99	250	249	100	0	90-110	20	

Analyst: SCM

Date Prepared: 06/13/2018

Date Analyzed: 06/14/2018

Lab Batch ID: 3053525

Sample: 7656631-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<5.00	250	257	103	250	257	103	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: Apple 5 State

Work Order # : 588930

Project ID:

Lab Batch ID: 3053394

QC- Sample ID: 588924-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/13/2018

Date Prepared: 06/13/2018

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	<4.95	248	258	104	248	257	104	0	90-110	20	

Lab Batch ID: 3053394

QC- Sample ID: 588924-002 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/13/2018

Date Prepared: 06/13/2018

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	<4.90	245	246	100	245	247	101	0	90-110	20	

Lab Batch ID: 3053525

QC- Sample ID: 588924-003 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/14/2018

Date Prepared: 06/13/2018

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	<5.00	250	259	104	248	262	106	1	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: Apple 5 State

Work Order # : 588930

Project ID:

Lab Batch ID: 3053525

QC- Sample ID: 588924-004 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/14/2018

Date Prepared: 06/13/2018

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	<5.00	250	264	106	250	260	104	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.



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Xenco Job #

588930

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes															
Company Name / Branch: TRC Environmental Corporation		Project Name/Number: Apple 5 State																			
Company Address: 2057 Commerce Drive Midland, TX 79703		Project Location: Eddy, Co. NM																			
Email: jlowry@trcsolutions.com		Invoice To: COG Operating C/O Becky Haskell																			
Project Contact: Joel Lowry		Phone No: 432-466-4450																			
Sampler's Name: Joel Lowry		Invoice:																			
No.	Field ID / Point of Collection	Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Notes:	Field Comments	
1	T-12 @ 4'		4'	6/7/2018	12:00	S	1									X					
2	T-12 @ 10'		10'	6/7/2018	12:05	S	1									X					
3	T-12 @ 12'		12'	6/7/2018	12:10	S	1									X					
4	T-14 @ 4'		4'	6/7/2018	12:15	S	1									X					
5	T-14 @ 8'		8'	6/7/2018	12:20	S	1									X					
6	T-14 @ 10'		10'	6/7/2018	12:25	S	1									X					
7	T-15 @ 6'		6'	6/7/2018	12:30	S	1									X					
8	T-15 @ 8'		8'	6/7/2018	12:35	S	1									X					
9	T-15 @ 10'		10'	6/7/2018	12:40	S	1									X					
10																					
Data Deliverable Information																					
<input type="checkbox"/> Same Day TAT <input type="checkbox"/> Next Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 3 Day EMERGENCY		<input type="checkbox"/> 6 Day TAT <input type="checkbox"/> 7 Day TAT <input checked="" type="checkbox"/> Contract TAT		<input type="checkbox"/> Level II Std QC <input type="checkbox"/> Level III Std QC+ Forms <input type="checkbox"/> TRRP Checklist		<input type="checkbox"/> Level IV (Full Data Pkg /raw data) <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> UST / RG -411		TAT Starts Day received by Lab, if received by 5:00 pm SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY		Relinquished by Sampler: Relinquished by: <i>Joel Lowry</i> Relinquished by: <i>Brittany Cox</i> Relinquished by: <i>Brittany Cox</i>		Received By: Received By: <i>Becky Haskell</i> Received By: <i>Brittany Cox</i> Received By: <i>Brittany Cox</i>		Date Time: Date Time: <i>6/11/18 13:30</i> Date Time: <i>6/11 4:30</i> Date Time: <i>6/11/18 19:45</i>		Date Time: Date Time: <i>6/11 4:28</i>		Custody Seal # Preserved where applicable		On Ice <input checked="" type="checkbox"/> Cooler Temp. <i>00</i> Thermo. Corr. Factor <i>0.0</i>	
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 losses 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.																					



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Page 2 OF 3

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Xenco Job #

5889130

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes											
Company Name / Branch: TRC Environmental Corporation Company Address: 2057 Commerce Drive Midland, TX 79703 Email: lowry@trcsolutions.com Phone No: 432-486-4460		Project Name/Number: Apple 5 State Project Location: Eddy, Co. NM Invoice To: COG Operating C/O Becky Haskell		Date: 6/7/2018 Time: 12:50 Matrix: S 1 # of bottles: 1 HCl: <input type="checkbox"/>		TPH 8015 M Ext Chloride E 300 BTEX 8021B											
Project Contact: Joel Lowry Sampler's Name: Joel Lowry		Invoice:		Notes:		Field Comments:											
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH	Chloride	BTEX
1	T-16 @ 2'	2'	6/7/2018	12:50	S	1	<input type="checkbox"/>								X		
2	T-16 @ 6'	6'	6/7/2018	12:55	S	1	<input type="checkbox"/>								X		
3	T-17 @ 4'	4'	6/7/2018	13:00	S	1	<input type="checkbox"/>								X		
4	T-17 @ 6'	6'	6/7/2018	13:05	S	1	<input type="checkbox"/>								X		
5	T-18 @ 2'	2'	6/7/2018	13:10	S	1	<input type="checkbox"/>								X		
6	T-18 @ 6'	6'	6/7/2018	13:15	S	1	<input type="checkbox"/>								X		
7	T-18 @ 8'	8'	6/7/2018	13:20	S	1	<input type="checkbox"/>								X		
8	T-3 ESW-1	4'	6/7/2018	13:25	S	1	<input type="checkbox"/>								X		
9	T-3 ESW-2	4'	6/7/2018	13:30	S	1	<input type="checkbox"/>								X		
10																	

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Relinquished by: Joel Lowry Date Time: 6-11-18/3:30 Received By: Becky Haskell Date Time: 6-11-18/3:30
 Relinquished by: Bentony Cox Date Time: 6/11/18 4:30 Received By: Bentony Cox Date Time: 6/11/18 4:30
 Relinquished by: Bentony Cox Date Time: 6/11/18 4:30 Received By: Bentony Cox Date Time: 6/11/18 4:30

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

Same Day TAT
 Next Day EMERGENCY
 2 Day EMERGENCY
 3 Day EMERGENCY

6 Day TAT
 7 Day TAT
 Contract TAT
 TRRP Checklist

Level II Std QC
 Level III Std QC+ Forms
 Level 3 (CLP Forms)
 TRRP Checklist

Level IV (Full Data Pkg /raw data)
 TRRP Level IV
 UST / RG -411
 TRRP Checklist

TRRP Checklist
 TRRP Checklist



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Page 3 Of 3

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes													
Company Name / Branch: TRC Environmental Corporation Company Address: 2057 Commerce Drive, Midland, TX 79703 Email: jlowry@trcsolutions.com Project Contact: Joel Lowry Samplers Name: Joel Lowry		Project Name/Number: Apple 5 State Project Location: Eddy, Co. NM Invoice To: COG Operating C/O Becky Haskell Invoice:		Xenco Job # 588930		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	Sample Depth	Date	Time	Matrix	# of bottles	HCI	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Field Comments	
1	T-4 ESW-1	4'	6/7/2018	13:15	S	1									X				
2	T-4 ESW-2	4'	6/7/2018	13:20	S	1									X				
3	G 2 @ 6'	6'	6/7/2018	13:25	S	1									X				
4	G 7 @ 6'	6'	6/7/2018	13:30	S	1									X				
5	G 11 @ 6'	6'	6/7/2018	13:35	S	1									X				
6																			
7																			
8																			
9																			
10																			
Data Deliverable Information <input type="checkbox"/> Same Day TAT <input type="checkbox"/> 5 Day TAT <input type="checkbox"/> Level II Std QC <input type="checkbox"/> Level IV (Full Data Pkg /raw data) <input type="checkbox"/> Next Day EMERGENCY <input type="checkbox"/> 7 Day TAT <input type="checkbox"/> Level III Std QC + Forms <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> 2 Day EMERGENCY <input checked="" type="checkbox"/> Contract TAT <input type="checkbox"/> Level 3 (CLP Forms) <input type="checkbox"/> UST / RG -411 <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> TRRP Checklist <input type="checkbox"/> TRRP Checklist																			
TAT Starts Day received by Lab, if received by 5:00 pm SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																			
Relinquished by Sampler:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:	
1 <i>Joel Lowry</i>		6-11-18/5:30		2 <i>Becky Haskell</i>		6-11-18/9:28		3 <i>Becky Haskell</i>		6-11-18/9:30		4 <i>Becky Haskell</i>		6-11-18/9:30		5 <i>Becky Haskell</i>		6-11-18/9:30	
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:	
3 <i>Becky Haskell</i>		6-11-18/9:30		4 <i>Becky Haskell</i>		6-11-18/9:30		5 <i>Becky Haskell</i>		6-11-18/9:30		6 <i>Becky Haskell</i>		6-11-18/9:30		7 <i>Becky Haskell</i>		6-11-18/9:30	
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:	
5 <i>Becky Haskell</i>		6-11-18/9:30		6 <i>Becky Haskell</i>		6-11-18/9:30		7 <i>Becky Haskell</i>		6-11-18/9:30		8 <i>Becky Haskell</i>		6-11-18/9:30		9 <i>Becky Haskell</i>		6-11-18/9:30	
Custody Seal #		Preserved where applicable		On Ice		Cooler Temp		Thermo Corr Factor		FED-EX / UPS: Tracking #		dneel2@concho.com		jlowry@trcsolutions.com		haskell@concho.com		zconder@trcsolutions.com	
1 <i>Becky Haskell</i>				<input checked="" type="checkbox"/>		<i>8.0</i>		<i>0.0</i>											

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 losses 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.



Client: TRC Solutions, Inc

Date/ Time Received: 06/12/2018 10:45:00 AM

Work Order #: 588930

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)?	0
#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:
Katie Lowe

Date: 06/12/2018

Checklist reviewed by:
Kelsey Brooks

Date: 06/13/2018

Analytical Report 590246

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Apple 5 State

23-JUL-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), 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 (T104704400-18-15)
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)



23-JUL-18

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

Reference: XENCO Report No(s): **590246**
Apple 5 State
Project Address: Lea 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) 590246. 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. 590246 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', written over a horizontal line.

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 590246

TRC Solutions, Inc, Midland, TX

Apple 5 State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
G-1b @ 5'	S	06-19-18 12:00	5 ft	590246-001
G-1b @ 6'	S	06-19-18 12:05	6 ft	590246-002
G-3b @ 7'	S	06-19-18 12:10	7 ft	590246-003
G-5b @ 5'	S	06-19-18 12:15	5 ft	590246-004
G-5b @ 6'	S	06-19-18 12:20	6 ft	590246-005
T-1 ESW	S	06-19-18 12:25	4 ft	590246-006
T-1 NSWb	S	06-19-18 12:30	4 ft	590246-007
T-1 NWW1	S	06-19-18 12:35	4 ft	590246-008
T-1 NWW2	S	06-19-18 12:40	4 ft	590246-009
T-4 WW1	S	06-19-18 12:45	4 ft	590246-010
T-4 NWWb	S	06-19-18 13:00	4 ft	590246-011
T-4 NEWb	S	06-19-18 13:05	4 ft	590246-012
T-5 WSW	S	06-19-18 13:10	4 ft	590246-013
T-8b @ 16'	S	06-19-18 13:15	16 ft	590246-014
T-9b @ 16'	S	06-19-18 13:20	16 ft	590246-015
T-10 @ 2'	S	06-19-18 13:25	2 ft	590246-016
T-10 @ 6'	S	06-19-18 13:30	6 ft	590246-017
T-10 @ 10'	S	06-19-18 13:35	10 ft	590246-018
T-10 @ 12'	S	06-19-18 13:40	12 ft	590246-019
T-11 @ 2'	S	06-19-18 13:45	2 ft	590246-020
T-11 @ 6'	S	06-20-18 12:00	6 ft	590246-021
T-11 @ 10'	S	06-20-18 12:05	10 ft	590246-022
T-11 @ 12'	S	06-20-18 12:10	12 ft	590246-023
T-12 ESW	S	06-20-18 12:15	4 ft	590246-024
T-12 WSW	S	06-20-18 12:20	4 ft	590246-025
T-12 SSW	S	06-20-18 12:25	4 ft	590246-026
T-13 @ 4'	S	06-20-18 12:30	4 ft	590246-027
T-13 @ 8'	S	06-20-18 12:35	8 ft	590246-028
T-13 @ 10'	S	06-20-18 12:40	10 ft	590246-029
T-14 ESW	S	06-20-18 12:45	4 ft	590246-030
T-15 WSW	S	06-20-18 13:00	4 ft	590246-031
T-15 ESW	S	06-20-18 13:05	4 ft	590246-032
T-16 ESW 1	S	06-20-18 13:10	4 ft	590246-033
T-16 ESW 2	S	06-20-18 13:15	4 ft	590246-034
T-16 WSW 1	S	06-20-18 13:20	4 ft	590246-035
T-16 WSW 2	S	06-20-18 13:25	4 ft	590246-036
T-16 NSW	S	06-20-18 13:30	4 ft	590246-037
T-16 NWW	S	06-20-18 13:35	4 ft	590246-038
T-17 NSW	S	06-20-18 13:40	4 ft	590246-039
T-19 @ 4'	S	06-20-18 13:45	4 ft	590246-040
T-19 @ 10'	S	06-20-18 14:00	10 ft	590246-041
T-19 @ 12'	S	06-20-18 14:05	12 ft	590246-042



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple 5 State

Project ID:
Work Order Number(s): 590246

Report Date: 23-JUL-18
Date Received: 06/25/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3055146 Chloride by EPA 300

Lab Sample ID 590246-010 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 590246-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3055267 Chloride by EPA 300

Lab Sample ID 590246-030 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride 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: 590246-018, -019, -022, -023, -024, -025, -027, -028, -030.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3055281 Chloride by EPA 300

Lab Sample ID 590246-035 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 590246-014, -026, -031, -032, -033, -034, -035, -036, -037, -038.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3055282 Chloride by EPA 300

Lab Sample ID 590246-041 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 590246-029, -040, -041, -042.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple 5 State

Project ID:

Work Order Number(s): 590246

Report Date: 23-JUL-18

Date Received: 06/25/2018



Certificate of Analysis Summary 590246

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Mon Jun-25-18 03:00 pm
Report Date: 23-JUL-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	590246-001	590246-002	590246-003	590246-004	590246-005	590246-006
	<i>Field Id:</i>	G-1b @ 5'	G-1b @ 6'	G-3b @ 7'	G-5b @ 5'	G-5b @ 6'	T-1 ESW
	<i>Depth:</i>	5- ft	6- ft	7- ft	5- ft	6- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-19-18 12:00	Jun-19-18 12:05	Jun-19-18 12:10	Jun-19-18 12:15	Jun-19-18 12:20	Jun-19-18 12:25
Chloride by EPA 300	<i>Extracted:</i>	Jun-28-18 10:00					
	<i>Analyzed:</i>	Jun-28-18 17:28	Jun-28-18 18:05	Jun-28-18 18:17	Jun-28-18 18:30	Jun-28-18 18:42	Jun-28-18 18:55
	<i>Units/RL:</i>	mg/kg RL					
Chloride		134 25.0	50.6 25.0	<25.0 25.0	26.4 25.0	<25.0 25.0	727 D 125

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 590246

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Mon Jun-25-18 03:00 pm
Report Date: 23-JUL-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	590246-007	590246-008	590246-009	590246-010	590246-011	590246-012
	<i>Field Id:</i>	T-1 NSWb	T-1 NWW1	T-1 NWW2	T-4 WW1	T-4 NWWb	T-4 NEWb
	<i>Depth:</i>	4- ft					
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-19-18 12:30	Jun-19-18 12:35	Jun-19-18 12:40	Jun-19-18 12:45	Jun-19-18 13:00	Jun-19-18 13:05
Chloride by EPA 300	<i>Extracted:</i>	Jun-28-18 10:00					
	<i>Analyzed:</i>	Jun-28-18 19:19	Jun-28-18 19:44	Jun-28-18 20:22	Jun-28-18 20:46	Jun-28-18 21:36	Jun-28-18 22:01
	<i>Units/RL:</i>	mg/kg RL					
Chloride		84.3 25.0	27.3 25.0	168 25.0	51.4 25.0	682 D 250	<25.0 25.0

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Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 590246

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Mon Jun-25-18 03:00 pm
Report Date: 23-JUL-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	590246-013	590246-014	590246-015	590246-016	590246-017	590246-018
	<i>Field Id:</i>	T-5 WSW	T-8b @ 16'	T-9b @ 16'	T-10 @ 2'	T-10 @ 6'	T-10 @ 10'
	<i>Depth:</i>	4- ft	16- ft	16- ft	2- ft	6- ft	10- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-19-18 13:10	Jun-19-18 13:15	Jun-19-18 13:20	Jun-19-18 13:25	Jun-19-18 13:30	Jun-19-18 13:35
Chloride by EPA 300	<i>Extracted:</i>	Jun-28-18 10:00	Jul-02-18 08:45	Jun-29-18 10:00	Jun-29-18 10:00	Jun-29-18 10:00	Jun-28-18 10:00
	<i>Analyzed:</i>	Jun-28-18 22:13	Jul-02-18 17:01	Jun-29-18 11:18	Jun-29-18 11:31	Jun-29-18 11:43	Jul-02-18 10:33
	<i>Units/RL:</i>	mg/kg RL					
Chloride		<25.0 25.0	676 125	1360 125	5240 1250	8410 1250	841 125

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Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 590246

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Mon Jun-25-18 03:00 pm
Report Date: 23-JUL-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	590246-019	590246-020	590246-021	590246-022	590246-023	590246-024
	<i>Field Id:</i>	T-10 @ 12'	T-11 @ 2'	T-11 @ 6'	T-11 @ 10'	T-11 @ 12'	T-12 ESW
	<i>Depth:</i>	12- ft	2- ft	6- ft	10- ft	12- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-19-18 13:40	Jun-19-18 13:45	Jun-20-18 12:00	Jun-20-18 12:05	Jun-20-18 12:10	Jun-20-18 12:15
Chloride by EPA 300	<i>Extracted:</i>	Jun-28-18 10:00	Jun-29-18 10:00	Jun-29-18 10:00	Jun-28-18 10:00	Jun-28-18 10:00	Jun-28-18 10:00
	<i>Analyzed:</i>	Jul-02-18 10:46	Jun-29-18 14:00	Jun-29-18 14:37	Jul-02-18 10:58	Jul-02-18 11:11	Jul-02-18 11:23
	<i>Units/RL:</i>	mg/kg RL					
Chloride		378 125	133 125	3840 1250	511 125	40.8 25.0	210 125

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Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 590246

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Mon Jun-25-18 03:00 pm
Report Date: 23-JUL-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	590246-025	590246-026	590246-027	590246-028	590246-029	590246-030
	<i>Field Id:</i>	T-12 WSW	T-12 SSW	T-13 @ 4'	T-13 @ 8'	T-13 @ 10'	T-14 ESW
	<i>Depth:</i>	4- ft	4- ft	4- ft	8- ft	10- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-20-18 12:20	Jun-20-18 12:25	Jun-20-18 12:30	Jun-20-18 12:35	Jun-20-18 12:40	Jun-20-18 12:45
Chloride by EPA 300	<i>Extracted:</i>	Jun-28-18 10:00	Jul-02-18 08:45	Jun-28-18 10:00	Jun-28-18 10:00	Jul-02-18 08:45	Jun-28-18 10:00
	<i>Analyzed:</i>	Jul-02-18 12:13	Jul-02-18 21:59	Jul-02-18 13:15	Jul-02-18 13:39	Jul-03-18 00:41	Jul-02-18 14:29
	<i>Units/RL:</i>	mg/kg RL					
Chloride		220 125	38.0 25.0	5330 D 1250	505 125	37.0 25.0	<25.0 25.0

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Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 590246

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Mon Jun-25-18 03:00 pm
Report Date: 23-JUL-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	590246-031	590246-032	590246-033	590246-034	590246-035	590246-036
	<i>Field Id:</i>	T-15 WSW	T-15 ESW	T-16 ESW 1	T-16 ESW 2	T-16 WSW 1	T-16 WSW 2
	<i>Depth:</i>	4- ft					
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-20-18 13:00	Jun-20-18 13:05	Jun-20-18 13:10	Jun-20-18 13:15	Jun-20-18 13:20	Jun-20-18 13:25
Chloride by EPA 300	<i>Extracted:</i>	Jul-02-18 08:45					
	<i>Analyzed:</i>	Jul-02-18 17:13	Jul-02-18 18:03	Jul-02-18 18:28	Jul-02-18 18:53	Jul-02-18 19:18	Jul-02-18 20:20
	<i>Units/RL:</i>	mg/kg RL					
Chloride		183 25.0	<25.0 25.0	479 25.0	438 25.0	574 D 125	422 25.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
 Project Manager



Certificate of Analysis Summary 590246

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State

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

Date Received in Lab: Mon Jun-25-18 03:00 pm
Report Date: 23-JUL-18
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	590246-037	590246-038	590246-039	590246-040	590246-041	590246-042
	<i>Field Id:</i>	T-16 NSW	T-16 NWW	T-17 NSW	T-19 @ 4	T-19 @ 10'	T-19 @ 12'
	<i>Depth:</i>	4- ft	4- ft	4- ft	4- ft	10- ft	12- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-20-18 13:30	Jun-20-18 13:35	Jun-20-18 13:40	Jun-20-18 13:45	Jun-20-18 14:00	Jun-20-18 14:05
Chloride by EPA 300	<i>Extracted:</i>	Jul-02-18 08:45	Jul-02-18 08:45	Jul-03-18 08:45	Jul-02-18 08:45	Jul-02-18 08:45	Jul-02-18 08:45
	<i>Analyzed:</i>	Jul-02-18 20:45	Jul-02-18 21:09	Jul-03-18 10:11	Jul-02-18 23:01	Jul-02-18 23:26	Jul-03-18 00:16
	<i>Units/RL:</i>	mg/kg RL					
Chloride		205 25.0	147 25.0	<25.0 25.0	3530 D 1250	506 D 250	34.3 25.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager



BS / BSD Recoveries



Project Name: Apple 5 State

Work Order #: 590246, 590246

Project ID:

Analyst: RNL

Date Prepared: 06/29/2018

Date Analyzed: 06/29/2018

Lab Batch ID: 3055086

Sample: 7657601-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	249	100	250	253	101	2	90-110	20	

Analyst: RNL

Date Prepared: 06/28/2018

Date Analyzed: 06/28/2018

Lab Batch ID: 3055166

Sample: 7657627-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	258	103	250	254	102	2	90-110	20	

Analyst: RNL

Date Prepared: 06/28/2018

Date Analyzed: 07/02/2018

Lab Batch ID: 3055267

Sample: 7657688-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<25.0	250	260	104	250	260	104	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: Apple 5 State

Work Order #: 590246, 590246

Project ID:

Analyst: RNL

Date Prepared: 07/02/2018

Date Analyzed: 07/02/2018

Lab Batch ID: 3055281

Sample: 7657716-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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	254	102	250	260	104	2	90-110	20	

Analyst: RNL

Date Prepared: 07/02/2018

Date Analyzed: 07/02/2018

Lab Batch ID: 3055282

Sample: 7657718-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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	247	99	250	249	100	1	90-110	20	

Analyst: RNL

Date Prepared: 07/03/2018

Date Analyzed: 07/03/2018

Lab Batch ID: 3055325

Sample: 7657742-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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	246	98	250	244	98	1	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: Apple 5 State

Work Order # : 590246

Project ID:

Lab Batch ID: 3055086

QC- Sample ID: 590246-020 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/29/2018

Date Prepared: 06/29/2018

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	149	250	413	106	250	427	111	3	80-120	20	

Lab Batch ID: 3055086

QC- Sample ID: 590755-002 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/29/2018

Date Prepared: 06/29/2018

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	3.90	25.0	29.0	100	25.0	29.0	100	0	80-120	20	

Lab Batch ID: 3055146

QC- Sample ID: 590246-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/28/2018

Date Prepared: 06/28/2018

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	134	250	382	99	250	385	100	1	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.



