SQ Environmental, LLC
P.O. Box 1991
Austin, TX 78767-1991
(512) 656-9445
www.SQEnv.com

3 August 2016

Mr. Bradford Billings
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Via Email: Bradford.Billings@state.nm.us

Re: Well Installation Report
Candelario 24 #1 SWD Battery
Project No. 2RP-2400
UL/E Section 24 T23S R28E
API No. 30-015-26536

Dear Mr. Billings:

SQ Environmental (SQE) prepared this report to describe the monitoring well installation and groundwater sampling activities conducted in the vicinity of the Candelario 24 #1 Saltwater Disposal Well (SWD) Battery site. The groundwater assessment was conducted to acquire additional information for the purpose of resolving remaining issues associated with a release of produced fluid that occurred at the Candelario 24 #1 SWD site. This work was performed on behalf of Rockcliff Operating New Mexico LLC (Rockcliff). Rockcliff recently acquired assets in the Loving, New Mexico area from Vanguard Operating LLC (Vanguard). A summary of the groundwater assessment activities is provided below, and the following figures, tables, and attachments are included in the report.

- Figure 1 – Site Location Map
- Figure 2 – Chloride Concentrations in Groundwater
- Figure 3 – Water Levels and Groundwater Flow Direction
- Figure 4 – Water Well Location Map
- Figure 5 – Stiff Diagrams
- Table 1 – Water Level Summary
- Table 2 – Water Well Analytical Data Summary
- Table 3 – Monitoring Well Analytical Data Summary
- Attachment 1 – New Mexico Office of the State Engineer Well Permits
- Attachment 2 – Boring Logs
- Attachment 3 – Analytical Laboratory Report

Background

A release of produced fluid from one of the flow lines to the Candelario 24 #1 SWD occurred in July 2014. The release site is located approximately three miles east of Loving, Eddy County, New Mexico, as shown on Figure 1. Vanguard operated the Candelario 24 #1 SWD at the time of the release. Notice was provided to the New Mexico Oil Conservation Division (NMOCD) by Vanguard, and an initial C-141 form was submitted. Release identification number 2RP-2400 was assigned to the incident by NMOCD. An initial soil assessment was conducted in the area of the release and chloride-affected shallow soils were

identified. Total petroleum hydrocarbons were not reported in the soil assessment samples at elevated concentrations. Based on the results of the initial sampling activities, a Corrective Action Plan (CAP) dated 13 October 2014 was submitted to NMOCD. In accordance with the CAP, the upper 4 feet (ft) of soil within an approximately 2,251 square ft area was removed in November 2014. A 20-mil reinforced poly liner was placed in the excavation to minimize infiltration through the soil. The excavation was backfilled with imported fill material, contoured to match the surrounding grade, and seeded with a blend of native vegetation. Documentation of the soil removal and liner installation work was submitted to the NMOCD by Vanguard in a previous report. In an e-mail dated 20 October 2014, the "dirt work" portion of the CAP was approved.

Based on the results of soil samples collected from soil borings in the area, the CAP proposed that a groundwater monitoring well be installed to evaluate whether groundwater in the vicinity of the release had been impacted. The installation of the groundwater monitoring well was approved by the NMOCD in an e-mail dated 20 October 2014, with the clarification that the well be "situated as close to the excavation as practical, on the probable down gradient side." SQE, on behalf of Rockcliff, submitted a Well Installation Plan with details on the proposed monitoring well. The Well Installation Plan was approved by the NMOCD on 18 March 2016.

SQE mobilized to the site on 22 March 2016 to install the approved monitoring well, along with two additional monitoring wells to delineate potential chloride impacts to groundwater in the area. The results of the well installation and sampling activities were summarized in a letter report submitted to the NMOCD dated 5 April 2016. Following submittal of the letter, Mr. Billings provided comments on the letter in an email dated 28 April 2016. SQE conducted additional sampling activities at the Candelario site on 18 and 19 July 2016 to acquire additional information regarding chloride concentrations in groundwater at the site, and to address comments provided by Mr. Billings in the 28 April 2016 email.

Monitoring Well Installation and Sampling Activities

SQE mobilized to the site on 18 July 2016 to install the two additional monitoring wells (MW-04 and MW-05). The location of the wells is provided on Figure 2. Prior to completing the well installation, the proposed location was staked, a New Mexico One Call utility locate request was completed, and well installation permits were acquired from the New Mexico Office of the State Engineer. The approved well installation permit is included as Attachment 1.

The monitoring well boreholes were drilled by air rotary methods to a total depth of 35 to 40 ft below ground surface (bgs). The soil boring cuttings were continuously sampled and logged in general accordance with American Society for Testing and Materials (ASTM) Standard No. D2488-00. Boring logs and well completion diagrams for MW-04 and MW-05 are included as Attachment 2. The uppermost saturated zone was encountered at a depth of 32 ft bgs, and the wells were further drilled to total depth to facilitate installation of a monitoring well. After total depth was achieved, a 2-inch diameter schedule 40 polyvinyl chloride (PVC) well was installed in the borehole. The wells were completed with 10 ft of slotted (0.01-inch) PVC screen with a PVC bottom cap. The PVC screen was installed across the vadose zone/saturated zone interface. The wells were completed with blank PVC casing to ground surface. A #20/40 silica sand filter pack was installed around the well to a depth of approximately 2 ft above the top of the screen, and a 2-ft-thick bentonite seal was installed above the sand pack. The bentonite seal was hydrated and allowed to cure before continuing with the well completion. A bentonite-cement grout mixture was added to the borehole annular space from the top of the bentonite seal to ground surface. The grout was allowed to

cure before installing the well surface completion. A concrete pad and locking flush mount cover surface completion were installed on each of the wells.

Following installation, MW-04 and MW-05 were developed with a submersible pump and dedicated tubing to clean the well screen and filter pack and remove fine grained material from the well casing. The wells were developed until the purge water was clear and field water quality parameters (temperature, pH, conductivity, and dissolved oxygen) stabilized. Approximately ten well volumes of groundwater were removed from the wells during the development activities. Following completion of the well installation activities, the relative top of casing elevations on the two new monitoring wells were surveyed for the purposes of estimating the groundwater flow direction.

Following development, the new monitoring wells were allowed to equilibrate overnight. The five onsite monitoring wells (MW-01 through MW-05) were gauged for depth to water and total depth. The water level measurements in the five monitoring wells ranged from 21.82 to 30.07 ft below top of casing. The measured depth to water and the calculated relative elevations are summarized on Table 1 and shown on Figure 3. Based on the water level elevation data collected during the site assessment activities, the shallow groundwater flow direction in the release area appears to be to the east-northeast toward the Pecos River.

Following gauging, each well was sampled by low-flow purge methods. The following field water quality parameters were recorded during low flow sampling activities: temperature, pH, conductivity, oxidation-reduction potential, and dissolved oxygen. The groundwater samples were collected in laboratory supplied containers, placed on ice, and delivered to ALS Laboratory in Houston, Texas for analysis of chloride by EPA Method E300. The following water quality constituents were also analyzed for each sample during the July 2016 event for the purposes of characterizing the shallow groundwater in the area: total dissolved solids (TDS), alkalinity, bicarbonate, calcium, magnesium, potassium, sodium, and sulfate.

Water samples were also collected from three shallow water wells located in the vicinity of the Candelario release site. The samples were collected using dedicated, disposable, polyethylene bailers. The water well locations are provided on Figure 4. The well water samples were also analyzed for chloride and water quality constituents. The analytical laboratory report for the July 2016 investigation samples is included in Attachment 3.