Form 3 - MS / MSD Recoveries

Project Name: Apple 5 State

Work Order # : 590246

Project ID:

Lab Batch ID: 3055146

QC- Sample ID: 590246-010 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 06/28/2018

Date Prepared: 06/28/2018

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	<125	250	347	139	250	332	133	4	80-120	20	X

Lab Batch ID: 3055267

QC- Sample ID: 590246-024 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 07/02/2018

Date Prepared: 06/28/2018

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	<1250	250	<1250	0	250	<1250	0	NC	80-120	20	X

Lab Batch ID: 3055267

QC- Sample ID: 590246-030 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 07/02/2018

Date Prepared: 06/28/2018

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	<1250	250	<1250	0	250	<1250	0	NC	80-120	20	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: Apple 5 State

Work Order # : 590246

Project ID:

Lab Batch ID: 3055281

QC- Sample ID: 590246-031 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 07/02/2018

Date Prepared: 07/02/2018

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	183	250	469	114	250	456	109	3	80-120	20	

Lab Batch ID: 3055281

QC- Sample ID: 590246-035 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 07/02/2018

Date Prepared: 07/02/2018

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	604	250	910	122	250	903	120	1	80-120	20	X

Lab Batch ID: 3055282

QC- Sample ID: 590246-041 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 07/02/2018

Date Prepared: 07/02/2018

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	549	250	866	127	250	811	105	7	80-120	20	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: Apple 5 State

Work Order # : 590246

Project ID:

Lab Batch ID: 3055325

QC- Sample ID: 584939-003 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 07/03/2018

Date Prepared: 07/03/2018

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	7050	250	8700	NC	250	8610	NC	1	80-120	20	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.

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Midland, Texas (432-704-5251)

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Dallas Texas (214-902-0300)

590246

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes												
Company Name / Branch: TRC Environmental Corporation Company Address: 2057 Commerce Drive, Midland, TX 79703 Email: jlowry@trcsolutions.com Phone No: 432-486-4450		Project Name/Number: Apple 5 State Project Location: Lea Co, NM Invoice To: COG Operating CIO Becky Haskell Invoice:		Xenco Job #: 590246 Analytical Information: TPH 8015 M Ext Matrix Codes: Chloride E 300		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	Sample Depth	Collection		Number of preserved bottles				Field Comments									
			Date	Time	Matrix	# of bottles	NaOH/ZN	Acetate		HNO3	H2SO4	NaOH	MEOH	NONE				
1	G-16@5'	5'	6/19	12:00	S	1												
2	G-16@6'	6'		12:05	S	1												
3	G-36@7'	7'		1:10	S	1												
4	G-56@5'	5'		1:15	S	1												
5	G-56@6'	6'		1:20	S	1												
6	T-1 ESU	4'		1:25	S	1												
7	T-1 NSWB	4'		1:30	S	1												
8	T-1 NW@I	4'		1:35	S	1												
9	T-1 NW@2	4'		1:40	S	1												
10	T-4 W@I	4'		1:45	S	1												

Notes: **TPH 8015 M Ext**

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

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

Relinquished by Sampler: **Joel Lowry** Date Time: **6/19 12:00**

Relinquished by: **Joel Lowry** Date Time: **6/19 12:05**

Relinquished by: **Joel Lowry** Date Time: **6/19 1:10**

Relinquished by: **Joel Lowry** Date Time: **6/19 1:15**

Relinquished by: **Joel Lowry** Date Time: **6/19 1:20**

Relinquished by: **Joel Lowry** Date Time: **6/19 1:25**

Relinquished by: **Joel Lowry** Date Time: **6/19 1:30**

Relinquished by: **Joel Lowry** Date Time: **6/19 1:35**

Relinquished by: **Joel Lowry** Date Time: **6/19 1:40**

Relinquished by: **Joel Lowry** Date Time: **6/19 1:45**

On Ice Cooler Temp. **47** Thermo. Corr. **ES**

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 losses 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.



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Xenco Job # 59024

Form containing Client/Reporting Information, Project Information, Collection data table, and Analytical Information. Includes fields for company name, project name, collection date/time, sample depth, and various chemical analysis results.

Notes: jlowry@trcsolutions.com, rhaskell@concho.com, zcorder@trcsolutions.com, dneel@concho.com
FED-EX / UPS: Tracking #
Relinquished by: [Signature]
Date Time: [Blank]
Relinquished by: [Signature]
Date Time: [Blank]
Relinquished by: [Signature]
Date Time: [Blank]

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco...
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
VWV = Waste Water
A = Air

CHAIN OF CUSTODY

Page 3 Of 5

Phoenix, Arizona (480-355-0900)

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

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Client / Reporting Information		Project Information		Analytical Information		Xenco Job #		Matrix Codes	
Company Name / Branch: TRC Environmental Corporation Company Address: 2057 Commerce Drive Midland, TX 79703 Email: jlowry@trcsolutions.com Phone No: 432-466-4450		Project Name/Number: Apple 5 State Project Location: Lea Co, NM Invoice To: COG Operating CIO Becky Haskeil Invoice:		TPH 8015 M EXI Chloride E 300 BTEX 8021B		590246		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	
Field ID / Point of Collection		Collection		Data Deliverable Information		Notes:		Field Comments	
No.	Sample Depth	Date	Time	Matrix	# of bottles	Level II Std QC	Level III Std QC+ Forms	Level 3 (CLP Forms)	TRRP Checklist
1	T-11 @ 6'	6/22/20	10:00	S	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	T-11 @ 10'	6/25	10:05	S	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	T-11 @ 12'	6/25	10:10	S	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	T-12 ESW	6/25	10:15	S	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	T-12 WSW	6/25	10:20	S	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	T-12 SSW	6/25	10:25	S	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	T-13 @ 4'	6/25	10:30	S	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	T-13 @ 8'	6/25	10:35	S	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	T-13 @ 10'	6/25	10:40	S	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	T-14 ESW	6/25	10:45	S	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Relinquished by Sampler: [Signature] Date Time: 1
Relinquished by: [Signature] Date Time: 2
Relinquished by: [Signature] Date Time: 3
Relinquished by: [Signature] Date Time: 4

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

Relinquished by: [Signature] Date Time: 1
Relinquished by: [Signature] Date Time: 2
Relinquished by: [Signature] Date Time: 3
Relinquished by: [Signature] Date Time: 4

On Ice [Signature] **Thermo. Corr. Factor** 4.7

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company 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 losses 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.

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Phoenix, Arizona (480-355-0900)

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Xenco Job # 590246

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes											
Company Name / Branch: TRC Environmental Corporation Company Address: 2057 Commerce Drive Midland, TX 79703 Email: jlowry@trcsolutions.com Phone No: 432-466-4450		Project Name/Number: Apple 5 State Project Location: Lea Co, NM Invoice To: COG Operating C/O Becky Haskell Invoice:		TPH 8015 M Ext Chloride E 300 BTEX 8021B		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	Sample Depth	Collection		Number of preserved bottles						Field Comments						
			Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4		NaOH	NaHSO4	MEOH	NONE		
1	T-15 WSW	4'	9/20	1:00	S	1											
2	T-15 ESW	4'		1:05	S	1											
3	T-16 ESW 1	4'		1:10	S	1											
4	T-16 ESW 2	4'		1:15	S	1											
5	T-16 WSW 1	4'		1:20	S	1											
6	T-16 WSW 2	4'		1:25	S	1											
7	T-16 NSW	4'		1:30	S	1											
8	T-16 NWW	4'		1:35	S	1											
9	T-17 NSW	4'		1:40	S	1											
10	T-19 @4	4'		1:45	S	1											

Notes:

ilowry@trcsolutions.com
bcooper@trcsolutions.com
rhaskell@concho.com
zconder@trcsolutions.com
dneel2@concho.com

FED-EX / UPS: Tracking #

Received By: 2
Relinquished By: 4

Date Time: 2
Date Time: 4

On Ice Thermo. Corr. Factor 4.7

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

Relinquished by Sampler: 1
Relinquished by: 2
Relinquished by: 3
Relinquished by: 4

Date Time: 1
Date Time: 2
Date Time: 3
Date Time: 4

Custody Seal # 22-10 3:00

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

Relinquished by Sampler: 1
Relinquished by: 2
Relinquished by: 3
Relinquished by: 4

Date Time: 1
Date Time: 2
Date Time: 3
Date Time: 4

Preserved where applicable

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 losses 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.

CHAIN OF CUSTODY

Phoenix, Arizona (480-355-0900)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

www.xenco.com

Client / Reporting Information		Project Information		Analytical Information		Xenco Job #		Matrix Codes									
Company Name / Branch: TRC Environmental Corporation 2057 Commerce Drive Midland, TX 79703 Email: jlowry@trcsolutions.com		Project Name/Number: Apple 5 State Project Location: Lea Co, NM Invoice To: COG Operating C/O Becky Haskell Invoice:		TPH 8015 M Ext Chloride E 300 BTEX 8021B		590244		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									
Collection		Data Deliverable Information		Notes:													
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn	Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments	
1	T-19 @ 10'	10'	6/20	2:00	S	1											
2	T-19 @ 12'	12'	6/20	2:05	S	1											
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
		<input type="checkbox"/> Same Day TAT		<input type="checkbox"/> 5 Day TAT		<input type="checkbox"/> Level II Std QC		<input type="checkbox"/> Level IV (Full Data Pkg /raw data)								Notes: jlowry@trcsolutions.com bcooper@trcsolutions.com	
		<input type="checkbox"/> Next Day EMERGENCY		<input type="checkbox"/> 7 Day TAT		<input type="checkbox"/> Level III Std QC+ Forms		<input type="checkbox"/> TRRP Level IV								thaskell@concho.com	
		<input type="checkbox"/> 2 Day EMERGENCY		<input checked="" type="checkbox"/> Contract TAT		<input type="checkbox"/> Level 3 (CLP Forms)		<input type="checkbox"/> UST / RG -411								zconder@trcsolutions.com	
		<input type="checkbox"/> 3 Day EMERGENCY				<input type="checkbox"/> TRRP Checklist										dneel2@concho.com	
		TAT Starts Day received by Lab, if received by 5:00 pm															
Relinquished by Sample:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:	
1				1		2		2		2		2		2		2	
3				3		4		4		4		4		4		4	
5				5		5		5		5		5		5		5	
				Received By:		Custody Seal #		Preserved where applicable								On Ice Cooler Temp. Thermo. Corr. Factor	
				Joel Lowry		6-22-23 8:00		5:00								47	

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 losses 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.

Analytical Report 601637

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Apple 5 State SWD #1

16-OCT-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
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)



16-OCT-18

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

Reference: XENCO Report No(s): **601637**
Apple 5 State SWD #1
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) 601637. 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. 601637 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', written over a horizontal line.

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 601637

TRC Solutions, Inc, Midland, TX

Apple 5 State SWD #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-9B @ 16'	S	10-04-18 14:00	16 ft	601637-001
SB-9B @ 18'	S	10-04-18 14:10	18 ft	601637-002



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple 5 State SWD #1

Project ID:
Work Order Number(s): 601637

Report Date: 16-OCT-18
Date Received: 10/05/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 601637

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State SWD #1

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

Date Received in Lab: Fri Oct-05-18 05:00 pm
Report Date: 16-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	601637-001	601637-002				
	Field Id:	SB-9B @ 16'	SB-9B @ 18'				
	Depth:	16- ft	18- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Oct-04-18 14:00	Oct-04-18 14:10				
Chloride by EPA 300	Extracted:	Oct-11-18 10:30	Oct-16-18 08:30				
	Analyzed:	Oct-11-18 15:23	Oct-16-18 10:59				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		481 250	430 125				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
 Project Manager



BS / BSD Recoveries



Project Name: Apple 5 State SWD #1

Work Order #: 601637

Project ID:

Analyst: RNL

Date Prepared: 10/11/2018

Date Analyzed: 10/11/2018

Lab Batch ID: 3066120

Sample: 7663990-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	1.25	250	253	101	250	252	101	0	90-110	20	

Analyst: RNL

Date Prepared: 10/16/2018

Date Analyzed: 10/16/2018

Lab Batch ID: 3066480

Sample: 7664233-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<0.572	250	253	101	250	250	100	1	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: Apple 5 State SWD #1

Work Order # : 601637

Project ID:

Lab Batch ID: 3066120

QC- Sample ID: 601773-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/11/2018

Date Prepared: 10/11/2018

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	30.9	25.0	156	500	25.0	158	508	1	80-120	20	X

Lab Batch ID: 3066480

QC- Sample ID: 602420-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/16/2018

Date Prepared: 10/16/2018

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	18.8	250	282	105	250	272	101	4	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.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2018 05:00:00 PM

Work Order #: 601637

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)?	1.3
#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)?	N/A
#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
Brenda Ward

Date: 10/08/2018

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/09/2018



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,

O=orphaned,

C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	Code	Sub-basin	County	Q	Q	Q	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C_02478	CUB	ED	64	16	4	2	1	05	26S	28E	583848	3549325*	245	100	

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 583880.1

Northing (Y): 3549568.1

Radius: 1000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/19/18 9:03 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q	Q	Q	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C_02478	C	CUB	ED	2	1	05	26S	28E		583848	3549325*	239	100		
C_01278	C		ED	4	3	28	25S	28E		585470	3551338*	2361	205	90	115
C_03836 POD1	C		ED	2	2	4	29	25S	28E	584682	3551934	2500	300	30	270
C_02477	C	CUB	ED	1	1	03	26S	28E		586687	3549347*	2767	150		

Average Depth to Water: **60 feet**
 Minimum Depth: **30 feet**
 Maximum Depth: **90 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 583926.6

Northing (Y): 3549551.1

Radius: 3000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/18/18 1:24 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



Figure 1 - View of the affected dry dirt tank, facing North.



Figure 2 - View of the initial release, facing West.



Figure 3 - View of portion of the excavated area, facing Northwest.



Figure 4 - View of portion of the excavated area, facing Northwest.



Figure 5 - View of portion of the excavated area, facing Southeast.



Figure 6 - View of portion of the excavated area, facing West.



Figure 7 - View of portion of the excavated area, facing Northwest.



Figure 8 - View of portion of the excavated area, facing West.



Figure 9 - View of additional delineation activities, facing Northeast.



Figure 10 - View of additional delineation activities, facing North.

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

MAY 04 2018

Form C-141
Revised April 3, 2017

Submit Copy to appropriate District Office in accordance with 19.15.29 NMAC.
DISTRICT II-ARTESIA OGRID

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

NAB1813057990

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: Apple 5 State SWD #001	Facility Type: Flowline

Surface Owner: Private	Mineral Owner: State	API No. 30-015-41402
------------------------	----------------------	----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	32	25S	28E					Eddy

Latitude 32.079207 Longitude -104.111194 NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 12,897 bbl.	Volume Recovered 4,633 bbl.
Source of Release: Valve Failure	Date and Hour of Occurrence: April 29, 2018 9:30am	Date and Hour of Discovery: April 29, 2018 9:30am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher - NMOCD, Crystal Weaver - NMOCD	
By Whom? Dakota Neel	Date and Hour: April 29, 2018 8:45pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 caused by a mechanical valve failure on a trunk line. The valve has been replaced.

Describe Area Affected and Cleanup Action Taken.*

The release was within a pasture. 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: <i>Robert McNeill</i>	OIL CONSERVATION DIVISION	
Printed Name: Robert McNeill	Approved by Environmental Specialist: <i>Mike Bratcher</i>	
Title: Environmental Manager	Approval Date: <i>5/9/18</i>	Expiration Date: <i>NIA</i>
E-mail Address: <i>rmcneill@concho.com</i>	Conditions of Approval: <i>See attached</i>	
Date: May 3, 2018 Phone: 432-638-6470	Attached <input type="checkbox"/> <i>AKP-4739</i>	

* Attach Additional Sheets If Necessary

5/11/18 AB



Remediation Summary and Site Closure Request

July 12, 2019

Apple 5 State SWD #001
(2RP-4739)

Prepared For:

COG Operating LLC
600 W Illinois Avenue
Midland, TX 79701

Prepared By:

TRC Environmental Corp.
10 Desta Dr. STE 150E
Midland, TX 79705

A handwritten signature in blue ink, appearing to read "Jared Stoffel", written over a horizontal line.

Prepared by:
Jared Stoffel, PG
Staff Geologist

A handwritten signature in blue ink, appearing to read "Curt Stanley", written over a horizontal line.

Reviewed and Approved by:
Curt Stanley
Senior Project Manager



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TABLES

Table 1: Concentrations of Benzene, BTEX, TPH and Chloride in Soil (Delineation Phase)

Table 2: Concentrations of Benzene, BTEX, TPH and Chloride in Soil (Confirmation Phase)

FIGURES

Figure 1 – Site Location Map

Figure 2 – Site and Sample Location Map – Workplan

Figure 3 – NMOCD Approved Proposed Excavation and Liner Installation Map

Figure 4 – Site and Sample Location Map – Sidewall Confirmation

Figure 5 – Site and Sample Location Map – Floor Confirmation

Figure 6 – New Dirt Tank Location Map

APPENDICES

Appendix A – Release Notification and Corrective Action (Form C-141)

Appendix B – Depth to Groundwater Data

Appendix C – Laboratory Analytical Reports

Appendix D – Photographic Documentation



1.0 Introduction and Background Information

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG) has prepared this *Remediation Summary and Site Closure Request* for the Apple 5 State SWD #001 (Release Site). The legal description of the Release Site is Unit Letter “N”, Section 32, Township 25 South, Range 28 East, in Eddy County, New Mexico. The GPS coordinates for the site are N 32.079207° W 104.111194°. The subject property is located on private land. The Site Location and Release area are shown in Figure 1- Site Location Map and Figure 2- Site & Sample Location Map, respectively.

On April 29, 2018, a release was discovered on the Apple 5 State SWD #001 trunk line. The initial Release Notification and Corrective Action (Form C-141) indicated failure of a valve resulted in the release of approximately twelve-thousand, eight-hundred ninety-seven (12,897) barrels (bbls) of produced water. During initial response activities, the affected valve was replaced and vacuum trucks were utilized to recover approximately four thousand, six hundred thirty-three (4,633) bbls of produced water. The Release affected an area within the pasture measuring approximately fourteen-thousand, three-hundred (14,300) square feet (sq. ft.) prior to flowing into a “dry dirt tank”. The total surface area affected measured approximately thirty-seven thousand (37,000) sq. ft. Following the discovery of the Release, a COG representative notified NMOCD and a Release Notification and Corrective Action (Form C-141) was submitted to the NMOCD on May 3, 2018. The Form C-141 is provided in Appendix A.

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 32, Township 25 South, Range 28 East. A reference map utilized by the NMOCD Artesia District Office indicated groundwater should be encountered at approximately twenty-five (25) feet below ground surface (bgs). A one thousand (1,000) meter radius search of the groundwater database maintained by the NMOSE indicated depth to groundwater information was not available for the closest well (C 02478) which is inferred to have been located approximately two hundred forty-five (245) meters southwest of the site. The water well was drilled in 1916 and could not be located during the initial site assessment. A three thousand (3,000) meter radius search of the groundwater database indicated the average depth to groundwater as measured in the two (2) wells with available information is sixty (60) feet bgs, with a minimum well depth of thirty (30) feet bgs. Based on the reference map utilized by the NMOCD, information available on the groundwater databased maintained by the NMOSE, and the topography of the area, the depth to groundwater is estimated to be approximately thirty (30) to thirty-five (35) ft. bgs. Based on the NMOCD site classification system, twenty (20) points will be assigned to the subject area ranking as a result of this criterion. Results of the NMOSE database search are provided in Appendix B.

A one thousand (1,000) meter radius search of the groundwater database maintained by the NMOSE indicated one (1) water well (C 02478) was drilled in 1916 approximately two-hundred forty-five (245) meters southwest of the Release Site. Depth to groundwater information is not available for the water well and the water well could not be located during the initial site assessment. Based on the NMOCD site classification system, zero (0) points will be assigned to



the subject area ranking as a result of this criterion. The Release affected a “dirt tank”, which was dry at the time of the Release, but has contained water in the past. Based on the NMOCD site classification system, twenty (20) 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) for a Site with a ranking score of greater than nineteen (>19) points are 10 mg/kg for benzene, 50 mg/kg for benzene, toluene, ethylbenzene, and xylenes (BTEX), and one hundred (100) milligrams per kilogram (mg/kg) for total petroleum hydrocarbons (TPH). Based on the depth to groundwater and presence of surface water, the NMOCD Closure Criteria for Soils Impacted by a Release for the Apple 5 State SWD #001 Release Site are as follows:

- Benzene – 10 mg/kg
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) – 50 mg/kg
- Total Petroleum Hydrocarbons (TPH) – 100 mg/kg

2.0 Initial Investigation

Following the discovery of the Release, an immediate response was initiated. Vacuum trucks were utilized to recover free-standing liquids. Following the removal of free-standing liquids, remediation activities commenced at the Release Site. Heavily saturated soil was excavated and temporarily stockpiled on-site, atop an impacted area in the eastern portion of the Release Site, pending transportation to an NMOCD-approved disposal facility.

On May 4, 2018, TRC conducted an initial investigation at the Release Site. During the initial investigation, a series of test trenches (T-1, T-3, and T-4) were advanced within the affected area in an effort to determine the vertical extent of soil impact. Test trench T-1 was advanced in the southeastern portion of the Release Site adjacent to the release point. During the advancement of the test trench, seven (7) soil samples (T-1 @ 2', T-1 @ 4', T-1 @ 6', T-1 @ 8', T-1 @ 10', T-1 @ 12', and T-1 @ 14') were collected and submitted to Xenco Laboratories in Midland, Texas for determination of chloride concentrations using Method E300. Laboratory analytical results indicated chloride concentrations ranged from 12,900 mg/kg in soil sample T-1 @ 2' to 405 mg/kg in soil sample T-1 @ 12'. Soil sample T-1 @ 2' was analyzed for concentrations of BTEX using Method SW 846-8021B and TPH using Method SW 846-8015M, and the results were determined to be less than the applicable laboratory sample detection limit (SDL) for Benzene, BTEX, and TPH. A table summarizing concentrations of Benzene, BTEX, TPH, and Chloride in Soil is provided as Table 1. Laboratory analytical reports are provided as Appendix C.