Analytical Data Summary

Groundwater samples were collected from the five onsite monitoring wells and three area water wells during the July 2016 sampling event. The water samples were analyzed for chloride and water quality analytes. A discussion of the groundwater sample results is provided below, and summarized on Tables 2 and 3. Stiff diagrams for each of the groundwater samples (both the monitoring and water wells) are included on Figure 5. A summary of the observations based on the July sampling results is provided below:

- The groundwater samples from wells MW-02, MW-04 and MW-05 appear to represent background conditions based on both the chloride concentrations and the relative concentrations of the water quality parameters when compared to the three area water wells. The groundwater at these wells does not appear to be affected by the Candelario release. The reported chloride concentrations in the three water well samples ranged from 1,950 mg/L to 2,030 mg/L. The reported chloride concentrations in delineation monitoring wells MW-02, MW-04, and MW-05 were all in the same

range as the three water wells samples. Background chloride concentrations in the area appear to be approximately 2,000 mg/L.

- Based on both the relative concentrations of the water quality constituents (see stiff diagrams on Figure 5), and the water quality in wells MW-02, MW-04 and MW-05, it does not appear that MW-03 has been affected by the Candelario release. The sulfate concentration in MW-03 was reported at 5,770 mg/L, well above the reported concentration in MW-01 or any other well at the site, and the TDS concentration in MW-03 was greater than the TDS concentration reported in the MW-01 sample. Additionally, based on the Stiff diagram included on Figure 5, the groundwater in the vicinity of MW-03 has a different water quality character than in MW-01, or in the delineation monitoring wells. The elevated chloride levels in MW-03 are likely related to higher TDS groundwater in the baseflow of the Pecos River.

- The reported chloride concentration in MW-01, which was installed in the release area, decreased from 14,800 mg/L to 12,600 mg/L between the March 2016 and July 2016 sampling events. Chloride in MW-02, located approximately 300 ft east of MW-01, was reported at similar concentrations in the March (2,010 mg/L) and July 2016 (1,880 mg/L) sampling events, and as discussed above, appears to represent background water quality in the general area.

- Based on a review of Stiff diagrams included in Figure 5, the groundwater chemistry is similar in the following wells: MW-02, MW-04, MW-05, WW-01, WW-02, and WW-03. Monitoring wells MW-01 and MW-03 display a different water quality signature than the other onsite wells.

Conclusions

SQE conducted well installation and groundwater sampling activities at the Candelario 24 #1 SWD release site on 18 and 19 July 2016. Two new monitoring wells were installed and groundwater samples were collected from five onsite monitoring wells and three area water wells. Conclusions from the site assessment activities are provided below.

- Based on the water level elevation data collected during the site assessment activities, the shallow groundwater flow direction in the release area appears to be to the east-northeast toward the Pecos River. Along with MW-02, the two newly installed monitoring wells (MW-04 and MW-05) appear to be properly positioned to delineate groundwater downgradient of MW-01.

- Based on a review of the Stiff Diagrams included on Figure 5, the reported chloride and water quality analyte concentrations for delineation wells MW-02, MW-04, and MW-05 are similar to those for area water wells WW-01, WW-02 and WW-03. The background chloride concentration for shallow groundwater in the area appears to be approximately 1,985 mg/L. Based on NMOCD guidance we are using a chloride “comparison” value of 2,235 mg/L (average background plus 250 mg/L).

- The reported sulfate and TDS concentrations in the MW-03 sample for the July 2016 sampling event were greater than those reported in the sample collected from MW-01. The reported chloride concentration in the MW-03 sample decreased slightly during the July 2016 event. Based on the location of delineation wells MW-02, MW-04, and MW-05 and the water chemistry analysis

discussed in the previous section, the reported chloride concentrations in MW-03 do not appear to be associated with the Candelario 24 #1 SWD release site.

- Reported concentrations of chloride decreased in MW-01 from 14,800 mg/L to 12,600 mg/L between the March 2016 and July 2016 sampling events. As discussed in the 5 April 2016 SQE letter report, the approximate area of chloride affected groundwater is small, and the groundwater flow velocity is low. It appears that the impacts to the groundwater are fairly limited in extent, and will dissipate with time. Additionally, there are no water wells within the affected area and no other potential exposure pathways.

Following NMOCD review of this letter report SQE would like to conduct a conference call with NMOCD to discuss the data and path forward for the project. Please let us know if you have any questions regarding this report or need any additional information.