Test trench T-3 was advanced in the central portion of the affected “dry dirt tank”. During the advancement of the test trench, two (2) soil samples (T-3 @ 4' and T-3 @ 6') were collected and submitted to the laboratory for analysis of chloride, BTEX, and TPH. Laboratory analytical results indicated soil samples T-3 @ 4' and T-3 @ 6' exhibited chloride concentrations of 300 mg/kg and 52.9 mg/kg, respectively. BTEX and TPH concentrations were less than the applicable laboratory SDL in each of the submitted soil samples.



Test trench T-4 was advanced in the northern portion of the affected “dry dirt tank”. During the advancement of the test trench, two (2) soil samples (T-4 @ 4’ and T-4 @ 6’) were collected and submitted to the laboratory for analysis of chloride, BTEX, and TPH concentrations. Laboratory analytical results indicated soil samples T-4 @ 4’ and T-4 @ 6’ exhibited chloride concentrations of 375 mg/kg and 39.0 mg/kg, respectively. BTEX and TPH concentrations were less than the applicable laboratory SDL in each of the submitted soil samples.

On May 10, 2018, TRC advanced one (1) test trench (T-2) at the Site in an effort to further characterize affected soil at the site. Test trench T-2 was advanced in the southern portion of the affected “dry dirt tank”. During the advancement of the test trench, four (4) soil samples (T-2 @ 4’, T-2 @ 6’, T-2 @ 8’, and T-2 @ 10’) were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 3,210 mg/kg in soil sample T-2 @ 4’ to 33.1 mg/kg in soil sample T-2 @ 10’. Soil samples T-2 @ 4’ and T-2 @ 10’ were analyzed for concentrations of BTEX and TPH, which were determined to be less than the applicable laboratory SDL in each of the submitted soil samples.

In addition, TRC collected fourteen (14) interim excavation confirmation soil samples (T-1 NSW, T-1 NEW, T-2 WW1, T-2 SSW, T-2 SSW, T-3 WW1, T-3 WW2, T-4 EW1, T-4 EW2, T-4 WW2, T-4 NWW, T-4 NEW, T-5 NSW, and T-5 SSW) from the sidewalls of the excavated area. The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the NMOCD regulatory guidelines in each of the submitted soil samples, with the exception of soil sample T-1 NSW, which exhibited a concentration of 832 mg/kg.

On May 16, 2018, TRC collected five (5) interim excavation confirmation soil samples (T-1 SSW1, T-1 SSW2, T-1 SSW3, T-1 SSW4, and T-5 SSW) from the sidewalls of the excavated area. The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the NMOCD regulatory guidelines in each of the submitted soil samples.

May 31, 2018, TRC advanced five (5) test trenches (T-5 through T-9) at the Site in an effort to further characterize affected soil at the Site. Test trench T-5 was advanced in the southwest portion of the affected “dry dirt tank”. During the advancement of the test trench, four (4) soil samples (T-5 @ 5’, T-5 @ 7’, T-5 @ 9’, and T-5 @ 11’) were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 6,310 mg/kg in soil sample T-5 @ 5’ to 177 mg/kg in soil sample T-5 @ 11’.

Test trench T-6 was advanced in the southern portion of the Release Site on the east side of the affected “dry dirt tank”. During the advancement of the test trench, three (3) soil samples (T-6 @ 6’, T-6 @ 8’, and T-6 @ 10’) were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 3,240 mg/kg in soil sample T-6 @ 6’ to 35.2 mg/kg in soil sample T-6 @ 10’.

Test trench T-7 was advanced in the southern portion of the Release Site on the southeast side of the affected “dry dirt tank”. During the advancement of the test trench, three (3) soil samples (T-



7 @ 6', T-7 @ 8', and T-7 @ 10') 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 T-7 @ 6' to 121 mg/kg in soil sample T-7 @ 10'.

Test trench T-8 was advanced outside the "dry dirt tank" in the southeast portion of the release site. During the advancement of the test trench, four (4) soil samples (T-8 @ 6', T-8 @ 8', T-8 @ 10', and T-8 @ 12') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,100 mg/kg in soil sample T-8 @ 8' to 216 mg/kg in soil sample T-8 @ 6'.

Test trench T-9 was advanced outside the "dry dirt tank" in the southeast portion of the Release Site adjacent to the release point. During the advancement of the test trench, four (4) soil samples (T-9 @ 6', T-9 @ 8', T-9 @ 10', and T-9 @ 12') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 745 mg/kg in soil sample T-9 @ 8' to 506 mg/kg in soil sample T-9 @ 10'.

In addition, thirteen (13) interim excavation confirmation soil samples (G1 through G-13) were collected from the floor of the excavated "dry dirt tank". The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 4,230 mg/kg in soil sample G-1 to less than the laboratory SDL in soil sample G-8. Chloride concentrations were below the NMODC regulatory guidelines in each of the submitted soil samples, with the exception of soil sample G-1 (4,230 mg/kg), G-2 (3,590 mg/kg), G-3 (3,600 mg/kg), G-5 (1,900 mg/kg), G-7 (2,960 mg/kg), and G-11 (3,420 mg/kg).

On June 7, 2018, TRC advanced nine (9) test trenches (T-12, T-14 through T-18, G-2, G-7 and G-11) at the Site in an effort to further characterize affected soil at the site. Test trench T-12 was advanced outside the "dry dirt tank" in the western portion of the Release Site. During the advancement of the test trench, three (3) soil samples (T-12 @ 4', T-12 @ 10', and T-12 @ 12') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 4,390 mg/kg in soil sample T-12 @ 4' to 39.5 mg/kg in soil sample T-12 @ 12'.

Test trench T-14 was advanced outside the "dry dirt tank" in the northeastern portion of the Release Site. During the advancement of the test trench, three (3) soil samples (T-14 @ 4', T-14 @ 8', and T-14 @ 10') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 1,630 mg/kg in soil sample T-14 @ 4' to 59.1 mg/kg in soil sample T-14 @ 10'.

Test trench T-15 was advanced outside the "dry dirt tank" in the northeastern portion of the Release Site. During the advancement of the test trench, three (3) soil samples (T-15 @ 6', T-15 @ 8', and T-15 @ 10') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 4,790 mg/kg in soil sample T-15 @ 6' to 319 mg/kg in soil sample T-15 @ 10'.



Test trench T-16 was advanced outside the “dry dirt tank” in the northwestern portion of the Release Site. During the advancement of the test trench, two (2) soil samples (T-16 @ 2’ and T-16 @ 6’) were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated soil samples T-16 @ 2’ and T-16 @ 6’ exhibited chloride concentrations of 8,980 mg/kg and 37.4 mg/kg, respectively.

Test trench T-17 was advanced outside the “dry dirt tank” in the northwestern portion of the Release Site. During the advancement of the test trench, two (2) soil samples (T-17 @ 4’ and T-17 @ 6’) were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated soil samples T-17 @ 4’ and T-17 @ 6’ exhibited chloride concentrations of 1,820 mg/kg and 135 mg/kg, respectively.

Test trench T-18 was advanced outside the “dry dirt tank” in the southeastern portion of the Release Site. During the advancement of the test trench, three (3) soil samples (T-18 @ 2’, T-18 @ 6’ and T-18 @ 8’) were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 10,000 mg/kg in soil sample T-18 @ 2’ to 111 mg/kg in soil sample T-18 @ 8’.

In addition, four (4) interim excavation confirmation soil sample (T-3 ESW1, T-3 ESW2, T-3 ESW2b, and T-14 SWSW) were collected from the excavation sidewall and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 3,750 mg/kg in soil sample T-3 ESW2 to 177 mg/kg in soil sample T-3 ESW1. Chloride concentrations were above the NMOC regulatory guidelines in each of the submitted soil samples with the exception of soil sample T-3 ESW1 (177 mg/kg).

Test trench G-2 was advanced in the area characterized by soil sample G-2. During the advancement of the test trench, one (1) soil sample (G-2 @ 6’) was collected and submitted to the laboratory for analysis of chloride concentrations, which was determined to be 305 mg/kg.

Test trench G-7 was advanced in the area characterized by soil sample G-7. During the advancement of the test trench, one (1) soil sample (G-7 @ 6’) was collected and submitted to the laboratory for analysis of chloride concentrations, which was determined to be 33.1 mg/kg.

Test trench G-11 was advanced in the area characterized by soil sample G-2. During the advancement of the test trench, one (1) soil sample (G-11 @ 6’) was collected and submitted to the laboratory for analysis of chloride concentrations, which was determined to be 23.1 mg/kg.

On June 13, 2018, COG and NMOC representatives met to discuss remediation activities at the Site. During the meeting, the results of laboratory analysis from soil samples collected to date and site conditions were discussed, along with the proposed remediation strategies.

On June 19, 2018, TRC advanced six (6) test trenches (T-8b, T-9b, T-10, G-1b, G-3b, and G-5b) at the site in an effort to further characterize affected soil at the Site. Test trench T-8b was advanced in the area characterized by test trench T-8. During the advancement of the test trench, one (1)



soil sample (T-8b @ 16') was collected and submitted to the laboratory for analysis of chloride concentrations, which was determined to be 676 mg/kg.

Test trench T-9b was advanced in the area characterized by test trench T-9. During the advancement of the test trench, one (1) soil sample (T-9b @ 16') was collected and submitted to the laboratory for analysis of chloride concentrations, which was determined to be 1,360 mg/kg.

Test trench T-10 was advanced outside the "dry dirt tank" in the southern portion of the Release Site. During the advancement of the test trench, four (4) soil samples (T-10 @ 2', T-10 @ 6', T-10 @ 10', and T-10 @ 12') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 8,410 mg/kg in soil sample T-10 @ 6' to 378 mg/kg in soil sample T-10 @ 12'.

Test trench G-1b was advanced in the area characterized by soil sample G-1. During the advancement of the test trench, two (2) soil samples (G-1b @ 5' and G-1b @ 6') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated soil samples G-1b @ 5' and G-1b @ 6' exhibited chloride concentrations of 134 mg/kg and 50.6 mg/kg, respectively.

Test trench G-3b was advanced in the area characterized by soil sample G-3. During the advancement of the test trench, one (1) soil sample (G-3b @ 7') was collected and submitted to the laboratory for analysis of chloride concentrations, which was determined to be less than the laboratory SDL.

Test trench G-5b was advanced in the area characterized by soil sample G-5. During the advancement of the test trench, two (2) soil samples (G-5b @ 5' and G-5b @ 6') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated soil samples G-1b @ 5' and G-1b @ 6' exhibited chloride concentrations of 26.4 mg/kg and less than the laboratory SDL, respectively.

In addition, three (3) interim excavation confirmation soil samples (T-1 NSWb, T-1 NWW1, and T-1 NWW 2) were collected from the sidewalls of the excavated area. The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the NMOC regulatory guidelines in each of the submitted soil samples.

On June 20, 2018, TRC advanced three (3) test trenches (T-11, T-13, and T-19) at the Site in an effort to further characterize affected soil at the Site. Test trench T-11 was advanced outside the "dry dirt tank" in the southern portion of the Release Site. During the advancement of the test trench, four (4) soil samples (T-11 @ 2', T-11 @ 6', T-11 @ 10', and T-11 @ 12') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 3,840 mg/kg in soil sample T-11 @ 6' to 40.8 mg/kg in soil sample T-11 @ 12'.



Test trench T-13 was advanced on the west side of the “dry dirt tank” in the central portion of the Release Site. During the advancement of the test trench, three (3) soil samples (T-13 @ 4’, T-13 @ 8’, and T-13 @ 10’) were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 5,330 mg/kg in soil sample T-13 @ 4’ to 37.0 mg/kg in soil sample T-13 @ 10’.

Test trench T-19 was advanced outside the “dry dirt tank” in the northeastern portion of the Release Site. During the advancement of the test trench, three (3) soil samples (T-19 @ 4’, T-19 @ 10’, and T-19 @ 12’) were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 3,530 mg/kg in soil sample T-19 @ 4’ to 34.3 mg/kg in soil sample T-19 @ 12’.

In addition, eighteen (18) interim excavation confirmation soil samples (T-1 ESW, T-4 NEWb, T-4 NWWb, T-4 WW1, T-5 WSW, T-12 SSW, T-12 WSW, T-12 ESW, T-14 ESW, T-15 WSW, T-15 ESW, T-16 ESW1, T-16 ESW2, T-16 WSW1, T-16 WSW2, T-16 NWW, T-16 NSW, and T-17 NSW) were collected from the sidewalls of the excavated area. The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the NMOCD regulatory guidelines in each of the submitted soil samples, with the exception of soil sample T-1 ESW which exhibited a chloride concentration of 727 mg/kg and soil sample T-4 NWWb, which exhibited a chloride concentration of 682 mg/kg.

On October 4, 2018, TRC revisited the Release Site in an effort to further investigate an anomalous analytical result from a soil sample collected in the area represented by test trenches T-9 and T-9B. During the site visit, a Geoprobe® was utilized to collect two (2) discrete soil samples (SB-9B @ 16’ and SB-9B @ 18’) from the area characterized by test trenches T-8 and T-8B. The collected soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated soil samples SB-9B @ 16’ and SB-9B @ 18’ exhibited chloride concentrations of 481 mg/kg and 430 mg/kg, respectively. Laboratory analytical results from soil samples collected utilizing the Geoprobe® suggests the detected chloride concentration in soil sample T-9B @ 16’ does not appear to be representative of conditions at the Site. Between May 9 and June 18, 2018, approximately sixteen-thousand, two-hundred eighty (16,280) cubic yards of impacted soil was transported to R360 Environmental Solutions, LLC, Red Bluff Facility. A “Photographic Log” is provided as Appendix D.

3.0 NMOCD Approved Workplan

The release occurred on April 29, 2018. Due to the volume of the release and sensitive nature of the Release Site, excavation and remediation activities commenced immediately on discovery. Remediation and delineation activities were conducted in accordance with the industry standards at the time of the Release. On June 13, 2018, COG and NMOCD representatives met to discuss remediation activities at the Site. During the meeting, the results of laboratory analysis from soil samples collected to date and site conditions were discussed. A *Proposed Closure Strategy*, designed to advance the site toward an NMOCD-approved closure, was outlined to the NMOCD.



On NMOCD approval of the *Proposed Closure Strategy*, remediation and delineation activities continued in accordance with the objectives set forth during the NMOCD meeting.

Based on field observations, site conditions, laboratory analytical results, and the NMOCD meeting, COG proposed the following field activities designed to advance the Apple 5 State SWD #001 Release Site toward an NMOCD-approved closure:

- In accordance with the NMOCD meeting, impacted soil in the areas characterized by test trenches T-2, T-16 and T-17 will be excavated to a minimum depth of four (4) ft. bgs.
- Impacted soil in the area characterized by test trenches T-5, T-6 and T-14 will be excavated to a minimum depth of six (6) ft. bgs.
- Impacted soil in the area characterized by test trenches T-7 and T-15 will be excavated to a minimum depth of eight (8) ft. bgs. Chloride concentrations remaining in-situ for the above mentioned excavation depths are in accordance with the June 13, 2018 meeting with NMOCD. A “Proposed Excavation & Liner Installation Map” is provided as Figure 3.
- Impacted soil in the areas characterized by test trenches T-3, T-4, T-10, T-11, T-12, T-13, and T-19 will be excavated until laboratory analytical results from confirmation soil samples collected from the floor of the excavated area indicate concentrations of chloride are below 1,000 mg/kg.
- Impacted soil in the areas characterized by test trenches G-1, G-2, G-3, G-5, G-7, and G-11 will be excavated until laboratory analytical results from confirmation soil samples collected from the floor of the excavated area indicate concentrations of chloride are below 1,000 mg/kg.
- Impacted soil in the southeastern portion of the Release Site, in the areas characterized by test trenches T-1, T-8, T-8b T-9, T-9b, and T-18 will be excavated to a depth of approximately four (4) ft. bgs. During the course of remediation activities, a delineation trench will be advanced vertically in the area characterized by test trench T-9b until laboratory analytical results from confirmation soil samples indicate chloride concentrations are below 600 mg/kg.
- COG proposes to install an engineering control (40-mil polyurethane liner) within the affected area on the north side of the produced water transfer line in the southeast portion of the remediation site. On excavating impacted soil in the areas characterized by test trenches T-1, T-8, T-9 and T-18, a 40-mil polyurethane liner will be installed on the floor of the excavated area. This engineering control is designed to inhibit the vertical migration of contaminants left in-situ. The edges of the liner will be “key set” to a depth of approximately ten (10) ft. bgs in an effort to inhibit potential contact between percolating rainwater and impacted soil affected above the NMOCD regulatory guidelines beneath the polyurethane liner. The base of the excavation beneath the liner will be mounded in the center in an effort to shed percolating rainwater to the liner edges.
- The liner will be cushioned by an approximate six (6) inch layer of pad sand above and below the liner in an effort to maintain its integrity during backfilling activities.



- Excavation sidewalls will be advanced horizontally until chloride field test results indicate chloride concentrations are below 600 mg/kg. Excavation confirmation soil samples will be collected from the sidewalls of the excavated area at approximate fifty (50) ft. intervals, where horizontal delineation is not adequately defined with existing data.
- As per the NMOCD, laboratory analysis of excavation confirmation soil samples collected from the floor of the excavated areas at depths greater than six (6) ft. will not be required.
- Impacted soil excavated from the Release Site will be transported to an NMOCD-approved disposal facility.
- After receiving laboratory analytical results from excavation confirmation soil samples and NMOCD approval, the excavated areas outside the “dry dirt tank” will be backfilled with locally-sourced, nonimpacted “like” material.
- The excavated areas within the affected “dry dirt tank” will be backfilled to approximately four (4) ft. bgs. Upon backfilling the excavated areas within the affected dry dirt tank, an approximate six (6) in. layer of suitable clay material will be installed on the floor and up the sloped sidewalls of the excavated area characterized as the former dry dirt pond.
- After backfilling the excavated areas and restoring the affected pond, water diversions and erosion controls will be installed, as necessary. The affected area outside the “dry dirt tank” will be reseeded in accordance with the landowner requirements.

On January 11, 2019, the NMOCD approved the submitted workplan with the single stipulation requiring the area of T-1 be excavated to a depth of six (6) feet bgs, backfilled with locally-sourced, non-impacted “like” material to four (4) feet bgs. On completion, of the stipulated activities, the 40-mil liner may be installed atop the area.

4.0 Summary of Soil Remediation Activities

On March 20, 2019, excavation activities in adherence to the NMOCD-approved workplan commenced. The area south of the COG pipeline right-of way was excavated to approximately seven (7) feet bgs, beginning on the east and working westward. Excavated soil was stockpiled onsite atop polyurethane sheeting, pending final disposition. As excavation activities continued, impacted material was transported to an NMOCD approved disposal facility, and non-impacted, locally sourced “like” material was transported to the Site to backfill the excavation following review of analytical results.

On March 21, 2019, three (3) five-point composite floor confirmation soil samples (FL-A1-7, FL-A2-7, and FL-A4-7) were collected from the base of the excavation and were submitted to Cardinal Laboratories in Hobbs, NM for chloride analysis. The analytical results indicated two (2) soil samples, FL-A1-7 and FL-A2-7, were above NMOCD regulatory guidelines. Following a review of the analytical results, the areas represented by soil samples FL-A1-7 and FL-A2-7 were further excavated to 7.5 feet bgs and the excavation advanced westward.

On March 27, 2019, three (3) five-point composite sidewall confirmation soil samples (SW-A1-3.5, SW-A3-3.5, and SW-A4-3.5) and six (6) five-point composite floor confirmation soil samples



(FL-A3-7, FL-A5-7, FL-A6-7, FL-A7-7, FL-A8-7, and FL-A9-7) were collected from the excavated area and submitted to the laboratory for chloride analysis. Each soil sample exhibited chloride concentrations below NMOCD regulatory guidelines, with the exception of soil sample SW-A1-3.5, which exceeded NMOCD regulatory guidelines. The sidewall represented by soil sample SW-A1-3.5 was excavated further to the south. Excavation south of the COG pipeline continued to the west.

On April 1, 2019, three (3) five-point composite sidewall confirmation soil samples (SW-A2-3.5, SW-A5-3.5, and EW-A1-3.5) and three (3) five-point composite floor confirmation soil samples (FL-A1-7.5, FL-A2-7.5, and FL-A10-7) were collected and submitted to the laboratory for chloride analysis. Each soil sample exhibited chloride concentrations below NMOCD regulatory guidelines, with the exception of soil sample FL-A1-7.5, which exceeded NMOCD regulatory guidelines. After review of the analytical results, the area represented by soil sample FL-A1-7.5 was further excavated to eight (8) feet bgs.

On April 5, 2019, one (1) five-point composite sidewall confirmation soil sample (SW-A1-4) and one (1) five-point composite floor confirmation soil sample (FL-A1-8) were collected and submitted to the laboratory for chloride analysis. Each soil sample exhibited chloride concentrations below NMOCD regulatory guidelines. After a review of the analytical results, the area south of the COG pipeline was backfilled to grade with non-impacted, locally sourced “like” material.

On April 8, 2019, excavation of the impacted area north of the COG pipeline commenced. The existing excavation was laterally expanded at a depth of four (4) feet bgs. Excavation began at the southeast corner and continued around the existing excavation in a counter-clockwise manner. Five-point composite sidewall confirmation soil samples were collected from halfway down the four (4) foot excavation sidewalls to confirm the full lateral extent of the impact had been removed. Further vertical excavation was not conducted until the lateral extent of the impact had been delineated and excavated.

On April 9, 2019, two (2) five-point composite sidewall confirmation soil samples (SW-B1-2 and SW-B2-2) were collected and submitted to the laboratory for chloride analysis. The analytical results indicated the submitted soil samples exhibited chloride concentrations below NMOCD regulatory guidelines. The area represented by trench T-1 was further excavated to a depth of six (6) feet bgs, as stipulated in the NMOCD approval response to the workplan. Following excavation activities in the area represented by trench T-1, the area was backfilled to four (4) feet bgs. A trench around the proposed polyurethane lined area was completed to a depth of ten (10) feet bgs for key-setting of the 40-mil polyurethane liner. On April 15, 2019, a 40-mil polyurethane liner was installed by a subcontractor experienced in the installation of this engineering control, as approved by the NMOCD in the workplan. The keyset trench was backfilled and the area atop the liner was backfilled to grade utilizing non-impacted, locally sourced “like” material. Further excavation continued to the northeast.

On April 18, 2019, four (4) five-point composite sidewall confirmation soil samples (SW-B3-2, SW-B4-2, SW-B5-2, and SW-C1-2) were collected and submitted to the laboratory for chloride



analysis. The analytical results indicated chloride concentrations in each submitted soil sample were below NMOCD regulatory guidelines. Excavation continued to the northeast.

On April 19, 2019, two (2) five-point composite sidewall confirmation soil samples (SW-C2-2 and SW-C3-2) were collected and submitted to the laboratory for chloride analysis. The analytical results indicated chloride concentrations in each submitted soil sample were below NMOCD regulatory guidelines. Comparison of the NMOCD approved workplan map and the sample map indicated soil samples SW-C1-2, SW-C2-2, and SW-C3-2 were proximal to the positions of trenches T-12 and T-13. Based on soil sample locations and to ensure the impact indicated in the two (2) areas was removed, the excavation was advanced laterally further to the northeast prior to continuing north and west. The areas represented by soil samples SW-C1-2, SW-C2-2 and SW-C3-2 were re-sampled in the new sidewall locations.

On April 26, 2019, ten (10) five-point composite sidewall confirmation soil samples (SW-C1-2R, SW-C2-2R, SW-C3-2R, SW-C4-2, SW-C5-2, SW-D1-2, SW-D2-2, SW-D3-2, SW-D4-2, and SW-D5-2) were collected and submitted to the laboratory for chloride analysis. Each soil sample was below NMOCD regulatory guidelines for chloride concentrations. Excavation continued to the south.

On April 30, 2019, seven (7) five-point composite sidewall confirmation soil samples (SW-C6-2, SW-C7-2, SW-E1-2, SW-E2-2, SW-E3-2, SW-E4-2, and SW-E5-2) were collected and submitted to the laboratory for chloride analysis. The analytical results indicated chloride concentrations in each submitted soil sample was below NMOCD regulatory guidelines. Excavation continued to the south.

On May 1, 2019, five (5) five-point composite sidewall confirmation soil samples (SW-E6-2, SW-E7-2, SW-F1-2, SW-F2-2, and SW-F3-2) were collected and submitted to the laboratory for chloride analysis. The analytical results indicated chloride concentrations were below NMOCD regulatory guidelines. After a review of the analytical results, the lateral extents of the impacted area had been removed, and the floor of the excavation was further excavated based on the NMOCD approved workplan and chloride field screen results.

On May 7, 2019, twenty (20) five-point composite floor confirmation soil samples (FL-C1-4, FL-C2-5, FL-C3-5, FL-C4-6, FL-C6-6, FL-C7-6, FL-C8-6, FL-C9-9, FL-D2-4, FL-D3-4, FL-E4-5, FL-E5-4, FL-F1-4, FL-F2-4, FL-F5-6, FL-F6-4, FL-F7-4, FL-F13-4, and FL-F14-8) were collected and submitted to the laboratory for TPH, BTEX, and/or chloride analysis. The analytical results indicated chloride concentrations in each sample were below NMOCD regulatory guidelines, with the exception of FL-C7-6. The analytical results indicated each soil sample submitted for TPH and BTEX analyses were below laboratory detection limits for each constituent. The floor of the excavation continued to advance in areas with chloride concentrations above NMOCD regulatory guidelines, including the area represented by soil sample FL-C7-6.

On May 8, 2019, one (1) five-point composite floor confirmation soil sample (FL-B1-6) was collected and submitted to the laboratory for TPH, BTEX, and chloride analyses. The analytical results indicated the soil sample was below NMOCD regulatory guidelines for chlorides, and



below the laboratory detection limits for TPH and BTEX constituents. The floor of the excavation continued to advance in areas with chloride concentrations above NMOCD regulatory guidelines.

On May 9, 2019, two (2) five-point composite floor confirmation soil samples (FL-B2-6, FL-C7-6.5) were collected and submitted to the laboratory for chloride analysis. The analytical results indicated both soil samples were below NMOCD regulatory guidelines for chloride concentrations. The floor of the excavation continued to advance in areas with chloride concentrations above NMOCD regulatory guidelines.

On May 13, 2019, ten (10) five-point composite floor confirmation soil samples (FL-D1-5.5, FL-D4-5.5, FL-D5-5.5, FL-D6-5.5, FL-D7-5.5, FL-E2-5.5, FL-E3-5.5, FL-E6-5, FL-E7-5, and FL-E8-5.5) were collected and submitted to the laboratory for chloride analysis. The analytical results indicated each soil sample was below NMOCD regulatory guidelines for chloride concentrations. The floor of the excavation continued to advance in areas with chloride concentrations above NMOCD regulatory guidelines.

On May 14, 2019, seven (7) five-point composite floor confirmation soil samples (FL-F3-5.5, FL-F4-5.5, FL-F8-5.5, FL-F9-5.5, FL-F10-4.5, FL-F11-7, and FL-F15-8.5) were collected and submitted to the laboratory for chloride analysis. The analytical results indicated each soil sample was below NMOCD regulatory guidelines for chloride concentrations. The floor of the excavation continued to advance in areas with chloride concentrations above NMOCD regulatory guidelines.

On May 20, 2019, two (2) five-point composite floor confirmation soil samples (FL-E1-5 and FL-F12-6) were collected and submitted to the laboratory for TPH, BTEX, and/or chloride analyses. The laboratory analytical results indicated TPH and BTEX concentrations were below laboratory detection limits in the soil sample submitted for TPH and BTEX analyses. The analytical results indicate soil sample FL-E1-5 was below NMOCD regulatory guidelines for chloride concentrations, and soil sample FL-F12-6 was above NMOCD regulatory guidelines for chloride concentrations. The floor of the excavation in the area represented by soil sample FL-F12-6 was further advanced until chloride concentrations were below NMOCD regulatory guidelines.

On May 21, 2019, one (1) five-point composite floor confirmation soil sample (FL-F12-7) was collected and submitted to the laboratory for chloride analysis. The analytical results indicated soil sample FL-F12-7 was below NMOCD regulatory guidelines for chloride concentrations. A review of the laboratory analytical data indicated the vertical extents of the area of impact adjacent to the polyurethane liner had been excavated, and backfill to grade with non-impacted, locally sourced "like" material began. In addition, the construction of an expanded "dry dirt tank" commenced.

Approximately 20,200 cubic yards of impacted material was disposed of at an NMOCD approved disposal facility. The Site was returned to grade, with the exception of the expanded "dry dirt tank". The "dry dirt tank" was completed to approximately four feet bgs, then lined with a GSE Bentoliner[®] Fabric Encased geosynthetic clay liner (GCL). The expanded footprint of the expanded "dry dirt tank" was approximately sixty-thousand square feet. Approximately one (1)



foot of non-impacted, locally sourced “like” material was placed atop the GCL liner for erosion control.

5.0 Site Closure Request

Remediation activities were conducted in accordance with NMCOD guidelines. Impacts immediately adjacent to or surrounding active pipelines were excavated to the maximum extent practicable based on ensuring the health and safety of onsite personnel and limiting potential further exposure of the environment to further releases. Laboratory analytical results from excavation confirmation soil samples indicated TPH, BTEX, and/or chloride concentrations were below the NMOCD regulatory guidelines in the submitted confirmation soil samples. The impacted soil was transported to an NMOCD approved disposal facility, and the Site was returned to grade with locally sourced non-impacted backfill material, with the exception of the constructed “dry dirt tank”. Based on laboratory analytical results and field activities conducted to date, TRC recommends COG provide copies of this Remediation Summary and Site Closure Request to the NMOCD and request closure status for the Apple 5 State SWD #001.

6.0 Limitation

TRC has prepared this Remediation Summary and Site Closure Request to the best of its ability. No other warranty, expressed or implied, is made or intended.

TRC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. TRC has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. TRC has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. TRC also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of COG Operating, LLC. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of TRC and/or COG Operating, LLC.



7.0 Distribution

Copy 1: Bradford Billings
 New Mexico Energy, Minerals and Natural Resources Department
 Oil Conservation Division, District 4
 1220 South St. Francis Drive
 Santa Fe, NM 87505

Copy 2: Rebecca Haskell
 COG Operating, LLC
 600 W. Illinois Avenue
 Midland, Texas 79701

Copy 3: TRC Environmental Corporation
 10 Desta Dr STE 150E
 Midland, TX 79705

TABLE 1

CONCENTRATION OF BENZENE, BTEX, TPH and CHLORIDE IN SOIL (Delineation Phase)

COG OPERATING, LLC
 APPLE 5 STATE SWD #001
 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
T-1 @ 2'	2'	5/4/2018	Excavated	<0.0187	<0.0187	<0.0187	<0.0187	<0.0187	<3.74	<25.1	<25.1	<25.1	12,900
T-1 @ 4'	4'	5/4/2018	Excavated	-	-	-	-	-	-	-	-	-	8,010
T-1 @ 6'	6'	5/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	4,710
T-1 @ 8'	8'	5/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	762
T-1 @ 10'	10'	5/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	412
T-1 @ 12'	12'	5/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	405
T-1 @ 14'	14'	5/4/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	533
T-2 @ 4'	4'	5/10/2018	Proposed Excavation	<0.0187	<0.0187	<0.0187	<0.0187	<0.0187	<3.75	<25.2	<25.2	<25.2	3,210
T-2 @ 6'	6'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	702
T-2 @ 8'	8'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	47.3
T-2 @ 10'	10'	5/10/2018	In-Situ	<0.0179	<0.0179	<0.0179	<0.0179	<0.0179	<3.58	<24.8	<24.8	<24.8	33.1
T-3 @ 4'	1'	5/4/2018	In-Situ	<0.0182	<0.0182	<0.0182	<0.0182	<0.0182	<3.64	<24.9	<24.9	<24.9	300
T-3 @ 6'	2'	5/4/2018	In-Situ	<0.0183	<0.0183	<0.0183	<0.0183	<0.0183	<3.66	<24.9	<24.9	<24.9	52.9
T-4 @ 4'	4'	5/4/2018	In-Situ	<0.0189	<0.0189	<0.0189	<0.0189	<0.0189	<3.77	<25.0	<25.0	<25.0	375
T-4 @ 6'	6'	5/4/2018	In-Situ	<0.0190	<0.0190	<0.0190	<0.0190	<0.0190	<3.81	<25.2	<25.2	<25.2	39.0
T-5 @ 5'	5'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	6,310
T-5 @ 7'	7'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	1,400
T-5 @ 9'	9'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	946
T-5 @ 11'	11'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	177
T-6 @ 6'	6'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	3,240
T-6 @ 8'	8'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	423
T-6 @ 10'	10'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	35.2
T-7 @ 6'	6'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	2,900
T-7 @ 8'	8'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	1,910
T-7 @ 10'	10'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	121
T-8 @ 6'	6'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	216
T-8 @ 8'	8'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	1,100
T-8 @ 10'	10'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	653
T-8 @ 12'	12'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	719
T-8B @ 16'	16'	6/20/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	676
T-9 @ 6'	6'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	598
T-9 @ 8'	8'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	745
T-9 @ 10'	10'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	506
T-9 @ 12'	12'	5/31/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	655
T-9B @ 16'	16'	6/20/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	1,360
T-10 @ 2'	2'	6/19/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	5,240
T-10 @ 6'	6'	6/19/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	8,410
T-10 @ 10'	10'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	841
T-10 @ 12'	12'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	378
T-11 @ 2'	2'	6/19/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	133
T-11 @ 6'	6'	6/19/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	3,840
T-11 @ 10'	10'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	511
T-11 @ 12'	12'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	40.8
T-12 @ 4'	4'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	4,390
T-12 @ 8'	8'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	1,084*
T-12 @ 10'	10'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	46.1
T-12 @ 12'	12'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	39.5
T-13 @ 4'	4'	6/19/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	5,330
T-13 @ 8'	8'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	505
T-13 @ 10'	10'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	37.0
T-14 @ 4'	4'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	1,630
T-14 @ 6'	6'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	2,256*
T-14 @ 8'	8'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	622
T-14 @ 10'	10'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	59.1
NMOCD Recommended Remediation Action Level				10	-	-	-	50	-	-	-	5,000	600

TABLE 1

CONCENTRATION OF BENZENE, BTEX, TPH and CHLORIDE IN SOIL (Delineation Phase)

COG OPERATING, LLC
 APPLE 5 STATE SWD #001
 EDDY COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

T-15 @ 6'	6'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	4,790
T-15 @ 8'	8'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	2,280
T-15 @ 10'	10'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	319
T-16 @ 2'	2'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	8,980
T-16 @ 4'	4'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	>2,600*
T-16 @ 6'	6'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	37.4
T-17 @ 2'	2'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	1,932*
T-17 @ 4'	4'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	1,820
T-17 @ 6'	6'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	135
T-18 @ 2'	2'	6/7/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	10,000
T-18 @ 4'	4'	6/7/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	-	>2,600*
T-18 @ 6'	6'	6/7/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	-	540
T-18 @ 8'	8'	6/7/2018	Proposed Risk-Based	-	-	-	-	-	-	-	-	-	-	111
T-19 @ 4'	4'	6/20/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	3,530
T-19 @ 10'	10'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	506
T-19 @ 12'	12'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	34.3
G-1	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	4,230
G-1b @ 5'	5'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	134
G-1b @ 6'	6'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	50.6
G-2	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	3,590
G-2	6'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	305
G-3	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	3,600
G-3b @ 7'	7'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	<25.0
G-4	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	151
G-5	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	1,900
G-5b @ 5'	5'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	26.4
G-5b @ 6'	6'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	<25.0
G-6	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	292
G-7	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	2,960
G-7	6'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	33.1
G-8	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	<25.0
G-9	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	348
G-10	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	241
G-11	4'	5/31/2018	Proposed Excavation	-	-	-	-	-	-	-	-	-	-	3,420
G-11	6'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	23.1
G-12	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	367
G-13	4'	5/31/2018	In-Situ	-	-	-	-	-	-	-	-	-	-	340
NMOCD Recommended Remediation Action Level				10	-	-	-	50	-	-	-	5,000	600	

* Denotes Hach Quantab Chloride Field Test Results

CONCENTRATION OF BENZENE, BTEX, TPH and CHLORIDE IN SOIL (Delineation Phase)

COG OPERATING, LLC
 APPLE 5 STATE SWD #001
 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	
T-1 NSW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	832	
T-1 NEW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	29.6	
T-1 SSW1	3'	5/16/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-1 SSW2	3'	5/16/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-1 SSW3	3'	5/16/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-1 SSW5	3'	5/16/2018	In-Situ	-	-	-	-	-	-	-	-	-	30.0	
T-1 NSWb	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	84.3	
T-1 NWW 1	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	27.3	
T-1 NWW 2	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	168	
T-1 ESW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	727	
T-2 WW1	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	34.1	
T-2 SSW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-2 SWW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	238	
T-3 WW1	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-3 WW2	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-3 ESW1	3'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	177	
T-3 ESW2	3'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	3,750	
T-3 ESW2b	3'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	1,140	
T-4 EW1	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-4 EW2	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-4 WW2	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	29.7	
T-4 NWW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	25.9	
T-4 NEW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	175	
T-4 NEWb	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-4 NWWb	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	682	
T-4 WW1	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	51.4	
T-5 NSW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-5 SSW	3'	5/10/2018	In-Situ	-	-	-	-	-	-	-	-	-	34.2	
T-5 SSW*	3'	5/16/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-5 WSW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-12 SSW	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	38.0	
T-12 WSW	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	220	
T-12 ESW	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	210	
T-14 SWSW	3'	6/7/2018	In-Situ	-	-	-	-	-	-	-	-	-	1,790	
T-14 ESW	4'	6/19/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-15 WSW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	183	
T-15 ESW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
T-16 ESW1	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	479	
T-16 ESW2	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	438	
T-16 WSW1	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	574	
T-16 WSW2	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	422	
T-16 NWW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	147	
T-16 NSW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	205	
T-17 NSW	4'	6/20/2018	In-Situ	-	-	-	-	-	-	-	-	-	<25.0	
NMOCD Recommended Remediation Action Level				10	-	-	-	-	50	-	-	-	5,000	600

Table 2
Concentrations of Benzene, BTEX, TPH and Chloride in Soil (Confirmation Phase)

Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					E 300
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
SB-9B @ 16'	10/4/18	16'	In-Situ	--	--	--	--	--	--	--	481
SB-9B @ 18'	10/4/18	18'	In-Situ	--	--	--	--	--	--	--	430
SW- A1- 3.5	3/27/19	3.5'	Excavated	--	--	--	--	--	--	--	603
SW- A1- 4	4/5/19	4'	In-Situ	--	--	--	--	--	--	--	361
SW- A2- 3.5	4/1/19	3.5'	In-Situ	--	--	--	--	--	--	--	93.6
SW-A3-3.5	3/27/19	3.5'	In-Situ	--	--	--	--	--	--	--	34.5
SW- A4- 3.5	3/27/19	3.5'	In-Situ	--	--	--	--	--	--	--	312
SW- A5- 3.5	4/1/19	3.5'	In-Situ	--	--	--	--	--	--	--	268
EW- A1- 3.5	4/1/19	3.5'	In-Situ	--	--	--	--	--	--	--	149
FL- A1- 7	3/21/19	7'	Excavated	--	--	--	--	--	--	--	1,210
FL- A1- 7.5	4/1/19	7.5'	Excavated	--	--	--	--	--	--	--	1,660
FL- A1- 8	4/5/19	8'	In-Situ	--	--	--	--	--	--	--	632
FL- A2- 7	3/21/19	7'	Excavated	--	--	--	--	--	--	--	1,110
FL- A2- 7.5	4/1/19	7.5'	In-Situ	--	--	--	--	--	--	--	159
FL- A3- 7	3/27/19	3.5'	In-Situ	--	--	--	--	--	--	--	702
FL- A4- 7	3/21/19	7'	In-Situ	--	--	--	--	--	--	--	818
FL- A5- 7	3/27/19	7'	In-Situ	--	--	--	--	--	--	--	103
FL- A6- 7	3/27/19	7'	In-Situ	--	--	--	--	--	--	--	33.7
FL- A7- 7	3/27/19	7'	In-Situ	--	--	--	--	--	--	--	26.4
FL- A8- 7	3/27/19	7'	In-Situ	--	--	--	--	--	--	--	32.2
FL- A9- 7	3/27/19	7'	In-Situ	--	--	--	--	--	--	--	15.6
FL-A10-7	4/1/19	7'	In-Situ	--	--	--	--	--	--	--	201
SW- B1- 2	4/9/19	2'	In-Situ	--	--	--	--	--	--	--	288
SW- B2- 2	4/9/19	2'	In-Situ	--	--	--	--	--	--	--	160
SW- B3 2	4/18/19	2'	In-Situ	--	--	--	--	--	--	--	80.0
SW- B4- 2	4/18/19	2'	In-Situ	--	--	--	--	--	--	--	96.0
SW- B5- 2	4/18/19	2'	In-Situ	--	--	--	--	--	--	--	48.0
FL- B1- 6	5/8/19	6'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	480
FL- B2- 6	5/9/19	6'	In-Situ	--	--	--	--	--	--	--	704
NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	1,000 (Floor) 600 (Sidewall)

Table 2
Concentrations of Benzene, BTEX, TPH and Chloride in Soil (Confirmation Phase)

Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					E 300
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
SW- C1- 2	4/18/19	2'	Excavated	--	--	--	--	--	--	--	96.0
SW- C1- 2R	4/26/19	2'	In-Situ	--	--	--	--	--	--	--	336
SW- C2- 2	4/19/19	2'	Excavated	--	--	--	--	--	--	--	256
SW- C2- 2R	4/26/19	2'	In-Situ	--	--	--	--	--	--	--	144
SW- C3- 2	4/19/19	2'	Excavated	--	--	--	--	--	--	--	80.0
SW- C3- 2R	4/26/19	2'	In-Situ	--	--	--	--	--	--	--	80.0
SW- C4- 2	4/26/19	2'	In-Situ	--	--	--	--	--	--	--	48.0
SW- C5- 2	4/26/19	2'	In-Situ	--	--	--	--	--	--	--	32.0
SW- C6- 2	4/30/19	2'	In-Situ	--	--	--	--	--	--	--	<16.0
SW- C7- 2	4/30/19	2'	In-Situ	--	--	--	--	--	--	--	<16.0
FL- C1- 4	5/7/19	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FL- C2- 5	5/7/19	5'	In-Situ	--	--	--	--	--	--	--	912
FL- C3- 5	5/7/19	5'	In-Situ	--	--	--	--	--	--	--	176
FL- C4- 6	5/7/19	6'	In-Situ	--	--	--	--	--	--	--	192
FL- C5- 6	5/7/19	6'	In-Situ	--	--	--	--	--	--	--	592
FL- C6- 8	5/7/19	8'	In-Situ	--	--	--	--	--	--	--	688
FL- C7- 6	5/7/19	6'	Excavated	--	--	--	--	--	--	--	2,320
FL- C7- 6.5	5/9/19	6.5'	In-Situ	--	--	--	--	--	--	--	80.0
FL- C8- 6	5/7/19	6'	In-Situ	--	--	--	--	--	--	--	336
FL- C9- 9	5/7/19	9'	In-Situ	--	--	--	--	--	--	--	112
SW- D1- 2	4/26/19	2'	In-Situ	--	--	--	--	--	--	--	96.0
SW- D2- 2	4/26/19	2'	In-Situ	--	--	--	--	--	--	--	48.0
SW- D3- 2	4/26/19	2'	In-Situ	--	--	--	--	--	--	--	48.0
SW- D4- 2	4/26/19	2'	In-Situ	--	--	--	--	--	--	--	192
SW- D5- 2	4/26/19	2'	In-Situ	--	--	--	--	--	--	--	32.0
FL- D1- 5.5	5/13/19	5.5'	In-Situ	--	--	--	--	--	--	--	96.0
FL- D2- 4	5/7/19	4'	In-Situ	--	--	--	--	--	--	--	320
FL- D3- 4	5/7/19	4'	In-Situ	--	--	--	--	--	--	--	544
FL- D4- 5.5	5/13/19	5.5'	In-Situ	--	--	--	--	--	--	--	864
FL- D5- 5.5	5/13/19	5.5'	In-Situ	--	--	--	--	--	--	--	304
FL- D6- 5.5	5/13/19	5.5'	In-Situ	--	--	--	--	--	--	--	320
NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	1,000 (Floor) 600 (Sidewall)

Table 2
SConcentrations of Benzene, BTEX, TPH and Chloride in Soil (Confirmation Phase)

Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					E 300
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
FL- D7- 5.5	5/13/19	5.5'	In-Situ	--	--	--	--	--	--	--	64.0
SW- E1- 2	4/30/19	2'	In-Situ	--	--	--	--	--	--	--	32.0
SW- E2- 2	4/30/19	2'	In-Situ	--	--	--	--	--	--	--	64.0
SW- E3- 2	4/30/19	2'	In-Situ	--	--	--	--	--	--	--	96.0
SW- E4- 2	4/30/19	2'	In-Situ	--	--	--	--	--	--	--	32.0
SW- E5- 2	4/30/19	2'	In-Situ	--	--	--	--	--	--	--	64.0
SW- E6- 2	5/1/19	2'	In-Situ	--	--	--	--	--	--	--	80.0
SW- E7- 2	5/1/19	2'	In-Situ	--	--	--	--	--	--	--	<16.0
FL-E1-5	5/20/19	5'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	880
FL- E2- 5.5	5/13/19	5.5'	In-Situ	--	--	--	--	--	--	--	464
FL- E3- 5.5	5/13/19	5.5'	In-Situ	--	--	--	--	--	--	--	688
FL- E4- 5	5/7/19	5'	In-Situ	--	--	--	--	--	--	--	864
FL-E5- 4	5/7/19	4'	In-Situ	--	--	--	--	--	--	--	896
FL- E6- 5	5/13/19	5'	In-Situ	--	--	--	--	--	--	--	848
FL- E7- 5	5/13/19	5'	In-Situ	--	--	--	--	--	--	--	704
FL- E8- 5.5	5/13/19	5.5'	In-Situ	--	--	--	--	--	--	--	656
SW- F1- 2	5/1/19	2'	In-Situ	--	--	--	--	--	--	--	16.0
SW- F2- 2	5/1/19	2'	In-Situ	--	--	--	--	--	--	--	48.0
SW- F3- 2	5/1/19	2'	In-Situ	--	--	--	--	--	--	--	64.0
FL- F1- 4	5/7/19	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	560
FL- F2- 4	5/7/19	4'	In-Situ	--	--	--	--	--	--	--	352
FL- F3- 5.5	5/14/19	5.5'	In-Situ	--	--	--	--	--	--	--	224
FL- F4- 5.5	5/14/19	5.5'	In-Situ	--	--	--	--	--	--	--	272
FL- F5- 6	5/7/19	6'	In-Situ	--	--	--	--	--	--	--	944
FL- F6- 4	5/7/19	4'	In-Situ	--	--	--	--	--	--	--	304
FL- F7- 4	5/7/19	4'	In-Situ	--	--	--	--	--	--	--	832
FL- F8- 5.5	5/14/19	5.5'	In-Situ	--	--	--	--	--	--	--	304
FL- F9- 5.5	5/14/19	5.5'	In-Situ	--	--	--	--	--	--	--	256
FL- F10- 4.5	5/14/19	4.5'	In-Situ	--	--	--	--	--	--	--	256
FL- F11- 6	5/14/19	6'	In-Situ	--	--	--	--	--	--	--	128
NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	1,000 (Floor) 600 (Sidewall)

Table 2
Concentrations of Benzene, BTEX, TPH and Chloride in Soil (Confirmation Phase)

Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					E 300
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
FL-F12-6	5/20/19	6'	Excavated	--	--	--	--	--	--	--	10,000
FL-F12-7	5/21/19	7'	In-Situ	--	--	--	--	--	--	--	928
FL-F13-4	5/7/19	4'	In-Situ	--	--	--	--	--	--	--	832
FL-F14-8	5/7/19	8'	In-Situ	--	--	--	--	--	--	--	192
FL-F15-8.5	5/14/19	8.5'	In-Situ	--	--	--	--	--	--	--	112
NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	1,000 (Floor) 600 (Sidewall)



Figure 1

Site Location Map
 COG Operating, LLC
 APPLE 5 STATE SWD #001
 Eddy County, New Mexico

Scale 1" = ~1 Mile

Drafted by: BC

Checked by: JL

Draft: August 1, 2018

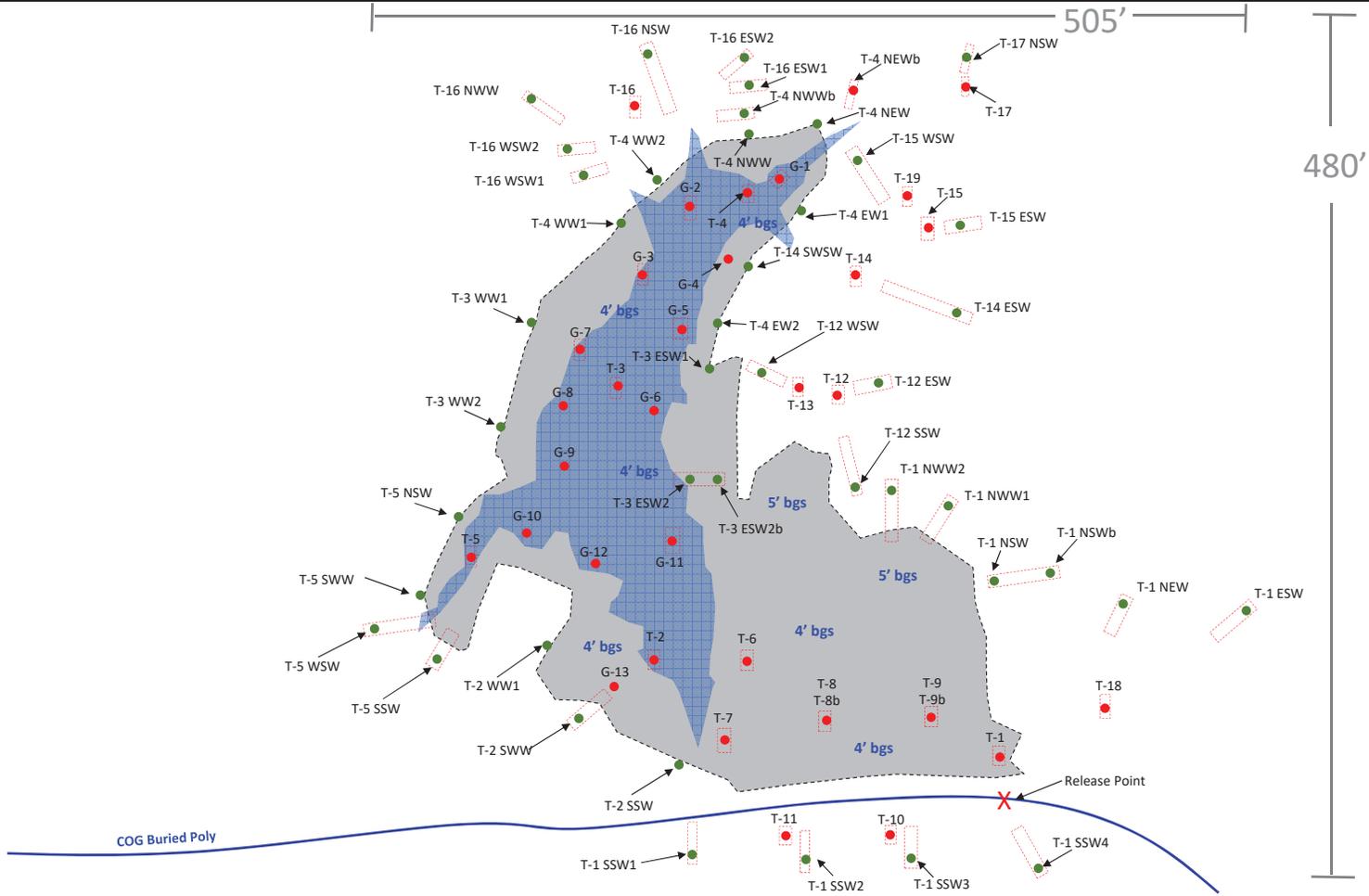
Lat. N 32.079207 Long. W 104.111194

UL "N", Sec. 32, T25S, R28E

TRC Proj. No.: 304702



2057 Commerce Drive
 Midland, Texas 79703
 432.520.7720



LEGEND:

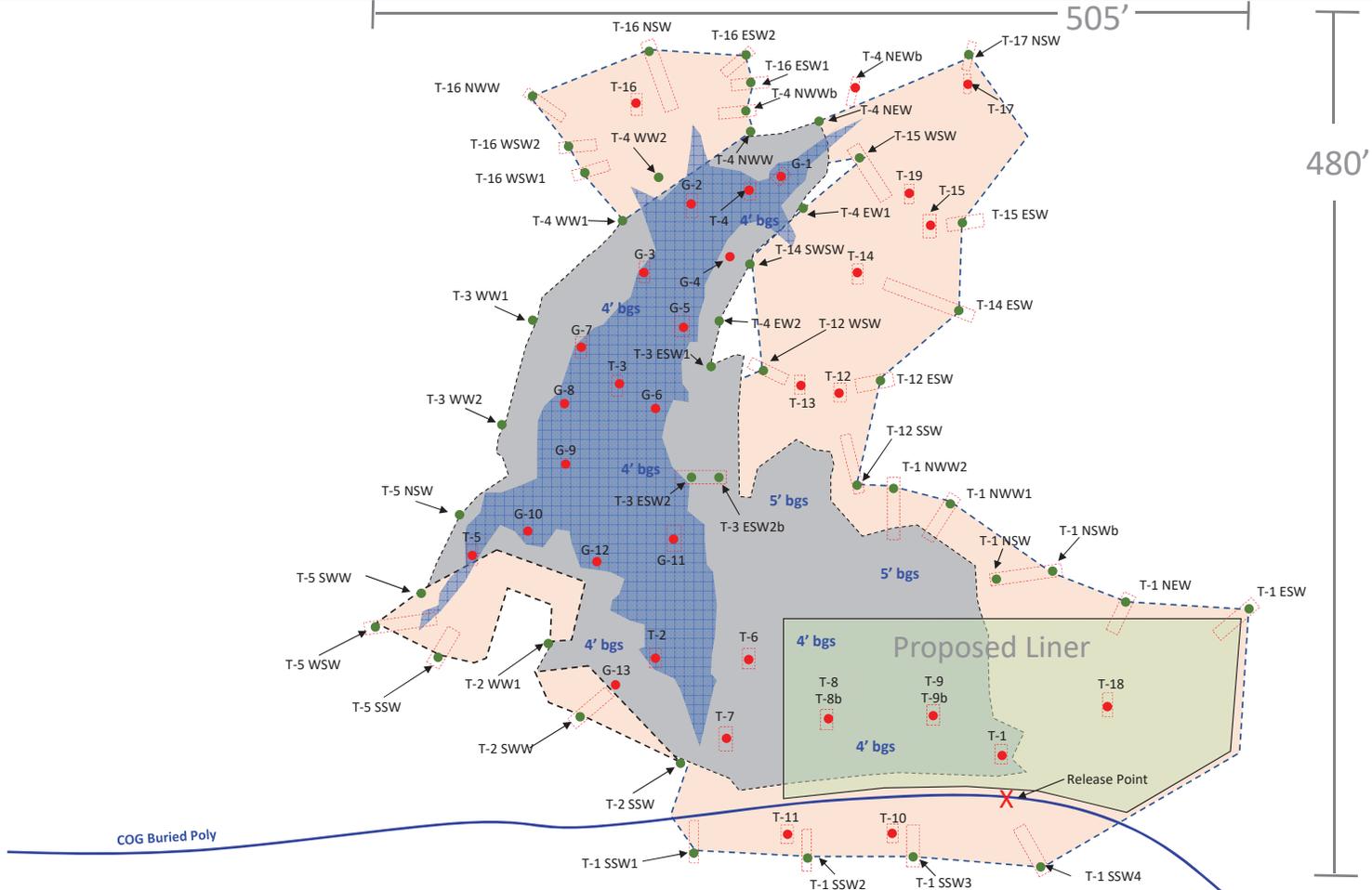
● Vertical Sample Location	 Test Trench
● Horizontal Sample Location	 Former Dry Dirt Tank
 Excavated Area	5' bgs Current Grade

Figure 2
 Site & Sample Location Map
 COG Operating, LLC
 APPLE 5 STATE SWD #001
 Eddy County, New Mexico

Scale 1" = ~100'	
Drafted by: ZC	Checked by: JL
Draft: August 1, 2018	
Lat. N 32.079207 Long. W 104.111194	
UL "N", Sec. 32, T25S, R28E	
TRC Proj. No.: 304702	



2057 Commerce Drive
 Midland, Texas 79703
 432.520.7720



LEGEND:

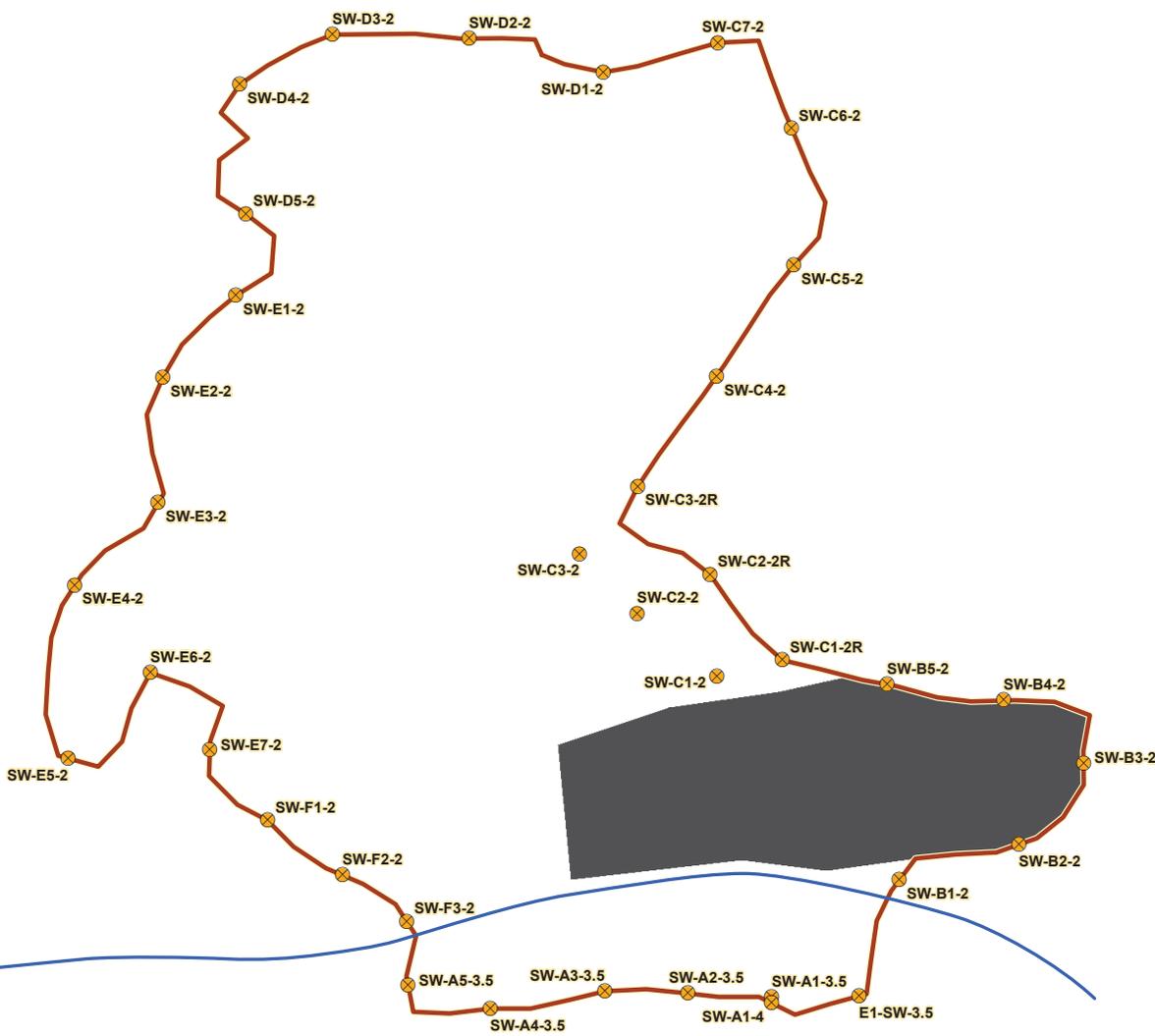
	Vertical Sample Location		Test Trench		4' bgs	Current Grade
	Horizontal Sample Location		Former Dry Dirt Tank		5' bgs	Proposed Liner
	Excavated Area		Anticipated Excavation			

Figure 3
 Proposed Excavation & Liner Installation Map
 COG Operating, LLC
 APPLE 5 STATE SWD #001
 Eddy County, New Mexico

Scale 1" = ~100'	
Drafted by: ZC	Checked by: JL
Draft: August 1, 2018	
Lat. N 32.079207 Long. W 104.111194	
UL "N", Sec. 32, T25S, R28E	
TRC Proj. No.: 304702	

2057 Commerce Drive
 Midland, Texas 79703
 432.520.7720

TRC - GIS
Coordinate System: NAD 1983 StatePlane New Mexico East FIPS 3001 Feet (Foot US)
Map Rotation: 0
7/11/2019 09:38:25 AM by RSUEMNICHT - LAYOUT_ANSI_B(11"x17")
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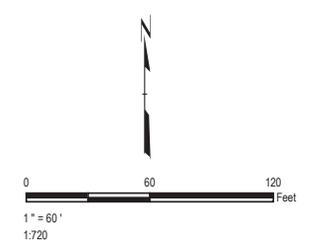


LEGEND

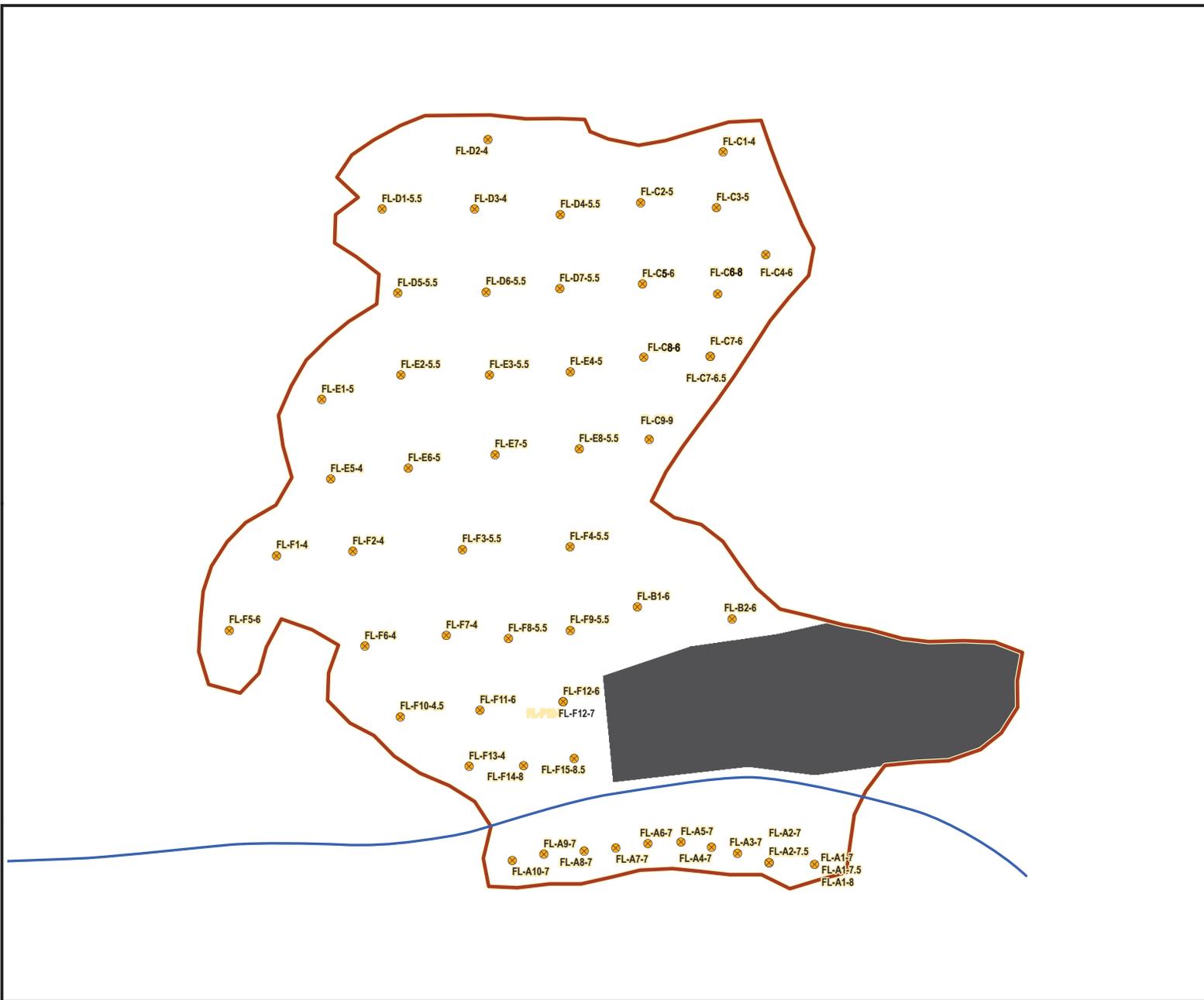
- SIDEWALL SAMPLE LOCATION
- COG BURIED POLY LINE
- EXCAVATION OUTLINE
- 40 MIL LINER

NOTES

- SITE FEATURES SHOWN ARE APPROXIMATE.

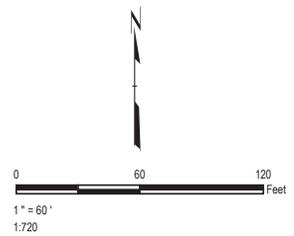


PROJECT:		COG OPERATING, LLC APPLE 5 STATE SWD #001 EDDY COUNTY, NEW MEXICO	
TITLE:			
SOIL SAMPLE LOCATIONS			
DRAWN BY:	R. SUEMNICHT	PROJ. NO.:	304702
CHECKED BY:		FIGURE 4	
APPROVED BY:			
DATE:	JULY 2019		
		708 Heartland Trail, Suite 3000 Madison, WI 53711 Phone: 608.826.3601 www.trcsolutions.com	
FILE NO.:	304702-001		



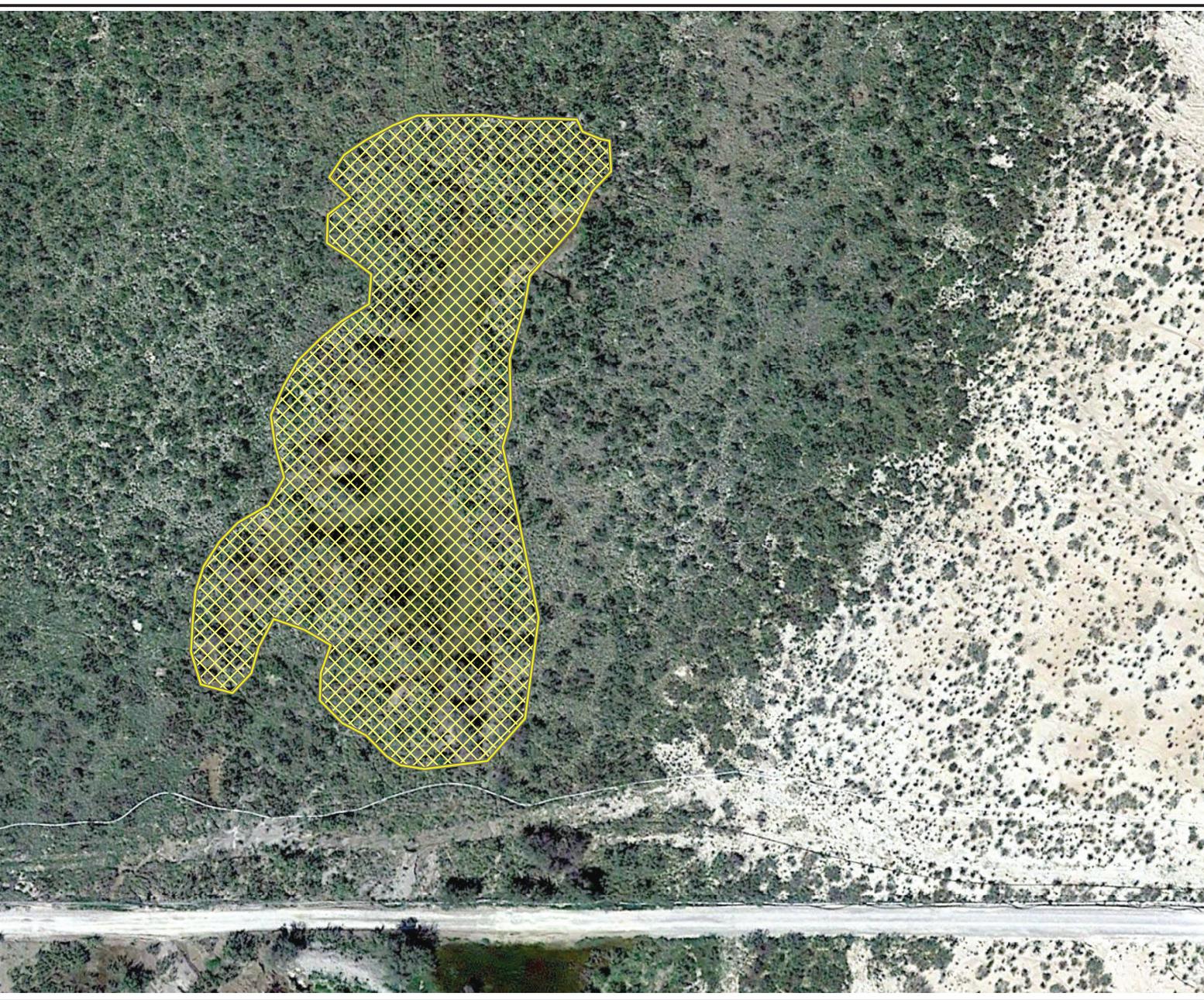
- LEGEND**
- FLOOR SAMPLE LOCATION
 - COG BURIED POLY LINE
 - EXCAVATION OUTLINE
 - 40 MIL LINER

- NOTES**
1. SITE FEATURES SHOWN ARE APPROXIMATE.