Sincerely,
SQ Environmental, LLC

Samuel Enis, P.G.
Senior Geologist

Susan T. Litherland, P.E.
Principal

Cc: Nick Koch – Rockcliff Operating New Mexico LLC

Attachments

N

NEW MEXICO

SOURCE: USGS LOVING QUADRANGLE

0 1500 3000

SCALE IN FEET

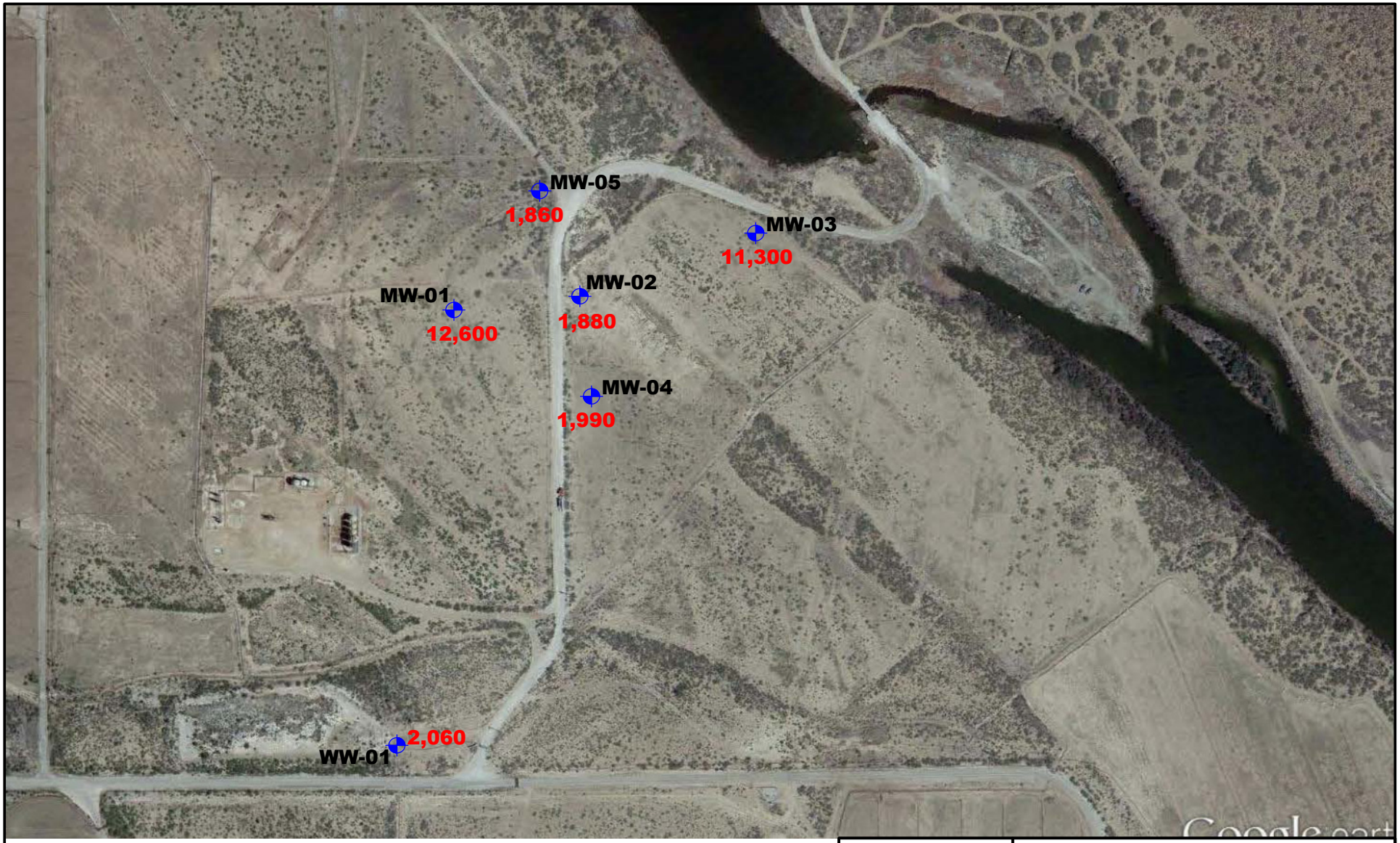
SQ Environmental, LLC

FIGURE 1

SITE LOCATION MAP

CANDELARIO 24 #1 SWD BATTERY
LOVING, NEW MEXICO

SCALE:	DATE:	PN:
1 IN = 3000 FT	AUG 2016	1072.002.005



SOURCE: GOOGLE EARTH, IMAGE DATED 4/16/2013

N

NEW MEXICO

Legend:

MW-02 2,010 MONITORING WELL WITH CHLORIDE CONCENTRATION IN MG/L.

0 175 350

SCALE IN FEET

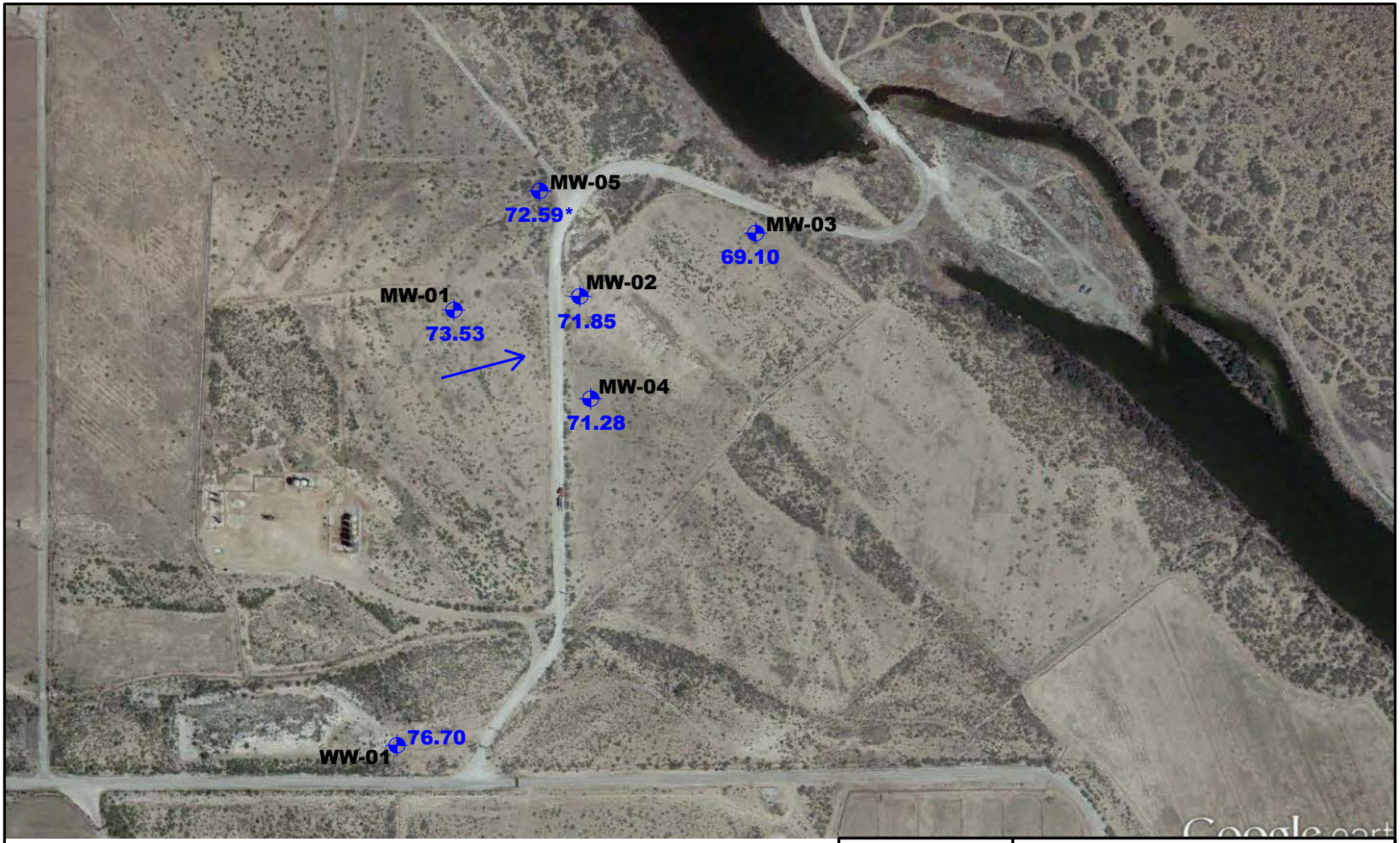
SQ Environmental, LLC

FIGURE 2

GROUNDWATER CHLORIDE CONCENTRATION MAP

CANDELARIO 24 #1 SWD BATTERY
LOVING, NEW MEXICO

SCALE:	DATE:	PN:
1 IN = 350 FT	AUG 2016	1072.002.005



SOURCE: GOOGLE EARTH, IMAGE DATED 4/16/2013

N

NEW MEXICO

Legend:

MW-01 74.06 — MONITORING WELL WITH GROUNDWATER ELEVATION, GAUGED ON 7/19/2016

APPROXIMATE GROUNDWATER FLOW DIRECTION

74.06* — STATIC WATER LEVEL IN MW-05 HAD NOT RECOVERED FROM WELL DEVELOPMENT

0 175 350

SCALE IN FEET

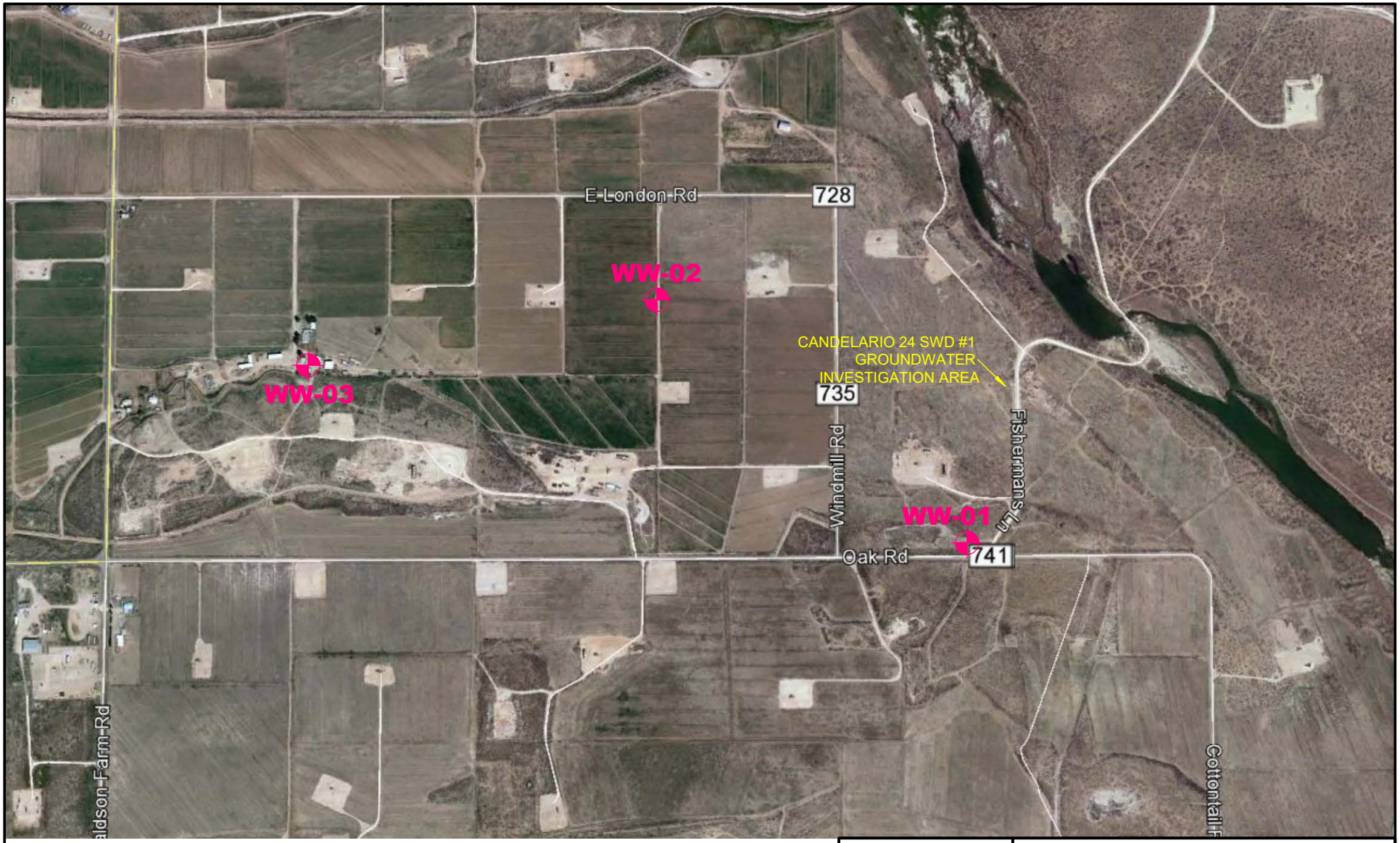
SQ Environmental, LLC

FIGURE 3

MONITORING WELL WATER LEVELS

CANDELARIO 24 #1 SWD BATTERY
LOVING, NEW MEXICO

SCALE:	DATE:	PN:
1 IN = 350 FT	APRIL 2016	1072.002.003



SOURCE: GOOGLE EARTH IMAGE 3/12/2016.

N

LEGEND:

WW-01 WATER WELL

0 500 1000

SCALE IN FEET

SQ Environmental, LLC

FIGURE 4

WATER WELL LOCATION MAP

LOVING, NEW MEXICO

SCALE:	DATE:	PN:
1 IN = 1000 FT	JULY 2016	1072.002.005

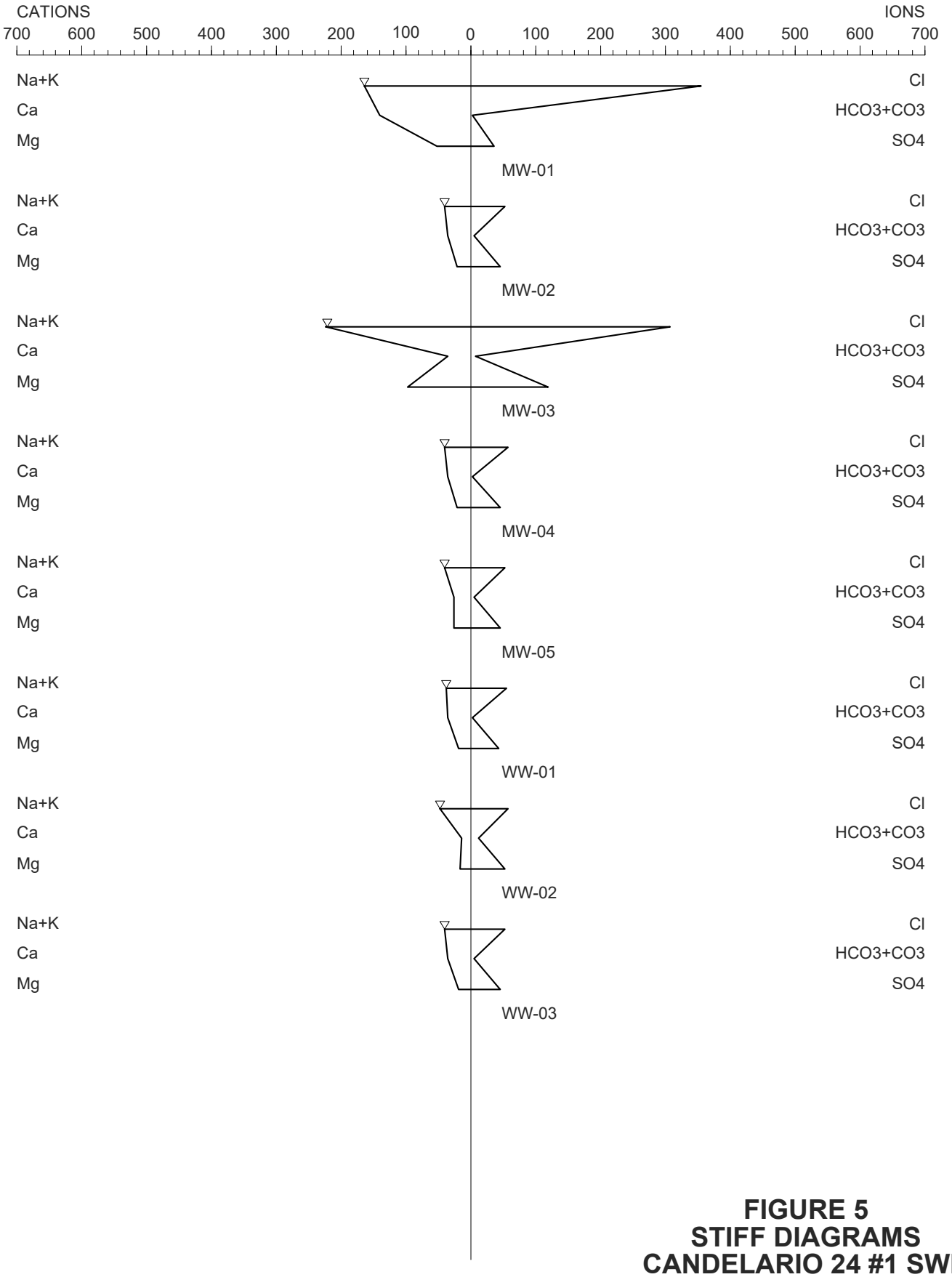


FIGURE 5
STIFF DIAGRAMS
CANDELARIO 24 #1 SWD

TABLE 1
SUMMARY OF GROUNDWATER ELEVATIONS
CANDELARIO 24 #1
LOVING, NEW MEXICO

					3/23/2016		7/19/2016	
	Installation Date	**Relative Top of Casing Elevation (ft)[1]**	**Total Depth (ft bgs)**	**Screen Interval (ft bgs)**	**Depth to Water (ft btoc)**	**Relative Groundwater Elevation**	**Depth to Water (ft btoc)**	**Relative Groundwater Elevation**
MW-01	3/23/2016	100	38	28 - 38	25.94	74.06	26.47	73.53
MW-02	3/23/2016	100.2	38	28 - 38	28.41	71.79	28.35	71.85
MW-03	3/23/2016	90.92	36	26 - 36	21.00	69.92	21.82	69.10
MW-04	7/18/2016	101.35	39.5	29.5-39.5	NM	NM	30.07	71.28
MW-05	7/18/2016	99.28	34.5	24.5-34.5	NM	NM	26.69	72.59
WW-01	--	123.45	NM[2]	--	43.75	79.70	46.75	76.70

Notes:

1. Relative Top of Casing elevations surveyed by SQE on 3/23/2016 (MW-1 - MW-3) and 7/19/2016 (MW-4 and MW-5).
2. The total depth of WW-01 was greater than the length of the water level meter (100 ft).

ft - feet

bgs - Below Ground Surface.

btoc - Below Top of Casing.