PROJECT:		COG OPERATING, LLC APPLE 5 STATE SWD #001 EDDY COUNTY, NEW MEXICO	
TITLE: SOIL SAMPLE LOCATIONS			
DRAWN BY:	R. SUEMNICHT	PROJ. NO.:	304702
CHECKED BY:		FIGURE 5	
APPROVED BY:			
DATE:	JULY 2019		
		708 Heartland Trail, Suite 3000 Madison, WI 53711 Phone: 608.826.3601 www.trcsolutions.com	
FILE NO.:		304702-002	

TRC - GIS
Coordinate System: NAD 1983 StatePlane New Mexico East FIPS 5001 Feet (Foot US)
Map Rotation: 0
Plot Date: 7/11/2019 08:47:27 AM by RSUEMNICHT - LAYOUT_ANSI_B(11"x17")
Path: S:\PROJECTS\CorporateResources\Apple5_EddyCo_NM\304702\304702_003.mxd



LEGEND

 NEW DIRT TANK LOCATION

NOTES

- 1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, OCTOBER 2014.



0 60 120
1" = 60'
1:720
Feet

PROJECT		COG OPERATING, LLC APPLE 5 STATE SWD #001 EDDY COUNTY, NEW MEXICO	
TITLE			
NEW DIRT TANK LOCATION			
DRAWN BY:	R. SUEMNICHT	PROJ. NO.:	304702
CHECKED BY:		FIGURE 6	
APPROVED BY:			
DATE:	JULY 2019		
		708 Heartland Trail, Suite 3000 Madison, WI 53711 Phone: 608.826.3601 www.trcsolutions.com	
FILE NO.:	304702-003		

**Appendix A: Release Notification and Corrective Action
(Form C-141)**

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

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: Apple 5 State SWD #001	Facility Type: Flowline

Surface Owner: Private	Mineral Owner: State	API No. 30-015-41402
------------------------	----------------------	----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	32	25S	28E					Eddy

Latitude 32.079207 Longitude -104.111194 NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 12,897 bbl.	Volume Recovered 4,633 bbl.
Source of Release: Valve Failure	Date and Hour of Occurrence: April 29, 2018 9:30am	Date and Hour of Discovery: April 29, 2018 9:30am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher – NMOCD, Crystal Weaver – NMOCD	
By Whom? Dakota Neel	Date and Hour: April 29, 2018 8:45pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 caused by a mechanical valve failure on a trunk line. The valve has been replaced.

Describe Area Affected and Cleanup Action Taken.*

The release was within a pasture. 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: 	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: Robert McNeill	Approved by Environmental Specialist:		
Title: Environmental Manager	Approval Date:	Expiration Date:	
E-mail Address: rmcneill@concho.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: May 3, 2018	Phone: 432-638-6470		

* Attach Additional Sheets If Necessary

Incident ID	
District RP	2RP-4739
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	~35 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Incident ID	
District RP	2RP-4739
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Ike Tavaréz Title: Senior HSE Coordinator
Signature: _____ Date: 7/12/2019
email: itavaréz@concho.com Telephone: 432-685-2573

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4739
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

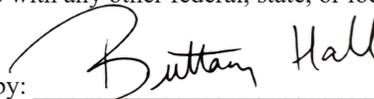
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Ike Tavaréz Title: Senior HSE Coordinator
 Signature: _____ Date: 7/12/2019
 email: itavarez@concho.com Telephone: 432-685-2573

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:  Date: 5/9/2023
 Printed Name: Brittany Hall Title: Environmental Specialist



Appendix B: Depth to Groundwater Data



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,

O=orphaned,

C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	Code	Sub-basin	County	Q	Q	Q	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C_02478	CUB	ED	64	16	4	2	1	05	26S	28E	583848	3549325*	245	100	

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 583880.1

Northing (Y): 3549568.1

Radius: 1000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/19/18 9:03 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q	Q	Q	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C_02478		CUB	ED	2	1	05	26S	28E		583848	3549325*	239	100		
C_01278		C	ED	4	3	28	25S	28E		585470	3551338*	2361	205	90	115
C_03836 POD1		C	ED	2	2	4	29	25S	28E	584682	3551934	2500	300	30	270
C_02477		CUB	ED	1	1	03	26S	28E		586687	3549347*	2767	150		

Average Depth to Water: **60 feet**
 Minimum Depth: **30 feet**
 Maximum Depth: **90 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 583926.6

Northing (Y): 3549551.1

Radius: 3000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/18/18 1:24 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



Appendix C: Analytical Data



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

May 20, 2019

JARED STOFFEL

TRC

10 DESTA DR. SUITE 150 E

MIDLAND, TX 79705

RE: APPLE 5 STATE SWD

Enclosed are the results of analyses for samples received by the laboratory on 04/09/19 16:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 20-May-19 15:59
--	---	------------------------------

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW - B1 - 2	H901295-01	Soil	09-Apr-19 00:00	09-Apr-19 16:20
SW - B2 - 2	H901295-02	Soil	08-Apr-19 00:00	09-Apr-19 16:20

Sample IDs revised as per Jared 05/16/19. This is the revised report and will replace the one sent on 04/10/19.

Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 20-May-19 15:59
--	---	------------------------------

**SW - B1 - 2
H901295-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	288		16.0	mg/kg	4	9041007	AC	10-Apr-19	4500-Cl-B	
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Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 20-May-19 15:59
--	---	------------------------------

**SW - B2 - 2
H901295-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories

Inorganic Compounds

Chloride	160		16.0	mg/kg	4	9041007	AC	10-Apr-19	4500-CI-B	
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Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 20-May-19 15:59
--	---	------------------------------

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9041007 - General Prep - Wet Chem										
Blank (9041007-BLK1)										
Prepared & Analyzed: 10-Apr-19										
Chloride	ND	16.0	mg/kg							
LCS (9041007-BS1)										
Prepared & Analyzed: 10-Apr-19										
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9041007-BSD1)										
Prepared & Analyzed: 10-Apr-19										
Chloride	416	16.0	mg/kg	400		104	80-120	3.92	20	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by 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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: TRC		P.O. #:	
Project Manager: David S. Heil		Company: COG	
Address: 16 Park Dr. Suite 150E		Attn:	
City: Midland State: TX Zip: 79705		Address:	
Phone #: _____ Fax #: _____		City:	
Project #: _____ Project Owner: _____		State: _____ Zip: _____	
Project Location: _____		Phone #: _____	
Sampler Name: Kyle Schwardt		Fax #: _____	
FOR LAB USE ONLY		MATRIX	
Lab I.D. * Sample I.D.	(G)RAB OR (C)OMP.	PRESERV	
	# CONTAINERS	SAMPLING	
H901895	GROUNDWATER	DATE	TIME
	WASTEWATER		
1 SW-18-2 B1-2	SOIL	4-9-12	12
	OIL		
2 SW-28-2 B2-2	SLUDGE	4-8-12	12
	OTHER :		
	ACID/BASE:		
	ICE / COOL		
	OTHER :		

PLEASE NOTE: Liability and Damages, Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: _____ Date: **4-9-14** Time: **10:20**
 Received By: _____ Date: _____ Time: _____

Delivered By: (Circle One) UPS Bus Other: **38.7c #97**
 Sample Condition: Cool Intact Yes No Yes No No
 CHECKED BY: (Initials) **TS.**

REMARKS:
 5/10/210 resolutions com
 Depper @ kasa-labors.com
 Kschwardt @ lnc-solutions.com
 The Towers RUSH!
 * Sample I.D.'s revised per David. 5/17/19 TP



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

May 20, 2019

JARED STOFFEL

TRC

10 DESTA DR. SUITE 150 E

MIDLAND, TX 79705

RE: APPLE 5 STATE SWD

Enclosed are the results of analyses for samples received by the laboratory on 04/22/19 16:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 20-May-19 16:04
--	---	------------------------------

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW - B3 - 2	H901437-01	Soil	18-Apr-19 00:00	22-Apr-19 16:15
SW - B4 - 2	H901437-02	Soil	18-Apr-19 00:00	22-Apr-19 16:15
SW - B5 - 2	H901437-03	Soil	18-Apr-19 00:00	22-Apr-19 16:15
SW - C1 - 2	H901437-04	Soil	18-Apr-19 00:00	22-Apr-19 16:15
SW - C2 - 2	H901437-05	Soil	19-Apr-19 00:00	22-Apr-19 16:15
SW - C3 - 2	H901437-06	Soil	22-Apr-19 00:00	22-Apr-19 16:15

Sample IDs revised as per Jared 05/16/19. This is the revised report and will replace the one sent on 04/23/19.

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 20-May-19 16:04
--	---	------------------------------

**SW - B3 - 2
H901437-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories

Inorganic Compounds

Chloride	80.0		16.0	mg/kg	4	9042312	AC	23-Apr-19	4500-Cl-B	
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Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 20-May-19 16:04
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**SW - B4 - 2
H901437-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	96.0		16.0	mg/kg	4	9042312	AC	23-Apr-19	4500-CI-B	
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Cardinal Laboratories

*=Accredited Analyte

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Analytical Results For:

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**SW - B5 - 2
H901437-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	48.0		16.0	mg/kg	4	9042312	AC	23-Apr-19	4500-CI-B	
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**SW - C1 - 2
H901437-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	96.0		16.0	mg/kg	4	9042312	AC	23-Apr-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 20-May-19 16:04
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**SW - C2 - 2
H901437-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	256		16.0	mg/kg	4	9042312	AC	23-Apr-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 20-May-19 16:04
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**SW - C3 - 2
H901437-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	80.0		16.0	mg/kg	4	9042312	AC	23-Apr-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 20-May-19 16:04
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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9042312 - General Prep - Wet Chem										
Blank (9042312-BLK1)										
Prepared & Analyzed: 23-Apr-19										
Chloride	ND	16.0	mg/kg							
LCS (9042312-BS1)										
Prepared & Analyzed: 23-Apr-19										
Chloride	432	16.0	mg/kg	400		108	80-120			
LCS Dup (9042312-BSD1)										
Prepared & Analyzed: 23-Apr-19										
Chloride	416	16.0	mg/kg	400		104	80-120	3.77	20	

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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by 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

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May 21, 2019

JARED STOFFEL

TRC

10 DESTA DR. SUITE 150 E

MIDLAND, TX 79705

RE: APPLE 5 STATE SWD

Enclosed are the results of analyses for samples received by the laboratory on 04/26/19 16:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Lab Director/Quality Manager



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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:39
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW - C1 - 2R	H901508-01	Soil	26-Apr-19 00:00	26-Apr-19 16:05
SW - C2 - 2R	H901508-02	Soil	26-Apr-19 00:00	26-Apr-19 16:05
SW - C3 - 2R	H901508-03	Soil	26-Apr-19 00:00	26-Apr-19 16:05
SW - C4 - 2	H901508-04	Soil	26-Apr-19 00:00	26-Apr-19 16:05
SW - C5 - 2	H901508-05	Soil	26-Apr-19 00:00	26-Apr-19 16:05
SW - D1 - 2	H901508-06	Soil	26-Apr-19 00:00	26-Apr-19 16:05
SW - D2 - 2	H901508-07	Soil	26-Apr-19 00:00	26-Apr-19 16:05
SW - D3 - 2	H901508-08	Soil	26-Apr-19 00:00	26-Apr-19 16:05
SW - D4 - 2	H901508-09	Soil	26-Apr-19 00:00	26-Apr-19 16:05
SW - D5 - 2	H901508-10	Soil	26-Apr-19 00:00	26-Apr-19 16:05

Sample IDs revised as per Jared 05/16/19. This is the revised report and will replace the one sent on 04/30/19.

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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:39
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**SW - C1 - 2R
H901508-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	336		16.0	mg/kg	4	9042903	AC	30-Apr-19	4500-Cl-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:39
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**SW - C2 - 2R
H901508-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	144		16.0	mg/kg	4	9042903	AC	30-Apr-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:39
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**SW - C3 - 2R
H901508-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	80.0		16.0	mg/kg	4	9042903	AC	30-Apr-19	4500-CI-B	
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Analytical Results For:

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**SW - C4 - 2
H901508-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	48.0		16.0	mg/kg	4	9042903	AC	30-Apr-19	4500-CI-B	
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Analytical Results For:

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**SW - C5 - 2
H901508-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	32.0		16.0	mg/kg	4	9042903	AC	30-Apr-19	4500-CI-B	
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**SW - D1 - 2
H901508-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	96.0		16.0	mg/kg	4	9042903	AC	30-Apr-19	4500-CI-B	
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Analytical Results For:

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**SW - D2 - 2
H901508-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	48.0		16.0	mg/kg	4	9043011	AC	30-Apr-19	4500-Cl-B	QR-03
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:39
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**SW - D3 - 2
H901508-08 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	48.0		16.0	mg/kg	4	9043011	AC	30-Apr-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:39
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**SW - D4 - 2
H901508-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	192		16.0	mg/kg	4	9043011	AC	30-Apr-19	4500-Cl-B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:39
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**SW - D5 - 2
H901508-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	32.0		16.0	mg/kg	4	9043011	AC	30-Apr-19	4500-Cl-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:39
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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9042903 - General Prep - Wet Chem										
Blank (9042903-BLK1) Prepared & Analyzed: 29-Apr-19										
Chloride	ND	16.0	mg/kg							
LCS (9042903-BS1) Prepared & Analyzed: 29-Apr-19										
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9042903-BSD1) Prepared & Analyzed: 29-Apr-19										
Chloride	416	16.0	mg/kg	400		104	80-120	3.92	20	
Batch 9043011 - General Prep - Wet Chem										
Blank (9043011-BLK1) Prepared & Analyzed: 30-Apr-19										
Chloride	ND	16.0	mg/kg							
LCS (9043011-BS1) Prepared & Analyzed: 30-Apr-19										
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9043011-BSD1) Prepared & Analyzed: 30-Apr-19										
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20	

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Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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

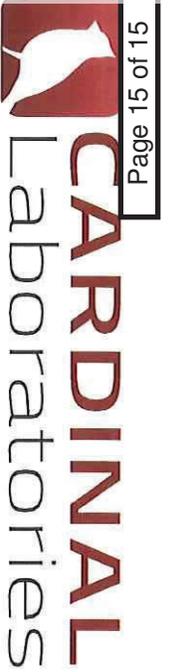
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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>TRC</u>		P.O. #: <u>COG</u>		
Project Manager: <u>Jared Stettel</u>		Company: <u>COG</u>		
Address: <u>10 Pasta R Suite 150</u>		Attn: <u></u>		
City: <u>M. J. Land</u> State: <u>TK</u> Zip: <u></u>		Address: <u></u>		
Phone #: <u></u> Fax #: <u></u>		City: <u></u>		
Project #: <u></u> Project Owner: <u></u>		State: <u></u> Zip: <u></u>		
Project Name: <u></u>		Phone #: <u></u>		
Project Location: <u>AgriS State SWD</u>		Fax #: <u></u>		
Sampler Name: <u>Kyle Schneider</u>		PRESERV. SAMPLING		
FOR LAB USE ONLY		DATE TIME		
Lab I.D. <u>* Sample I.D.</u> <u>AD01508</u>	1 <u>SW-16-2</u> <u>C1-2R</u>	(G)GRAB OR (C)OMP.	4-26-19	<input checked="" type="checkbox"/>
	2 <u>SW-26-2R</u> <u>C2-2R</u>	# CONTAINERS		<input checked="" type="checkbox"/>
	3 <u>SW-36-3R</u> <u>C3-2R</u>	GROUNDWATER		<input checked="" type="checkbox"/>
	4 <u>SW-46-2</u> <u>C4-2</u>	WASTEWATER		<input checked="" type="checkbox"/>
	5 <u>SW-56-2</u> <u>C5-2</u>	SOIL		<input checked="" type="checkbox"/>
	6 <u>SW-10-2</u> <u>D1-2</u>	OIL		<input checked="" type="checkbox"/>
	7 <u>SW-20-2</u> <u>D2-2</u>	SLUDGE		<input checked="" type="checkbox"/>
	8 <u>SW-30-2</u> <u>D3-2</u>	OTHER :		<input checked="" type="checkbox"/>
	9 <u>SW-40-2</u> <u>D4-2</u>	ACID/BASE:		<input checked="" type="checkbox"/>
	10 <u>SW-50-2</u> <u>D5-2</u>	ICE / COOL		<input checked="" type="checkbox"/>
		OTHER :		<input checked="" type="checkbox"/>

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Relinquished By: [Signature] Date: 4-26-19
 Relinquished By: [Signature] Date: 16:05
 Received By: [Signature]

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other: 27.4 @ #197
 Sample Condition: Cool Intact
 Checked By: [Signature] (Initials) TS

REMARKS: TS H/1 @ hrsolutions.com
Beppier @ hrsolutions.com
Schrand @ hrsolutions.com
* Sample Id's reviewed per Jared. 5/17/19 TP.



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

May 21, 2019

JARED STOFFEL

TRC

10 DESTA DR. SUITE 150 E

MIDLAND, TX 79705

RE: APPLE 5 STATE SWD

Enclosed are the results of analyses for samples received by the laboratory on 05/01/19 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:44
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW - C6 - 2	H901575-01	Soil	30-Apr-19 00:00	01-May-19 15:30
SW - C7 - 2	H901575-02	Soil	30-Apr-19 00:00	01-May-19 15:30
SW - E1 - 2	H901575-03	Soil	30-Apr-19 00:00	01-May-19 15:30
SW - E2 - 2	H901575-04	Soil	30-Apr-19 00:00	01-May-19 15:30
SW - E3 - 2	H901575-05	Soil	30-Apr-19 00:00	01-May-19 15:30
SW - E4 - 2	H901575-06	Soil	30-Apr-19 00:00	01-May-19 15:30
SW - E5 - 2	H901575-07	Soil	30-Apr-19 00:00	01-May-19 15:30
SW - E6 - 2	H901575-08	Soil	01-May-19 00:00	01-May-19 15:30
SW - E7 - 2	H901575-09	Soil	01-May-19 00:00	01-May-19 15:30
SW - F1 - 2	H901575-10	Soil	01-May-19 00:00	01-May-19 15:30
SW - F2 - 2	H901575-11	Soil	01-May-19 00:00	01-May-19 15:30
SW - F3 - 2	H901575-12	Soil	01-May-19 00:00	01-May-19 15:30

Sample IDs revised as per Jared 05/16/19. This is the revised report and will replace the one sent on 05/06/19.

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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:44
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**SW - C6 - 2
H901575-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	<16.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-Cl-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:44
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**SW - C7 - 2
H901575-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	<16.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-CI-B	
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Analytical Results For:

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**SW - E1 - 2
H901575-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Chloride	32.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-CI-B	

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Analytical Results For:

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**SW - E2 - 2
H901575-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	64.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:44
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**SW - E3 - 2
H901575-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	96.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:44
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**SW - E4 - 2
H901575-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	32.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-CI-B	
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Analytical Results For:

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**SW - E5 - 2
H901575-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	64.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:44
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**SW - E6 - 2
H901575-08 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	80.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:44
--	---	------------------------------

**SW - E7 - 2
H901575-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	<16.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-CI-B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:44
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**SW - F1 - 2
H901575-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	16.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:44
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**SW - F2 - 2
H901575-11 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	48.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:44
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**SW - F3 - 2
H901575-12 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	64.0		16.0	mg/kg	4	9050216	AC	06-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:44
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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9050216 - General Prep - Wet Chem										
Blank (9050216-BLK1)										
Prepared & Analyzed: 02-May-19										
Chloride	ND	16.0	mg/kg							
LCS (9050216-BS1)										
Prepared & Analyzed: 02-May-19										
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9050216-BSD1)										
Prepared & Analyzed: 02-May-19										
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20	

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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by 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

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 2

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

BILL TO

ANALYSIS REQUEST

Company Name: TRC P.O. #: COG
 Project Manager: Sandy Staffel Company: COG
 Address: 19 Dost Drive Suite 150 Attn:
 City: Marland State: TX Zip:
 Phone #: Fax #: Address:
 Project #: Project Owner: City:
 Project Name: State: Zip:
 Project Location: Apple S State SWD Phone #:
 Sampler Name: Kyle Schardt Fax #:

Lab I.D.	*Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
H9D1575			6						4-30-19		CI	
1	SW-6E-2 C6-2		1									
2	SW-7E-2 C7-2		1									
3	SW-7E-2 E1-2		1									
4	SW-2E-2 E2-2		1									
5	SW-3E-2 E3-2		1									
6	SW-4E-2 E4-2		1									
7	SW-5E-2 E5-2		1						5-1-14			
8	SW-6E-2 E6-2		1						5-1-14			
9	SW-7E-2 E7-2		1						5-1-14			
10	SW-4E-2 E1-2		1						5-1-14			

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Reinquished By: [Signature] Date: 5-1-14 Received By: [Signature]
 Reinquished By: [Signature] Date: 5-1-14 Received By: [Signature]
 Reinquished By: [Signature] Date: 5-1-14 Received By: [Signature]
 Reinquished By: [Signature] Date: 5-1-14 Received By: [Signature]

Delivered By: (Circle One) 31.221 #97 Sample Condition: Cool Intact Yes No Yes No
 Checked By: [Signature]

REMARKS: 35 to HLE @ tresolutions.com
Dipper @ tresolutions.com
Schardt @ tresolutions.com
* Sample Id's removed per Jared. 5/17/19TD



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

May 21, 2019

JARED STOFFEL

TRC

10 DESTA DR. SUITE 150 E

MIDLAND, TX 79705

RE: APPLE 5 STATE SWD

Enclosed are the results of analyses for samples received by the laboratory on 05/07/19 16:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL - C2-5	H901649-01	Soil	07-May-19 00:00	07-May-19 16:45
FL - C3-5	H901649-02	Soil	07-May-19 00:00	07-May-19 16:45
FL - C4-6	H901649-03	Soil	07-May-19 00:00	07-May-19 16:45
FL - C5-6	H901649-04	Soil	07-May-19 00:00	07-May-19 16:45
FL - C6-8	H901649-05	Soil	07-May-19 00:00	07-May-19 16:45
FL - C7-6	H901649-06	Soil	07-May-19 00:00	07-May-19 16:45
FL - C8-6	H901649-07	Soil	07-May-19 00:00	07-May-19 16:45
FL - C9-9	H901649-08	Soil	07-May-19 00:00	07-May-19 16:45
FL - D2-4	H901649-09	Soil	07-May-19 00:00	07-May-19 16:45
FL - D3-4	H901649-10	Soil	07-May-19 00:00	07-May-19 16:45
FL - E4-5	H901649-11	Soil	07-May-19 00:00	07-May-19 16:45
FL - E5-4	H901649-12	Soil	07-May-19 00:00	07-May-19 16:45
FL - F2-4	H901649-13	Soil	07-May-19 00:00	07-May-19 16:45
FL - F5-6	H901649-14	Soil	07-May-19 00:00	07-May-19 16:45
FL - F6-4	H901649-15	Soil	07-May-19 00:00	07-May-19 16:45
FL - F7-4	H901649-16	Soil	07-May-19 00:00	07-May-19 16:45
FL - F13-4	H901649-17	Soil	07-May-19 00:00	07-May-19 16:45
FL - F14-8	H901649-18	Soil	07-May-19 00:00	07-May-19 16:45

Sample IDs revised as per Jared 05/16/19. This is the revised report and will replace the one sent on 05/08/19.