All measurements are shown in feet.

TABLE 2
SUMMARY OF WATER WELL SAMPLE RESULTS
CANDELARIO 24 #1
LOVING, NEW MEXICO

	Comparison Value[1]	Sample ID	WW-01	WW-01	WW-02	WW-03
		Lab ID	16031133-04	16070777-06	16070777-07	16070777-08
		Date	3/23/2016	7/19/2016	7/19/2016	7/19/2016
		Units	mg/L	mg/L	mg/L	mg/L
Chloride (E300)						
Chloride	2,235		**2,060**	**1,950**	**2,030**	**1,900**
Water Quality Parameters						
TDS	8,976		--	**7,880**	**8,840**	**7,760**
Alkalinity (Total)	405		--	**180**	**696**	**229**
Alkalinity (Bicarbonate)	405		--	**180**	**696**	**229**
Calcium	625		--	**729**	**281**	**694**
Magnesium	238		--	**220**	**212**	**217**
Potassium	17		--	**6.46**	**33**	**6.06**
Sodium	1,054		--	**874**	**1,090**	**910**
Sulfate	2,493		--	**2,070**	**2,550**	**2,180**

NOTES:

Comparison Value for chloride calculated as average concentration in water well samples plus 250 mg/L.

Comparison Value for water quality parameters calculated as average concentration in water well samples plus 10%.

Bold values indicate concentration reported above the laboratory reporting limit (RL).

mg/L - milligram per liter.

(--) No Value

TABLE 3
SUMMARY OF MONITORING WELL GROUNDWATER SAMPLE RESULTS
CANDELARIO 24 #1
LOVING, NEW MEXICO

	Comparison Value[1]	Sample ID	MW-01	MW-01	MW-02	MW-02	MW-03	MW-03	MW-04	MW-05
		Lab ID	16031133-01	16070777-01	16031133-02	16070777-02	16031133-03	16070777-03	16070777-04	16070777-05
		Date	3/22/2016	7/18/2016	3/22/2016	7/18/2016	3/23/2016	7/18/2016	7/18/2016	7/19/2016
		Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Chloride (E300)										
Chloride	2,235		**14,800**	**12,600**	**2,010**	**1,880**	**11,300**	**10,900**	**1,990**	**1,860**
Water Quality Parameters										
TDS	8,976		--	**27,400**	--	**7,640**	--	**27,800**	**7,520**	**7,300**
Alkalinity (Total)	405		--	**124**	--	**226**	--	**402**	**201**	**227**
Alkalinity (Bicarbonate)	405		--	**124**	--	**226**	--	**402**	**201**	**227**
Calcium	625		--	**2,840**	--	**711**	--	**732**	**694**	**529**
Magnesium	238		--	**646**	--	**254**	--	**1,190**	**254**	**306**
Potassium	17		--	**45.6**	--	**6.37**	--	**83.8**	**8.24**	**5.92**
Sodium	1,054		--	**3,770**	--	**920**	--	**5,110**	**935**	**923**
Sulfate	2,493		--	**1,770**	--	**2,170**	--	**5,770**	**2,210**	**2,230**

NOTES:

Comparison Value for chloride calculated as average concentration in water well samples plus 250 mg/L.

Comparison Value for water quality parameters calculated as average concentration in water well samples plus 10%.

Bold values indicate concentration reported above the laboratory reporting limit (RL).

Shaded values reported above a comparison value.

mg/L - milligram per liter.

(--) No Value

ATTACHMENT 1

NEW MEXICO OFFICE OF THE STATE ENGINEER WELL PERMIT

Tom Blaine, P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 590331
File Nbr: C 03965

Jul. 12, 2016

NICK KOCH
ROCKCLIFF OPERATING NM LLC
1301 MCKINNEY SUITE 1300
HOUSTON, TX 77010

Greetings:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well can only be tested for 10 cumulative days, and the well is to be plugged on or before 07/31/2017, unless a permit to use the water is acquired from this office.

A Well Record & Log (OSE Form wr-20) shall be filed in this office within twenty (20) days after completion of drilling, but no later than 07/31/2017.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us or will be mailed upon request.

Sincerely,

Juan Hernandez
(575)622-6521

Enclosure

explore

File No. C-3965

NEW MEXICO OFFICE OF THE STATE ENGINEER

APPLICATION FOR PERMIT TO DRILL A WELL WITH NO CONSUMPTIVE USE OF WATER

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

2016 JUL -5 AM 11:36
STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

Purpose:	☐ Pollution Control And / Or Recovery	☐ Geo-Thermal
☐ Exploratory	☐ Construction Site De-Watering	☐ Other (Describe):
☒ Monitoring	☐ Mineral De-Watering	

A separate permit will be required to apply water to beneficial use.

☐ Temporary Request - Requested Start Date: Requested End Date:

Plugging Plan of Operations Submitted? ☐ Yes ☐ No

1. APPLICANT(S)

Name: Rockcliff Operating New Mexico LLC	Name:
Contact or Agent: Nick Koch — check here if Agent ☐	Contact or Agent: — check here if Agent ☐
Mailing Address: 1301 McKinney, Suite 1300	Mailing Address:
City: Houston	City:
State: Texas Zip Code: 77010	State: Zip Code:
Phone: 713-351-0549 ☐ Home ☐ Cell Phone (Work):	Phone: ☐ Home ☐ Cell Phone (Work):
E-mail (optional): NKoch@rockcliffenergy.com	E-mail (optional):

FOR OSE INTERNAL USE — Application for Permit, Form wr-07, Rev 6/14/12

File No.: C-3965	Trn. No.: 590331	Receipt No.: 2-37280
Trans Description (optional): POD 1-5		
Sub-Basin: CUB	PCW/LOG Due Date: 7-31-17	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☐ UTM (NAD83) (Meters)
☐ Zone 12N
☐ Zone 13N

■ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range*) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
MW-1	32.294348	-104.046237	UL/E Section 24 T23S R28E
MW-2	32.294449	-104.045269	UL/E Section 24 T23S R28E
MW-3	32.294907	-104.043959	UL/E Section 24 T23S R28E
MW-4	32.295195	-104.045648	UL/E Section 24 T23S R28E
MW-5	32.293892	-104.045073	UL/E Section 24 T23S R28E

STATE ENGINEER OFFICE ROSWELL, NEW MEXICO 2016 JUL -5 AM 11:36

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☐ **Yes** ☐ **No** **If yes, how many**_____

Other description relating well to common landmarks, streets, or other:
The monitoring wells will be installed approximately 3 miles west of Loving, NM, west of Fisherman's Lane and 0.25 miles north of CR 741.

Well is on land owned by: Mosaic Potash Carlsbad Inc.

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ☐ **Yes** ■ **No**
If yes, how many_____

Approximate depth of well (feet): 40'	Outside diameter of well casing (inches): 2
Driller Name: Straub Corporation	Driller License Number:

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Three monitoring wells (MW-1, MW-2, and MW-3) were previously installed at the site in March 2016, but still need an assigned permit number. Monitoring wells MW-4 and MW-5 will be installed at the site following approval of this application. The permitting fee for all five of the wells has been included with this application. The wells will be used to evaluate groundwater concentrations in the area of a spill of released water that occurred from the Candelario 24 #1 SWD Battery. The release was reported to the New Mexico Oil Conservation Division (NMOCD), and Rockcliff is working with the NMOCD (Project No. 2RP-2400) to resolve the issue and determine the duration of groundwater monitoring at the site.

FOR OSE INTERNAL USE — Application for Permit, Form wr-07

File No.: C-3965	Trn No.: 590331

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory:	**Pollution Control and/or Recovery:**	**Construction De-Watering:**	**Mine De-Watering:**
☐ Include a description of any proposed pump test, if applicable.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge.	☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring: ■ Include the reason for the monitoring well, and, ■ The duration of the planned monitoring.	☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	**Geo-Thermal:** ☐ Include a description of the geothermal heat exchange project, ☐ The amount of water to be diverted and re-injected for the project, ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Rockcliff Operating New Mexico LLC
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☒ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 12th day of July 20 16, for the State Engineer,

Tom Blaine, P.E., State Engineer

By: _____ _____
Signature Print

Title: Juan Hernandez, Engr Specialist Supervisor
Print

FOR OSE INTERNAL USE

Application for Permit, Form wr-07

File No.: C-3965	Trn No.: 590331

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

1A Depth of the well shall not exceed the thickness of the valley fill.

4 No water shall be appropriated and beneficially used under this permit.

6 The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C Driller's well record must be filed with the State Engineer within 20 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request.

C2 No water shall be diverted from this well except for testing purposes which shall not exceed ten (10) cumulative days, and well shall be plugged or capped on or before , unless a permit to use water from this well is acquired from the Office of the State Engineer.

P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between geologic zones.

Trn Desc: C 03965 POD1-5

File Number: C 03965
Trn Number: 590331

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

Q The State Engineer retains jurisdiction over this permit.

R Pursuant to section 72-8-1 NMSA, the permittee shall allow the State Engineer and his representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

LOG The Point of Diversion C 03965 POD1 must be completed and the Well Log filed on or before 07/31/2017.

LOG The Point of Diversion C 03965 POD2 must be completed and the Well Log filed on or before 07/31/2017.

LOG The Point of Diversion C 03965 POD3 must be completed and the Well Log filed on or before 07/31/2017.

LOG The Point of Diversion C 03965 POD4 must be completed and the Well Log filed on or before 07/31/2017.

LOG The Point of Diversion C 03965 POD5 must be completed and the Well Log filed on or before 07/31/2017.

IT IS THE PERMITTEES RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

SHOULD THE PERMITTEE CHANGE THE PURPOSE OF USE TO OTHER THAN MONITORING PURPOSES, AN APPLICATION SHALL BE ACQUIRED FROM THE OFFICE OF THE STATE ENGINEER.

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

ACTION OF STATE ENGINEER

Notice of Intention Rcvd:	Date Rcvd. Corrected:
Formal Application Rcvd: 07/05/2016	Pub. of Notice Ordered:
Date Returned - Correction:	Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 12th day of Jul A.D., 2016

Tom Blaine, P.E., State Engineer

By: Juan Hernandez

Trn Desc: C 03965 POD1-5

File Number: C 03965
Trn Number: 590331

Mosaic Potash Carlsbad Inc.
PO Box 71
1361 Potash Mines Road
Carlsbad, NM 88221
www.mosaicco.com

Tel: (575) 628-6544
Fax: (575) 887-0589

June 23, 2016

Via E-Mail

New Mexico Office of the State Engineer
District II - Roswell
1900 West Second St.
Roswell, New Mexico 88201

Re: Application for Permit to Install Monitoring Wells
UL/E Section 24 T23S R28E
API No. 30-015-26536

To Whom it May Concern:

Mosaic Potash Carlsbad Inc. ("Mosaic") is the owner of the property located at NW/4, Section 24 Township 23S, Range 28E, Eddy County, New Mexico. Rockcliff Operating New Mexico LLC ("RC") will be installing groundwater monitoring wells on Mosaic's property to evaluate groundwater concentrations in the area. The monitoring wells will be installed approximately 3 miles west of Loving, 0.25 miles north of CR 741 and west of Fisherman's Lane. We have approved the installation of the wells.

Thank you.

Very truly yours,
Mosaic Potash Carlsbad Inc.

Peter Jackson
Vice President – Potash Operations

cc: Mandel C. Selber, RC Vice President – Land, via email: mselber@rockcliffenergy.com
Sarah Sorenson, Mosaic Environmental Counsel, via email: sarah.sorenson@mosaicco.com
Alysia Ness, Mosaic Supervisor, Land and Minerals, via email: alysia.ness@mosaicco.com

Locator Tool Report

General Information:

Application ID: 29 Date: 07-11-2016 Time: 10:56:49

WR File Number: C-MW-1
Purpose: OTHER

Applicant First Name: ROCKCLIFF OP NM LLC
Applicant Last Name: NICK KOCH

GW Basin: CARLSBAD
County: EDDY

Critical Management Area Name(s): NONE
Special Condition Area Name(s): NONE
Land Grant Name: NON GRANT

PLSS Description (New Mexico Principal Meridian):

NW 1/4 of NE 1/4 of SW 1/4 of NW 1/4 of Section 24, Township 23S, Range 28E.

Coordinate System Details:

Geographic Coordinates:

Latitude:	32 Degrees	17 Minutes	39.7 Seconds	N
Longitude:	104 Degrees	2 Minutes	46.5 Seconds	W