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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - C2-5
H901649-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	912		16.0	mg/kg	4	9050807	AC	08-May-19	4500-Cl-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - C3-5
H901649-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	176		16.0	mg/kg	4	9050807	AC	08-May-19	4500-CI-B	
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Analytical Results For:

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**FL - C4-6
H901649-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	192		16.0	mg/kg	4	9050807	AC	08-May-19	4500-CI-B	
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Analytical Results For:

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FL - C5-6

H901649-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	592		16.0	mg/kg	4	9050807	AC	08-May-19	4500-CI-B	
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Analytical Results For:

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**FL - C6-8
H901649-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	688		16.0	mg/kg	4	9050807	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - C7-6
H901649-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	2320		16.0	mg/kg	4	9050807	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - C8-6
H901649-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	336		16.0	mg/kg	4	9050807	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - C9-9
H901649-08 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	112		16.0	mg/kg	4	9050808	AC	08-May-19	4500-CI-B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - D2-4
H901649-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	320		16.0	mg/kg	4	9050808	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - D3-4
H901649-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	544		16.0	mg/kg	4	9050808	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - E4-5
H901649-11 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	864		16.0	mg/kg	4	9050808	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - E5-4
H901649-12 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	896		16.0	mg/kg	4	9050808	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - F2-4
H901649-13 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	352		16.0	mg/kg	4	9050808	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - F5-6
H901649-14 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	944		16.0	mg/kg	4	9050808	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - F6-4
H901649-15 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	304		16.0	mg/kg	4	9050808	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - F7-4
H901649-16 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	832		16.0	mg/kg	4	9050808	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - F13-4
H901649-17 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	832		16.0	mg/kg	4	9050808	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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**FL - F14-8
H901649-18 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	192		16.0	mg/kg	4	9050808	AC	08-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:50
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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9050807 - 1:4 DI Water										
Blank (9050807-BLK1) Prepared & Analyzed: 08-May-19										
Chloride	ND	16.0	mg/kg							
LCS (9050807-BS1) Prepared & Analyzed: 08-May-19										
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9050807-BSD1) Prepared & Analyzed: 08-May-19										
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20	
Batch 9050808 - 1:4 DI Water										
Blank (9050808-BLK1) Prepared & Analyzed: 08-May-19										
Chloride	ND	16.0	mg/kg							
LCS (9050808-BS1) Prepared & Analyzed: 08-May-19										
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9050808-BSD1) Prepared & Analyzed: 08-May-19										
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20	

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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by 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

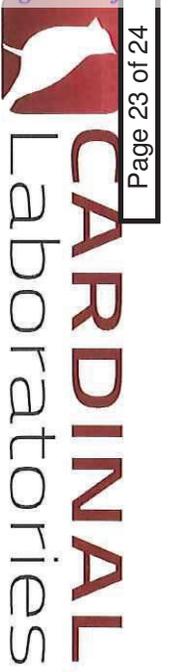
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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1
Rush 11

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

Company Name: TRC		BILL TO		ANALYSIS REQUEST	
Project Manager: Sarah Stoffel	P.O. #:				
Address: 10 Park Dr. Suite 150	Company: COG				
City: Midland	Attn:				
State: TX Zip:	Address:				
Phone #:	City:				
Project #:	State:				
Project Name:	Zip:				
Project Location: Apple 5 state SWD	Phone #:				
Sampler Name: Kyle Schmidt	Fax #:				
FOR LAB USE ONLY					
Lab I.D. *Sample I.D.	(G)GRAB OR (C)OMP.	MATRIX		PRESERV.	SAMPLING
FL-	5-1	GROUNDWATER	WASTEWATER	SOIL	OIL
1	5-7-19	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL
2		OTHER:			
3					
4					
5					
6					
7					
8					
9					
10					

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Relinquished By: *[Signature]* Date: **5/17/19** Time: **10:45**

Received By: *[Signature]* Date: _____ Time: _____

Delivered By: (Circle One) **29.06/ #97**

Sampler - UPS - Bus - Other: Cool Intact Yes No

CHECKED BY: *[Signature]*

REMARKS: *** Sample Id's removed per Sarah. 5/17/19**

Phone Result: Yes No Add'l Phone #:

Fax Result: Yes No Add'l Fax #:



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

May 21, 2019

JARED STOFFEL

TRC

10 DESTA DR. SUITE 150 E

MIDLAND, TX 79705

RE: APPLE 5 STATE SWD

Enclosed are the results of analyses for samples received by the laboratory on 05/08/19 16:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:53
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL - C1-4	H901675-01	Soil	07-May-19 00:00	08-May-19 16:45
FL - F1-4	H901675-02	Soil	07-May-19 00:00	08-May-19 16:45
FL - B1-6	H901675-03	Soil	08-May-19 00:00	08-May-19 16:45

Sample IDs revised as per Jared 05/16/19. This is the revised report and will replace the one sent on 05/09/19.

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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:53
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**FL - C1-4
H901675-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	160		16.0	mg/kg	4	9050915	AC	09-May-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9050818	ms	09-May-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9050818	ms	09-May-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9050818	ms	09-May-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9050818	ms	09-May-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9050818	ms	09-May-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			108 %		73.3-129	9050818	ms	09-May-19	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	9050819	MS	09-May-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9050819	MS	09-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9050819	MS	09-May-19	8015B	

Surrogate: 1-Chlorooctane			101 %		41-142	9050819	MS	09-May-19	8015B	
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Surrogate: 1-Chlorooctadecane			100 %		37.6-147	9050819	MS	09-May-19	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:53
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**FL - F1-4
H901675-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	560		16.0	mg/kg	4	9050915	AC	09-May-19	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9050818	ms	09-May-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9050818	ms	09-May-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9050818	ms	09-May-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9050818	ms	09-May-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9050818	ms	09-May-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %		73.3-129	9050818	ms	09-May-19	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	9050819	MS	09-May-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9050819	MS	09-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9050819	MS	09-May-19	8015B	

Surrogate: 1-Chlorooctane			102 %		41-142	9050819	MS	09-May-19	8015B	
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Surrogate: 1-Chlorooctadecane			101 %		37.6-147	9050819	MS	09-May-19	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:53
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**FL - B1-6
H901675-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	480		16.0	mg/kg	4	9050915	AC	09-May-19	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9050818	ms	09-May-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9050818	ms	09-May-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9050818	ms	09-May-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9050818	ms	09-May-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9050818	ms	09-May-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			106 %		73.3-129	9050818	ms	09-May-19	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	9050819	MS	09-May-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9050819	MS	09-May-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9050819	MS	09-May-19	8015B	

Surrogate: 1-Chlorooctane			87.2 %		41-142	9050819	MS	09-May-19	8015B	
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Surrogate: 1-Chlorooctadecane			91.3 %		37.6-147	9050819	MS	09-May-19	8015B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:53
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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9050915 - 1:4 DI Water										
Blank (9050915-BLK1)										
Prepared & Analyzed: 09-May-19										
Chloride	ND	16.0	mg/kg							
LCS (9050915-BS1)										
Prepared & Analyzed: 09-May-19										
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9050915-BSD1)										
Prepared & Analyzed: 09-May-19										
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20	

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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:53
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Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9050818 - Volatiles

Blank (9050818-BLK1)

Prepared: 08-May-19 Analyzed: 09-May-19

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.106		mg/kg	0.100		106	73.3-129			

LCS (9050818-BS1)

Prepared: 08-May-19 Analyzed: 09-May-19

Benzene	2.03	0.050	mg/kg	2.00		102	72.2-131			
Toluene	2.11	0.050	mg/kg	2.00		106	71.7-126			
Ethylbenzene	2.03	0.050	mg/kg	2.00		102	68.9-126			
Total Xylenes	6.19	0.150	mg/kg	6.00		103	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.103		mg/kg	0.100		103	73.3-129			

LCS Dup (9050818-BSD1)

Prepared: 08-May-19 Analyzed: 09-May-19

Benzene	2.02	0.050	mg/kg	2.00		101	72.2-131	0.692	6.91	
Toluene	2.14	0.050	mg/kg	2.00		107	71.7-126	1.27	7.12	
Ethylbenzene	2.04	0.050	mg/kg	2.00		102	68.9-126	0.563	7.88	
Total Xylenes	6.20	0.150	mg/kg	6.00		103	71.4-125	0.127	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	0.103		mg/kg	0.100		103	73.3-129			

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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 11:53
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Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9050819 - General Prep - Organics

Blank (9050819-BLK1)				Prepared & Analyzed: 08-May-19						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	55.0		mg/kg	50.0		110	41-142			
Surrogate: 1-Chlorooctadecane	54.4		mg/kg	50.0		109	37.6-147			

LCS (9050819-BS1)				Prepared & Analyzed: 08-May-19						
GRO C6-C10	209	10.0	mg/kg	200		105	76.5-133			
DRO >C10-C28	189	10.0	mg/kg	200		94.6	72.9-138			
Total TPH C6-C28	398	10.0	mg/kg	400		99.5	78-132			
Surrogate: 1-Chlorooctane	60.2		mg/kg	50.0		120	41-142			
Surrogate: 1-Chlorooctadecane	57.1		mg/kg	50.0		114	37.6-147			

LCS Dup (9050819-BSD1)				Prepared & Analyzed: 08-May-19						
GRO C6-C10	208	10.0	mg/kg	200		104	76.5-133	0.395	20.6	
DRO >C10-C28	192	10.0	mg/kg	200		96.1	72.9-138	1.62	20.6	
Total TPH C6-C28	400	10.0	mg/kg	400		100	78-132	0.566	18	
Surrogate: 1-Chlorooctane	61.5		mg/kg	50.0		123	41-142			
Surrogate: 1-Chlorooctadecane	58.6		mg/kg	50.0		117	37.6-147			

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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by 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

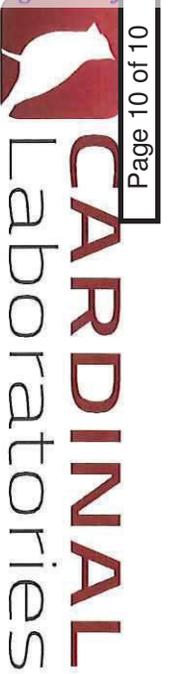
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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Rush

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

Company Name: TRC		P.O. #:		BILL TO		ANALYSIS REQUEST															
Project Manager: Jared Stoffel		Company: COG																			
Address: 19 posts Dr Site 150		Attn:																			
City: Milledgeville State: TX Zip:		Address:																			
Phone #: Fax #:		City:																			
Project #: Project Owner:		State:																			
Project Name:		Phone #:																			
Project Location: Apple S State SWD		Fax #:																			
Sampler Name:																					
FOR LAB USE ONLY																					
Lab I.D. *Sample I.D. HQD1675	1	CL-4	(G)GRAB OR (C)COMP.	# CONTAINERS	GROUNDWATER	MATRIX	PRESERV.	SAMPLING	DATE	TIME	CI-										
	2	E1-4	C	1	WASTEWATER	SOIL	X	X	5-7-19		TPH	X									
	3	B1-6	C	1	OTHER:	OIL	X	X	5-7-19		BTEX	X									
						SLUDGE	OTHER:														
Relinquished By: <i>[Signature]</i>		Date: 5-8-19	Received By: <i>[Signature]</i>																		
Relinquished By: <i>[Signature]</i>		Date: 16-4-15	Received By: <i>[Signature]</i>																		
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5:42c/#97		Sample Condition <input checked="" type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: <i>[Signature]</i>																	
REMARKS: * Sample IDs revised per Jared 5/17/19 re- Becker@frcsolutions.com Wschum@frcsolutions.com		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:																	
		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:																	



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

May 21, 2019

JARED STOFFEL

TRC

10 DESTA DR. SUITE 150 E

MIDLAND, TX 79705

RE: APPLE 5 STATE SWD

Enclosed are the results of analyses for samples received by the laboratory on 05/13/19 16:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL - B2-6	H901729-01	Soil	09-May-19 00:00	13-May-19 16:25
FL - C7-6.5	H901729-02	Soil	09-May-19 00:00	13-May-19 16:25
FL - D1-5.5	H901729-03	Soil	13-May-19 00:00	13-May-19 16:25
FL - D4-5.5	H901729-04	Soil	13-May-19 00:00	13-May-19 16:25
FL - D5-5.5	H901729-05	Soil	13-May-19 00:00	13-May-19 16:25
FL - D6-5.5	H901729-06	Soil	13-May-19 00:00	13-May-19 16:25
FL -D7-5.5	H901729-07	Soil	13-May-19 00:00	13-May-19 16:25
FL - E2-5.5	H901729-08	Soil	13-May-19 00:00	13-May-19 16:25
FL - E3-5.5	H901729-09	Soil	13-May-19 00:00	13-May-19 16:25
FL - E6-5	H901729-10	Soil	13-May-19 00:00	13-May-19 16:25
FL - E7-5	H901729-11	Soil	13-May-19 00:00	13-May-19 16:25
FL - E8-5.5	H901729-12	Soil	13-May-19 00:00	13-May-19 16:25

Sample IDs revised as per Jared 05/16/19. This is the revised report and will replace the one sent on 05/14/19.

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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL - B2-6
H901729-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	704		16.0	mg/kg	4	9051412	AC	14-May-19	4500-Cl-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL - C7-6.5
H901729-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	80.0		16.0	mg/kg	4	9051412	AC	14-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL - D1-5.5
H901729-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	96.0		16.0	mg/kg	4	9051412	AC	14-May-19	4500-CI-B	
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Cardinal Laboratories

*=Accredited Analyte

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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL - D4-5.5
H901729-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	864		16.0	mg/kg	4	9051412	AC	14-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL - D5-5.5
H901729-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	304		16.0	mg/kg	4	9051412	AC	14-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL - D6-5.5
H901729-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	320		16.0	mg/kg	4	9051412	AC	14-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL -D7-5.5
H901729-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	64.0		16.0	mg/kg	4	9051413	AC	14-May-19	4500-CI-B	QR-03
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL - E2-5.5
H901729-08 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	464		16.0	mg/kg	4	9051413	AC	14-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL - E3-5.5
H901729-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	688		16.0	mg/kg	4	9051413	AC	14-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL - E6-5
H901729-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	848		16.0	mg/kg	4	9051413	AC	14-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL - E7-5
H901729-11 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	704		16.0	mg/kg	4	9051413	AC	14-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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**FL - E8-5.5
H901729-12 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	656		16.0	mg/kg	4	9051413	AC	14-May-19	4500-CI-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:03
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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9051412 - 1:4 DI Water

Blank (9051412-BLK1)				Prepared & Analyzed: 14-May-19						
Chloride	ND	16.0	mg/kg							
LCS (9051412-BS1)				Prepared & Analyzed: 14-May-19						
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9051412-BSD1)				Prepared & Analyzed: 14-May-19						
Chloride	416	16.0	mg/kg	400		104	80-120	3.92	20	

Batch 9051413 - 1:4 DI Water

Blank (9051413-BLK1)				Prepared & Analyzed: 14-May-19						
Chloride	ND	16.0	mg/kg							
LCS (9051413-BS1)				Prepared & Analyzed: 14-May-19						
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9051413-BSD1)				Prepared & Analyzed: 14-May-19						
Chloride	416	16.0	mg/kg	400		104	80-120	3.92	20	

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Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

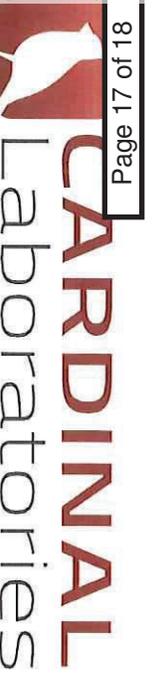
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Celey D. Keene, Lab Director/Quality Manager



Rush 11
2023

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: TRC		BILL TO		ANALYSIS REQUEST	
Project Manager: Sydney Stoffel		P.O. #:			
Address: 10 Vista Dr, Suite 150		Company: COS			
City: _____ State: _____ Zip: _____		Attn: _____			
Phone #: _____ Fax #: _____		Address: _____			
Project #: _____ Project Owner: _____		City: _____			
Project Name: _____		State: _____ Zip: _____			
Project Location: Apple S Steak SWD		Phone #: _____			
Sampler Name: Kyle Schmidt		Fax #: _____			
FOR LAB USE ONLY		PRESERV		SAMPLING	
Lab I.D. * Sample I.D.		(G)RAB OR (C)OMP.			
FL		# CONTAINERS			
		GROUNDWATER			
		WASTEWATER			
		SOIL			
		OIL			
		SLUDGE			
		OTHER:			
		ACID/BASE:			
		ICE / COOL			
		OTHER:			
H991729		DATE		TIME	
1 B2-6		5-9-14		C	
2 C7-6.5		5-9-14		C	
3 O1-5.5		5-13-14			
4 O4-5.5					
5 O5-5.5					
6 O6-5.5					
7 O7-5.5					
8 E2-5.5					
9 E3-5.5					
10 E6-5					

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Relinquished By: _____ Date: **5-13-14** Received By: **Janora Roberts** Date: **5-13-14** Time: **10:25**

Delivered By: (Circle One) **UPS** Sample Condition: Intact Cool Yes No Yes No CHECKED BY: **TRC** (Initials)

REMARKS: *** Schmidt @ the solutions corp
Brogan@thesolutions.com
USfield@thesolutions.com
* Sample Ids received per Jared. 5/17/14 TRC**



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

May 21, 2019

JARED STOFFEL

TRC

10 DESTA DR. SUITE 150 E

MIDLAND, TX 79705

RE: APPLE 5 STATE SWD

Enclosed are the results of analyses for samples received by the laboratory on 05/14/19 17:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:07
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL - F3 - 5.5	H901754-01	Soil	14-May-19 00:00	14-May-19 17:05
FL - F4 - 5.5	H901754-02	Soil	14-May-19 00:00	14-May-19 17:05
FL - F8 - 5.5	H901754-03	Soil	14-May-19 00:00	14-May-19 17:05
FL - F9 - 5.5	H901754-04	Soil	14-May-19 00:00	14-May-19 17:05
FL - F10 - 4.5	H901754-05	Soil	14-May-19 00:00	14-May-19 17:05
FL - F11 - 6	H901754-06	Soil	14-May-19 00:00	14-May-19 17:05
FL - F15 - 8.5	H901754-07	Soil	14-May-19 00:00	14-May-19 17:05

Sample IDs revised as per Jared 05/16/19. This is the revised report and will replace the one sent on 05/15/19.