Universal Transverse Mercator Zone: 13N

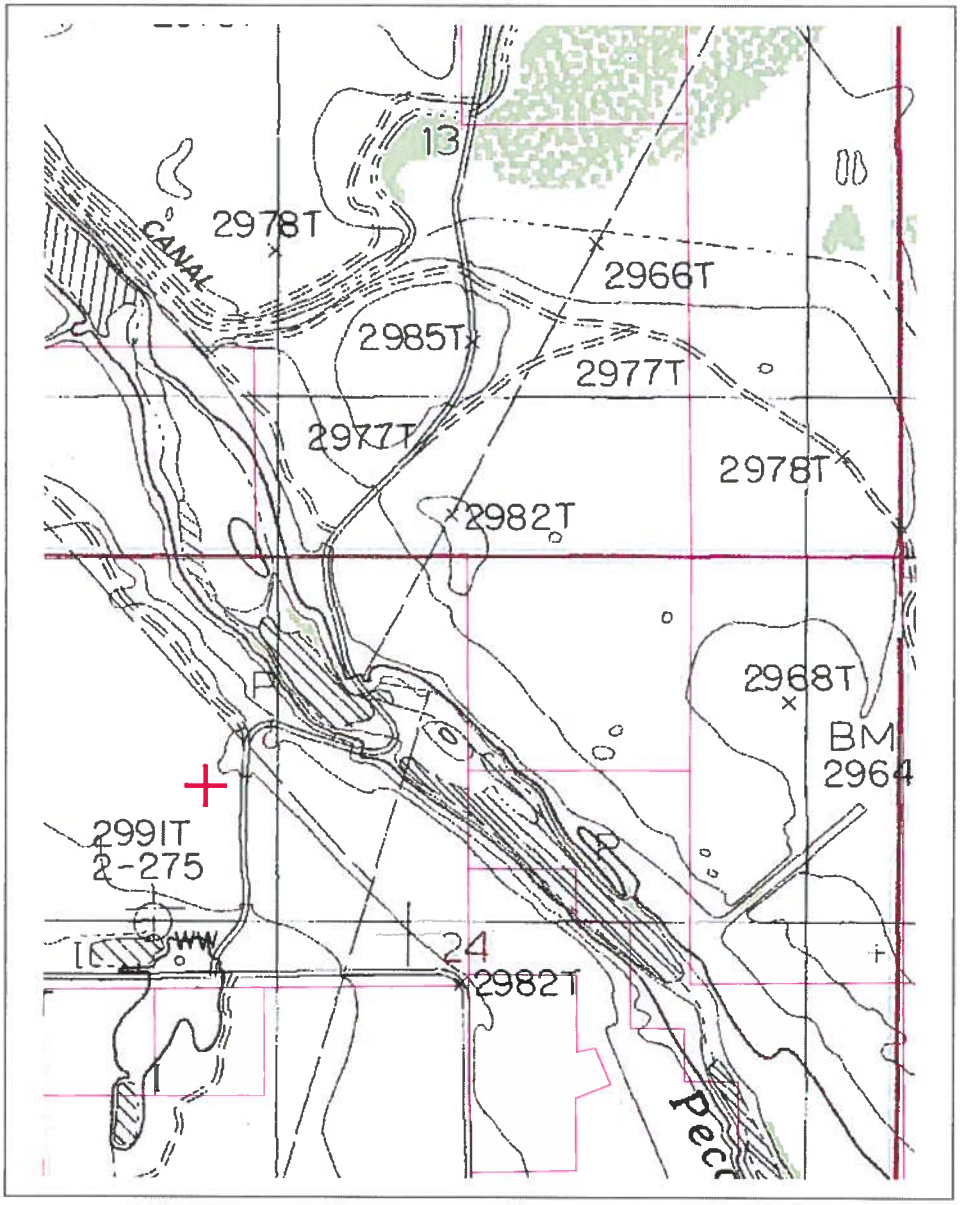
NAD 1983(92) (Meters)	N: 3,573,462	E: 589,801
NAD 1983(92) (Survey Feet)	N: 11,723,933	E: 1,935,038
NAD 1927 (Meters)	N: 3,573,260	E: 589,849
NAD 1927 (Survey Feet)	N: 11,723,271	E: 1,935,198

State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 143,541	E: 192,039
NAD 1983(92) (Survey Feet)	N: 470,935	E: 630,049
NAD 1927 (Meters)	N: 143,523	E: 179,487
NAD 1927 (Survey Feet)	N: 470,876	E: 588,866

NEW MEXICO OFFICE OF STATE ENGINEER

Locator Tool Report



WR File Number: C-MW-1 Scale: 1:14,368

Northing/Easting: UTM83(92) (Meter): N: 3,573,462 E: 589,801

Northing/Easting: SPCS83(92) (Feet): N: 470,935 E: 630,049

GW Basin: Carlsbad

Print Date: 07/11/2016

Locator Tool Report

General Information:

Application ID: 29 Date: 07-11-2016 Time: 10:59:13

WR File Number: C-MW-2
Purpose: OTHER

Applicant First Name: ROCKCLIFF OP NM LLC
Applicant Last Name: NICK KOCH

GW Basin: CARLSBAD
County: EDDY

Critical Management Area Name(s): NONE
Special Condition Area Name(s): NONE
Land Grant Name: NON GRANT

PLSS Description (New Mexico Principal Meridian):

NE 1/4 of NE 1/4 of SW 1/4 of NW 1/4 of Section 24, Township 23S, Range 28E.

Coordinate System Details:

Geographic Coordinates:

Latitude:	32 Degrees	17 Minutes	40.0 Seconds	N
Longitude:	104 Degrees	2 Minutes	43.0 Seconds	W

Universal Transverse Mercator Zone: 13N

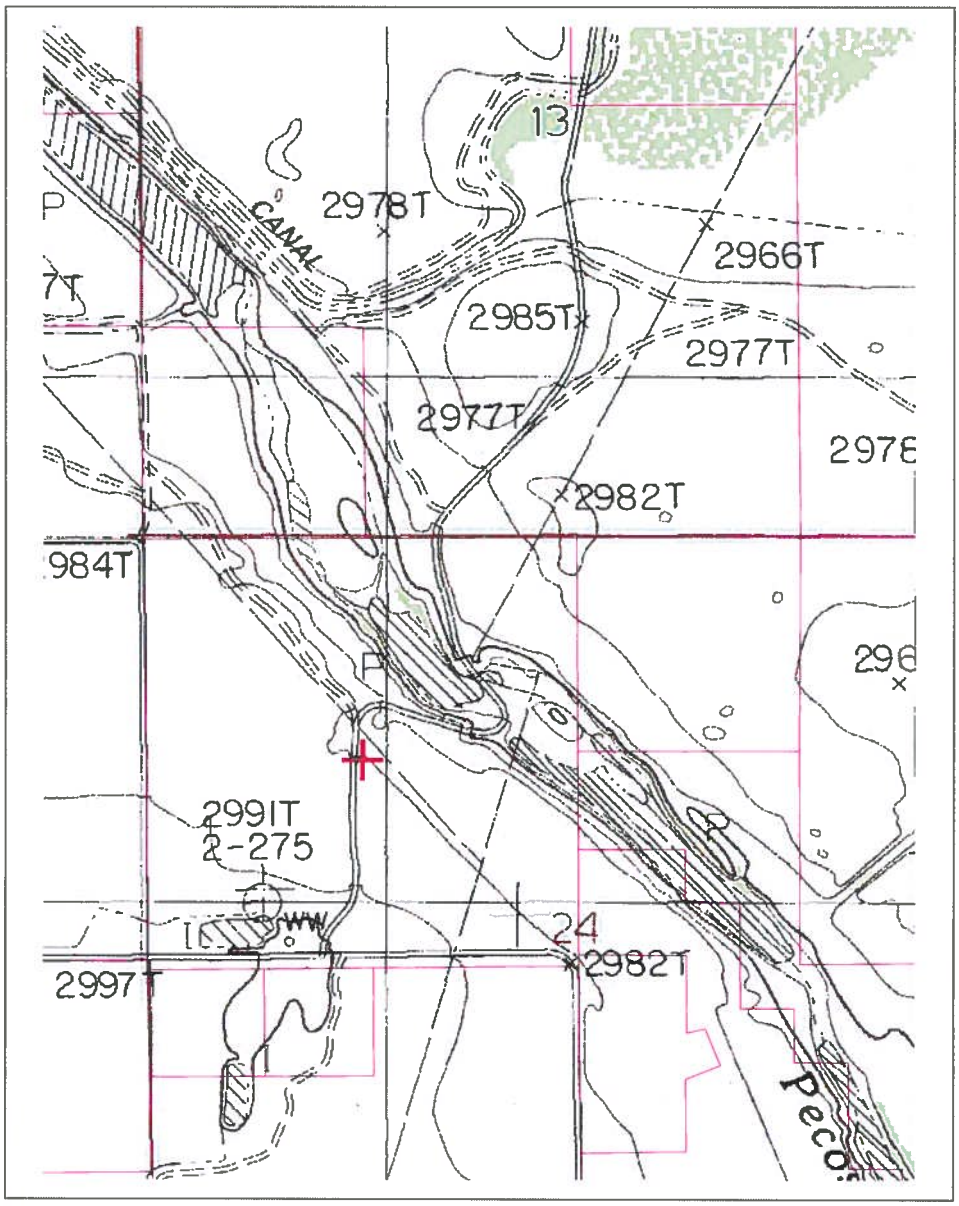
NAD 1983(92) (Meters)	N: 3,573,474	E: 589,892
NAD 1983(92) (Survey Feet)	N: 11,723,972	E: 1,935,338
NAD 1927 (Meters)	N: 3,573,272	E: 589,941
NAD 1927 (Survey Feet)	N: 11,723,310	E: 1,935,497