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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:07
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**FL - F3 - 5.5
H901754-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	224		16.0	mg/kg	4	9051511	HM	15-May-19	4500-Cl-B	
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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:07
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**FL - F4 - 5.5
H901754-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Chloride	272		16.0	mg/kg	4	9051511	HM	15-May-19	4500-CI-B	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:07
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**FL - F8 - 5.5
H901754-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories

Inorganic Compounds

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Chloride	304		16.0	mg/kg	4	9051511	HM	15-May-19	4500-CI-B	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:07
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**FL - F9 - 5.5
H901754-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	256		16.0	mg/kg	4	9051511	HM	15-May-19	4500-CI-B	
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Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:07
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**FL - F10 - 4.5
H901754-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	256		16.0	mg/kg	4	9051511	HM	15-May-19	4500-CI-B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:07
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**FL - F11 - 6
H901754-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	128		16.0	mg/kg	4	9051511	HM	15-May-19	4500-CI-B	
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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:07
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**FL - F15 - 8.5
H901754-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	112		16.0	mg/kg	4	9051511	HM	15-May-19	4500-CI-B	
----------	-----	--	------	-------	---	---------	----	-----------	-----------	--

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRC 10 DESTA DR. SUITE 150 E MIDLAND TX, 79705	Project: APPLE 5 STATE SWD Project Number: NONE GIVEN Project Manager: JARED STOFFEL Fax To:	Reported: 21-May-19 12:07
--	---	------------------------------

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9051511 - 1:4 DI Water										
Blank (9051511-BLK1)										
Prepared & Analyzed: 15-May-19										
Chloride	ND	16.0	mg/kg							
LCS (9051511-BS1)										
Prepared & Analyzed: 15-May-19										
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9051511-BSD1)										
Prepared & Analyzed: 15-May-19										
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20	

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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by 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

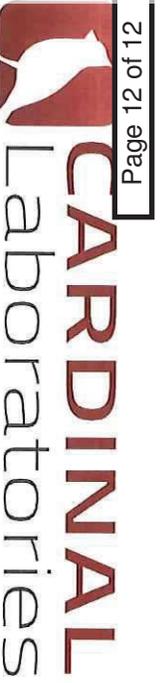
Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Rush LR

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

BILL TO

ANALYSIS REQUEST

Company Name: TRC	P.O. #:	
Project Manager: Target Staffel	Company: COG	
Address: 16 Bush Drive Suite 150	Attn:	
City: M. J. Land State: TX Zip:	Address:	
Phone #: Fax #:	City:	
Project #: Project Owner:	State: Zip:	
Project Name: Apple 5 State Blvd	Phone #:	
Project Location:	Fax #:	
Sampler Name: Kyle		
FOR LAB USE ONLY		
Lab I.D. FL- *Sample I.D.	(G)RAB OR (C)OMP.	
H901754	# CONTAINERS	
1 F3-5.5	GROUNDWATER	
2 F9-5.5	WASTEWATER	
3 F8-5.5	SOIL	X
4 F9-5.5	OIL	
5 F10-4.5	SLUDGE	
6 FH-6	OTHER:	
7 F15-8.5	ACID/BASE:	
	ICE / COOL	
	OTHER:	
	DATE	5-19-19
	TIME	11:00

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: [Signature] Date: 3-19-19 Received By: [Signature] Date: 5-19-19

Relinquished By: [Signature] Date: 3-19-19 Received By: [Signature] Date: 5-19-19

Delivered By: (Circle One) UPS - Bus - Other: 30.3°C #497 Sample Condition Cool Intact Yes No Checked By: (Initials) TR

Phone Result: Yes No Add'l Phone #: Fax Result: Yes No Add'l Fax #:

REMARKS: Redhardt@hcsolutions.com beauper@hcsolutions.com 575.410.4300@hcsolutions.com *Sample IDs revised as per Samed. 5/17/19 CL



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

May 21, 2019

JARED STOFFEL

TRC

10 DESTA DR. SUITE 150 E

MIDLAND, TX 79705

RE: APPLE 5 STATE SWD

Enclosed are the results of analyses for samples received by the laboratory on 05/20/19 14:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TRC
 JARED STOFFEL
 10 DESTA DR. SUITE 150 E
 MIDLAND TX, 79705
 Fax To:

Received:	05/20/2019	Sampling Date:	05/20/2019
Reported:	05/21/2019	Sampling Type:	Soil
Project Name:	APPLE 5 STATE SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: FL - E1-5 (H901810-01)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/21/2019	ND	1.67	83.6	2.00	1.49	
Toluene*	<0.050	0.050	05/21/2019	ND	1.77	88.3	2.00	0.893	
Ethylbenzene*	<0.050	0.050	05/21/2019	ND	1.71	85.7	2.00	1.51	
Total Xylenes*	<0.150	0.150	05/21/2019	ND	5.20	86.7	6.00	1.65	
Total BTEX	<0.300	0.300	05/21/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	05/21/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/21/2019	ND	198	99.1	200	3.28	
DRO >C10-C28*	<10.0	10.0	05/21/2019	ND	192	95.9	200	4.80	
EXT DRO >C28-C36	<10.0	10.0	05/21/2019	ND					

Surrogate: 1-Chlorooctane 83.6 % 41-142

Surrogate: 1-Chlorooctadecane 82.9 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRC
 JARED STOFFEL
 10 DESTA DR. SUITE 150 E
 MIDLAND TX, 79705
 Fax To:

Received:	05/20/2019	Sampling Date:	05/20/2019
Reported:	05/21/2019	Sampling Type:	Soil
Project Name:	APPLE 5 STATE SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: FL - F12 - 6 (H901810-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10000	16.0	05/21/2019	ND	416	104	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by 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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

May 23, 2019

JARED STOFFEL

TRC

10 DESTA DR. SUITE 150 E

MIDLAND, TX 79705

RE: APPLE 5 STATE SWD

Enclosed are the results of analyses for samples received by the laboratory on 05/22/19 9:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TRC
 JARED STOFFEL
 10 DESTA DR. SUITE 150 E
 MIDLAND TX, 79705
 Fax To:

Received:	05/22/2019	Sampling Date:	05/21/2019
Reported:	05/23/2019	Sampling Type:	Soil
Project Name:	APPLE 5 STATE SWD	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: FL - F12 - 7 (H901828-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	05/23/2019	ND	432	108	400	7.69	

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Celey D. Keene, Lab Director/Quality Manager



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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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Analytical Report 601637

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Apple 5 State SWD #1

16-OCT-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
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)



16-OCT-18

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

Reference: XENCO Report No(s): **601637**
Apple 5 State SWD #1
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) 601637. 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. 601637 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', written over a horizontal line.

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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Sample Cross Reference 601637

TRC Solutions, Inc, Midland, TX

Apple 5 State SWD #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-9B @ 16'	S	10-04-18 14:00	16 ft	601637-001
SB-9B @ 18'	S	10-04-18 14:10	18 ft	601637-002



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple 5 State SWD #1

Project ID:
Work Order Number(s): 601637

Report Date: 16-OCT-18
Date Received: 10/05/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 601637

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State SWD #1

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

Date Received in Lab: Fri Oct-05-18 05:00 pm
Report Date: 16-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	601637-001	601637-002			
	Field Id:	SB-9B @ 16'	SB-9B @ 18'			
	Depth:	16- ft	18- ft			
	Matrix:	SOIL	SOIL			
	Sampled:	Oct-04-18 14:00	Oct-04-18 14:10			
Chloride by EPA 300	Extracted:	Oct-11-18 10:30	Oct-16-18 08:30			
	Analyzed:	Oct-11-18 15:23	Oct-16-18 10:59			
	Units/RL:	mg/kg RL	mg/kg RL			
Chloride		481 250	430 125			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager



BS / BSD Recoveries



Project Name: Apple 5 State SWD #1

Work Order #: 601637

Project ID:

Analyst: RNL

Date Prepared: 10/11/2018

Date Analyzed: 10/11/2018

Lab Batch ID: 3066120

Sample: 7663990-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	1.25	250	253	101	250	252	101	0	90-110	20	

Analyst: RNL

Date Prepared: 10/16/2018

Date Analyzed: 10/16/2018

Lab Batch ID: 3066480

Sample: 7664233-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<0.572	250	253	101	250	250	100	1	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: Apple 5 State SWD #1

Work Order #: 601637

Project ID:

Lab Batch ID: 3066120

QC- Sample ID: 601773-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/11/2018

Date Prepared: 10/11/2018

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	30.9	25.0	156	500	25.0	158	508	1	80-120	20	X

Lab Batch ID: 3066480

QC- Sample ID: 602420-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/16/2018

Date Prepared: 10/16/2018

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	18.8	250	282	105	250	272	101	4	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.



Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2018 05:00:00 PM

Work Order #: 601637

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)?	1.3
#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)?	N/A
#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
Brenda Ward Date: 10/08/2018

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks Date: 10/09/2018

Analytical Report 618707

for
TRC Solutions, Inc

Project Manager: Jared Stoffel

Apple 5 State SWD

29-MAR-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
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), North Carolina (483)
Xenco-Lakeland: Florida (E84098)



29-MAR-19

Project Manager: **Jared Stoffel**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **618707**
Apple 5 State SWD
Project Address: Apple 5 State SWD

Jared Stoffel:

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) 618707. 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. 618707 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,

Mike Kimmel
Client Services Manager

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Sample Cross Reference 618707

TRC Solutions, Inc, Midland, TX

Apple 5 State SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL-A1-7	S	03-21-19 00:00	7 ft	618707-001
FL-A2-7	S	03-21-19 00:00	7 ft	618707-002
FL-A4-7	S	03-21-19 00:00	7 ft	618707-003



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Apple 5 State SWD

Project ID:
Work Order Number(s): 618707

Report Date: 29-MAR-19
Date Received: 03/25/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 618707

TRC Solutions, Inc, Midland, TX

Project Name: Apple 5 State SWD



Project Id:
Contact: Jared Stoffel
Project Location: Apple 5 State SWD

Date Received in Lab: Mon Mar-25-19 07:35 am
Report Date: 29-MAR-19
Project Manager: Mike Kimmel

<i>Analysis Requested</i>	<i>Lab Id:</i>	618707-001	618707-002	618707-003			
	<i>Field Id:</i>	FL-A1-7	FL-A2-7	FL-A4-7			
	<i>Depth:</i>	7- ft	7- ft	7- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Mar-21-19 00:00	Mar-21-19 00:00	Mar-21-19 00:00			
Chloride by EPA 300	<i>Extracted:</i>	Mar-25-19 15:20	Mar-25-19 15:20	Mar-25-19 15:20			
	<i>Analyzed:</i>	Mar-25-19 18:03	Mar-25-19 18:13	Mar-25-19 18:23			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		1210 99.2	1110 49.6	818 50.0			

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Version: 1.9%

Mike Kimmel
 Client Services Manager



BS / BSD Recoveries



Project Name: Apple 5 State SWD

Work Order #: 618707

Project ID:

Analyst: SPC

Date Prepared: 03/25/2019

Date Analyzed: 03/25/2019

Lab Batch ID: 3083312

Sample: 7674297-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<0.858	250	256	102	250	256	102	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: Apple 5 State SWD

Work Order #: 618707

Project ID:

Lab Batch ID: 3083312

QC- Sample ID: 618678-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 03/25/2019

Date Prepared: 03/25/2019

Analyst: SPC

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	103	249	364	105	249	364	105	0	90-110	20	

Lab Batch ID: 3083312

QC- Sample ID: 618757-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 03/25/2019

Date Prepared: 03/25/2019

Analyst: SPC

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	24.8	250	283	103	250	284	104	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.

Analytical Report 619564

for
TRC Solutions, Inc

Project Manager: Jared Stoffel
COG General Project

04-APR-19

Collected By: Client



1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
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), North Carolina (483)
Xenco-Lakeland: Florida (E84098)



04-APR-19

Project Manager: **Jared Stoffel**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **619564**
COG General Project
Project Address: Apple 5 State SWD

Jared Stoffel:

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) 619564. 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.

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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,

Mike Kimmel
Client Services Manager

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Sample Cross Reference 619564

TRC Solutions, Inc, Midland, TX

COG General Project

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW-A1-3.5	S	03-27-19 00:00		619564-001
FL-A3-7	S	03-27-19 00:00	3.5 ft	619564-002
FL-A5-7	S	03-27-19 00:00	7 ft	619564-003
FL-A6-7	S	03-27-19 00:00	7 ft	619564-004
FL-A7-7	S	03-27-19 00:00	7 ft	619564-005
FL-A8-7	S	03-27-19 00:00	7 ft	619564-006
FL-A9-7	S	03-27-19 00:00	7 ft	619564-007
SW-A3-3.5	S	03-27-19 00:00	3.5 ft	619564-010
SW-A4-3.5	S	03-27-19 00:00	3.5 ft	619564-011
EW-A1-3.5	S	03-27-19 00:00	3.5 ft	Not Analyzed
SW-A2-3.5	S	03-27-19 00:00	3.5 ft	Not Analyzed



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: COG General Project

Project ID:
Work Order Number(s): 619564

Report Date: 04-APR-19
Date Received: 04/01/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 619564

TRC Solutions, Inc, Midland, TX

Project Name: COG General Project



Project Id:
Contact: Jared Stoffel
Project Location: Apple 5 State SWD

Date Received in Lab: Mon Apr-01-19 07:30 am
Report Date: 04-APR-19
Project Manager: Mike Kimmel

<i>Analysis Requested</i>	<i>Lab Id:</i>	619564-001	619564-002	619564-003	619564-004	619564-005	619564-006
	<i>Field Id:</i>	SW-A1-3.5	FL-A3-7	FL-A5-7	FL-A6-7	FL-A7-7	FL-A8-7
	<i>Depth:</i>		3.5- ft	7- ft	7- ft	7- ft	7- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-27-19 00:00					
S	<i>Extracted:</i>	Apr-01-19 14:30					
	<i>Analyzed:</i>	Apr-01-19 19:27	Apr-01-19 19:32	Apr-01-19 19:38	Apr-02-19 09:19	Apr-01-19 20:01	Apr-02-19 09:25
	<i>Units/RL:</i>	mg/kg RL					
Chloride		603 49.5	702 49.9	103 50.3	33.7 4.96	26.4 25.0	32.2 4.98

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Mike Kimmel
 Client Services Manager



Certificate of Analysis Summary 619564

TRC Solutions, Inc, Midland, TX

Project Name: COG General Project



Project Id:
Contact: Jared Stoffel
Project Location: Apple 5 State SWD

Date Received in Lab: Mon Apr-01-19 07:30 am
Report Date: 04-APR-19
Project Manager: Mike Kimmel

<i>Analysis Requested</i>	<i>Lab Id:</i>	619564-007	619564-010	619564-011			
	<i>Field Id:</i>	FL-A9-7	SW-A3-3.5	SW-A4-3.5			
	<i>Depth:</i>	7- ft	3.5- ft	3.5- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Mar-27-19 00:00	Mar-27-19 00:00	Mar-27-19 00:00			
S	<i>Extracted:</i>	Apr-01-19 14:30	Apr-01-19 14:30	Apr-01-19 14:30			
	<i>Analyzed:</i>	Apr-02-19 09:30	Apr-01-19 20:46	Apr-01-19 20:52			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		15.6 4.95	34.5 5.02	312 4.99			

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Mike Kimmel
 Client Services Manager



BS / BSD Recoveries



Project Name: COG General Project

Work Order #: 619564

Analyst: SPC

Lab Batch ID: 3084162

Units: mg/kg

Date Prepared: 04/01/2019

Sample: 7674817-1-BKS

Batch #: 1

Project ID:

Date Analyzed: 04/01/2019

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

S	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
Analytes											
Chloride	<0.858	250	251	100	250	247	99	2	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: COG General Project

Work Order #: 619564

Project ID:

Lab Batch ID: 3084162

QC- Sample ID: 619563-009 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/01/2019

Date Prepared: 04/01/2019

Analyst: SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

S 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	8.79	250	256	99	250	256	99	0	90-110	20	

Lab Batch ID: 3084162

QC- Sample ID: 619565-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/01/2019

Date Prepared: 04/01/2019

Analyst: SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

S 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	248	272	99	248	271	99	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.



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)

CHAIN OF CUSTODY

Phoenix, Arizona (480-355-0900)

www.xenco.com

Xenco Quote #

Xenco Job #

61954

Client / Reporting Information

Company Name / Branch:

TFC Environmental Corporation

Company Address:

10 Dosta Dr, Suite 150E

Midland, TX 79705

Email:

Howry@tfc-solutions.com

Phone No:

480-486-4499
92-258-3003

Project Contact:

David Stofel
Kyle Schmeidt

Samplers Name:

5V-A4-3.5

No. Field ID / Point of Collection

1 5V-A4-3.5

Sample

Depth

3.5 ft 3-28-19

Date

Time

Matrix

of bottles

5

1

Number of preserved bottles

HCl

NaOH/Zn

Acetate

HNO3

H2SO4

NaOH

NaHSO4

MeOH

NONE

TPH TX1005

Chloride E 300

NORM

RCI

TCLP Benzene

TCLP RCRA 8 Metals

Chloride

TPH 8015 M Ext (NM)

Matrix Codes

W = Water
S = Soil/Seed/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

7 Day TAT

Next Day EMERGENCY

2 Day EMERGENCY

3 Day EMERGENCY

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

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

Relinquished by Sampler:

[Signature]

Date Time:

3-29-19

Received By:

Brittany Cox

Relinquished By:

Brittany Cox

Date Time:

3/29/19

Received By:

[Signature]

Relinquished By:

On Ice

Cooler Temp

Thermo, Corr. Factor

Preserved where applicable

Custody Seal #

Received By:

5

Relinquished by:

Date Time:

Received By:

3

Relinquished by:

Date Time:

Received By:

2

Relinquished by:

Date Time:

Received By:

1

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 losses 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.

4705 2520 5708

37/3-0EB-0.1

Released to Imaging: 5/9/2023 2:58:38 PM

Page 11 of 12

Final 1.000

2.012

Page 395 of 423

Received by OCD: 4/7/2023 7:11:16 AM



Client: TRC Solutions, Inc

Date/ Time Received: 04/01/2019 07:30:00 AM

Work Order #: 619564

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)?	3.6
#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)?	N/A
#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: Brianna Teel
Brianna Teel

Date: 04/01/2019

Checklist reviewed by: Mike Kimmel
Mike Kimmel

Date: 04/02/2019

Analytical Report 619854

for
TRC Solutions, Inc

Project Manager: Jared Stoffel
COG General Project

04-APR-19

Collected By: Client



1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
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), North Carolina (483)
Xenco-Lakeland: Florida (E84098)



04-APR-19

Project Manager: **Jared Stoffel**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **619854**
COG General Project
Project Address: Apple 5 State SWD

Jared Stoffel:

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) 619854. 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. 619854 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,

Mike Kimmel
Client Services Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 619854

TRC Solutions, Inc, Midland, TX

COG General Project

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL-A1-7.5	S	04-01-19 00:00	7.5 ft	619854-001
FL-A2-7.5	S	04-01-19 00:00	7.5 ft	619854-002
FL-A10-7	S	04-01-19 00:00	7 ft	619854-003
SW-A2-3.5	S	04-01-19 00:00	3.5 ft	619854-004
SW-A5-3.5	S	04-01-19 00:00	3.5 ft	619854-005
EW-A1-3.5	S	04-01-19 00:00	3.5 ft	619854-006



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: COG General Project

Project ID:
Work Order Number(s): 619854

Report Date: 04-APR-19
Date Received: 04/03/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 619854

TRC Solutions, Inc, Midland, TX

Project Name: COG General Project



Project Id:
Contact: Jared Stoffel
Project Location: Apple 5 State SWD

Date Received in Lab: Wed Apr-03-19 11:25 am
Report Date: 04-APR-19
Project Manager: Mike Kimmel

<i>Analysis Requested</i>	<i>Lab Id:</i>	619854-001	619854-002	619854-003	619854-004	619854-005	619854-006
	<i>Field Id:</i>	FL-A1-7.5	FL-A2-7.5	FL-A10-7	SW-A2-3.5	SW-A5-3.5	EW-A1-3.5
	<i>Depth:</i>	7.5- ft	7.5- ft	7- ft	3.5- ft	3.5- ft	3.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Apr-01-19 00:00					
Chloride by EPA 300	<i>Extracted:</i>	Apr-03-19 17:00					
	<i>Analyzed:</i>	Apr-04-19 05:21	Apr-04-19 05:31	Apr-04-19 05:41	Apr-04-19 05:51	Apr-04-19 06:01	Apr-04-19 06:10
	<i>Units/RL:</i>	mg/kg RL					
Chloride		1660 101	159 49.6	201 5.04	93.6 4.95	268 4.95	149 49.5

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.9%

Mike Kimmel
Client Services Manager



BS / BSD Recoveries



Project Name: COG General Project

Work Order #: 619854

Project ID:

Analyst: CHE

Date Prepared: 04/03/2019

Date Analyzed: 04/04/2019

Lab Batch ID: 3084530

Sample: 7675002-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	0.977	250	267	107	250	267	107	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: COG General Project

Work Order #: 619854

Project ID:

Lab Batch ID: 3084530

QC- Sample ID: 619598-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/04/2019

Date Prepared: 04/03/2019

Analyst: CHE

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	43.5	252	317	109	252	317	109	0	90-110	20	

Lab Batch ID: 3084530

QC- Sample ID: 619598-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/04/2019

Date Prepared: 04/03/2019

Analyst: CHE

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	35.1	250	307	109	250	305	108	1	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.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 04/03/2019 11:25:00 AM

Work Order #: 619854

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)?	3.3
#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)?	N/A
#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: Brianna Teel Date: 04/03/2019
 Brianna Teel

Checklist reviewed by: Mike Kimmel Date: 04/03/2019
 Mike Kimmel

Analytical Report 620476

for
TRC Solutions, Inc

Project Manager: Jared Stoffel

10-APR-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
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), North Carolina (483)
Xenco-Lakeland: Florida (E84098)



10-APR-19

Project Manager: **Jared Stoffel**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **620476**

Project Address: Apple 5 Site SWD

Jared Stoffel:

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) 620476. 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. 620476 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,

Kalei Stout

Midland Laboratory Director

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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Sample Cross Reference 620476

TRC Solutions, Inc, Midland, TX

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL-A1-8	S	04-05-19 00:00	8 ft	620476-001
SW-A1-4	S	04-05-19 00:00	4 ft	620476-002



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: ---

Project ID: ---
Work Order Number(s): 620476

Report Date: 10-APR-19
Date Received: 04/09/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 620476

TRC Solutions, Inc, Midland, TX

Project Name: ---



Project Id: ---
Contact: Jared Stoffel
Project Location: Apple 5 Site SWD

Date Received in Lab: Tue Apr-09-19 12:15 pm
Report Date: 10-APR-19
Project Manager: Mike Kimmel

<i>Analysis Requested</i>	<i>Lab Id:</i>	620476-001	620476-002			
	<i>Field Id:</i>	FL-A1-8	SW-A1-4			
	<i>Depth:</i>	8- ft	4- ft			
	<i>Matrix:</i>	SOIL	SOIL			
	<i>Sampled:</i>	Apr-05-19 00:00	Apr-05-19 00:00			
Chloride by EPA 300	<i>Extracted:</i>	Apr-09-19 16:50	Apr-09-19 16:50			
	<i>Analyzed:</i>	Apr-10-19 11:42	Apr-10-19 11:49			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
Chloride		632 49.5	361 49.5			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.9%

Kalei Stout
 Midland Laboratory Director



BS / BSD Recoveries



Project Name: ---

Work Order #: 620476

Project ID: ---

Analyst: CHE

Date Prepared: 04/09/2019

Date Analyzed: 04/10/2019

Lab Batch ID: 3085164

Sample: 7675407-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<0.858	250	261	104	250	246	98	6	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: ---

Work Order #: 620476

Project ID: ---

Lab Batch ID: 3085164

QC- Sample ID: 619862-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/10/2019

Date Prepared: 04/09/2019

Analyst: CHE

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	68.1	249	518	181	249	511	178	1	90-110	20	X

Lab Batch ID: 3085164

QC- Sample ID: 620421-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/10/2019

Date Prepared: 04/09/2019

Analyst: CHE

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	6.93	250	257	100	245	240	95	7	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.



Client: TRC Solutions, Inc

Date/ Time Received: 04/09/2019 12:15:00 PM

Work Order #: 620476

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)?	3.9
#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: *Katie Lowe*
Katie Lowe

Date: 04/09/2019

Checklist reviewed by: *Kalei Stout*
Kalei Stout

Date: 04/10/2019



Appendix D: Photographic Documentation



Figure 1 - View of excavated area A, facing east.



Figure 2 - View of excavated area proximal to trench T-1, facing northwest.



Figure 3 - View of installed polyuruthane liner, facing east.



Figure 4 - View of portion of the liner keyset, facing west.



Figure 5 - View of excavated area C, facing northeast.



Figure 6 - View of portion of the excavated areas D, E and F, facing south.



Figure 7 - View of portion of excavated area F, facing south.



Figure 8 - View of construction of the dirt tank, facing north.



Figure 9 - View of installation of the bentonliner, facing north.



Figure 10 - View of completed dirt tank and site grade, facing north.

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 205075

CONDITIONS

Operator: SOLARIS WATER MIDSTREAM, LLC 907 Tradewinds Blvd, Suite B Midland, TX 79706	OGRID: 371643
	Action Number: 205075
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	5/9/2023