State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 143,553	E: 192,131
NAD 1983(92) (Survey Feet)	N: 470,972	E: 630,348
NAD 1927 (Meters)	N: 143,534	E: 179,578
NAD 1927 (Survey Feet)	N: 470,913	E: 589,165

NEW MEXICO OFFICE OF STATE ENGINEER

Locator Tool Report



WR File Number: C-MW-2 Scale: 1:14,368

Northing/Easting: UTM83(92) (Meter): N: 3,573,474 E: 589,892

Northing/Easting: SPCS83(92) (Feet): N: 470,972 E: 630,348

GW Basin: Carlsbad

Print Date: 07/11/2016

Locator Tool Report

General Information:

Application ID:29 Date: 07-11-2016 Time: 11:00:16

WR File Number: C-MW-3
Purpose: OTHER

Applicant First Name: ROCKCLIFF OP NM LLC
Applicant Last Name: NICK KOCH

GW Basin: CARLSBAD
County: EDDY

Critical Management Area Name(s): NONE
Special Condition Area Name(s): NONE
Land Grant Name: NON GRANT

PLSS Description (New Mexico Principal Meridian):

SE 1/4 of SW 1/4 of NE 1/4 of NW 1/4 of Section 24, Township 23S, Range 28E.

Coordinate System Details:

Geographic Coordinates:

Latitude:	32 Degrees	17 Minutes	41.7 Seconds	N
Longitude:	104 Degrees	2 Minutes	38.3 Seconds	W

Universal Transverse Mercator Zone: 13N

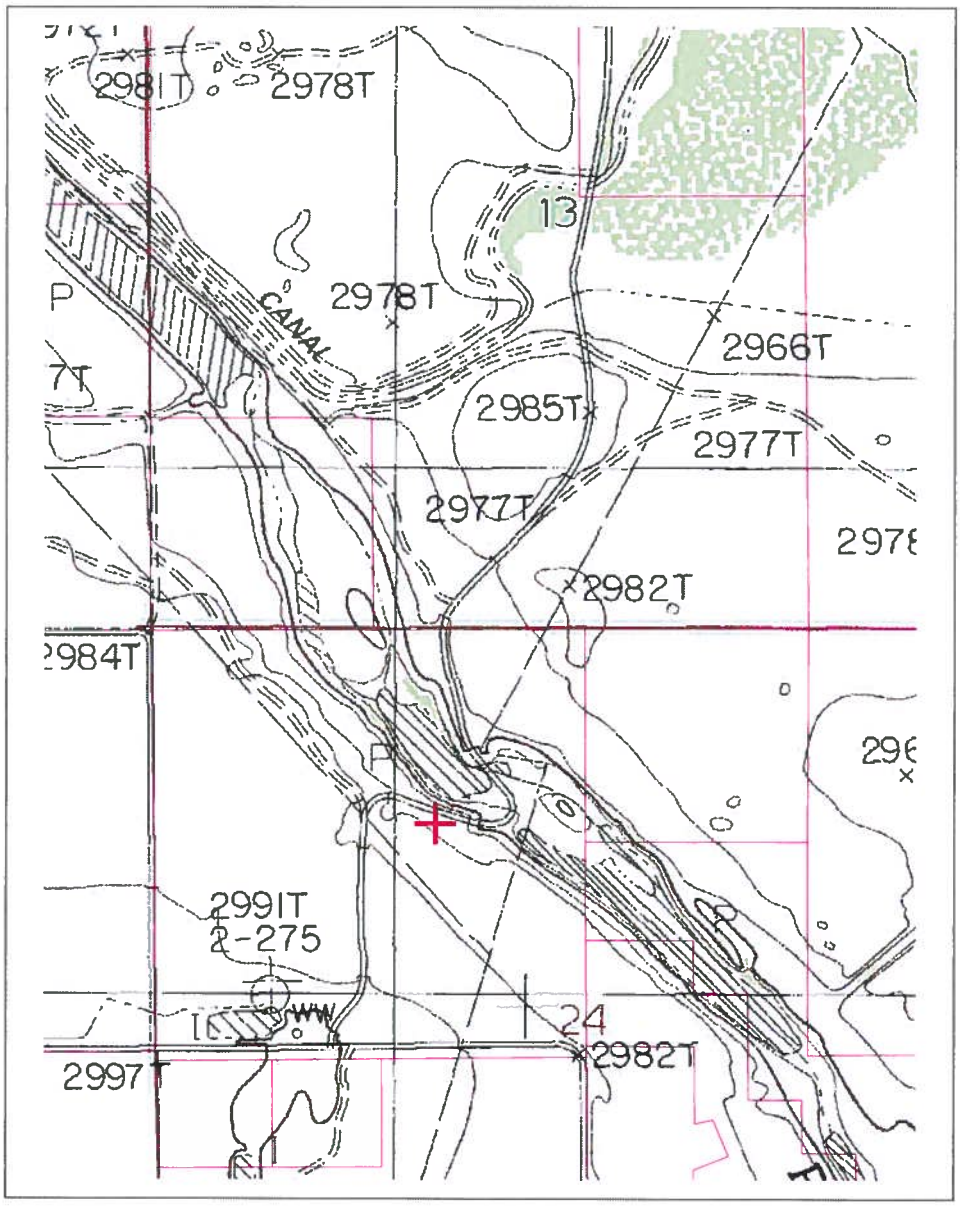
NAD 1983(92) (Meters)	N: 3,573,526	E: 590,015
NAD 1983(92) (Survey Feet)	N: 11,724,142	E: 1,935,740
NAD 1927 (Meters)	N: 3,573,324	E: 590,063
NAD 1927 (Survey Feet)	N: 11,723,481	E: 1,935,899

State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 143,604	E: 192,254
NAD 1983(92) (Survey Feet)	N: 471,140	E: 630,752
NAD 1927 (Meters)	N: 143,586	E: 179,701
NAD 1927 (Survey Feet)	N: 471,081	E: 589,569

NEW MEXICO OFFICE OF STATE ENGINEER

Locator Tool Report



WR File Number: C-MW-3 Scale: 1:14,368

Northing/Easting: UTM83(92) (Meter): N: 3,573,526 E: 590,015

Northing/Easting: SPCS83(92) (Feet): N: 471,140 E: 630,752

GW Basin: Carlsbad

Print Date: 07/11/2016

Locator Tool Report

General Information:

Application ID: 29 Date: 07-11-2016 Time: 11:01:22

WR File Number: C-MW-4
Purpose: OTHER

Applicant First Name: ROCKCLIFF OP NM LLC
Applicant Last Name: NICK KOCH

GW Basin: CARLSBAD
County: EDDY

Critical Management Area Name(s): NONE
Special Condition Area Name(s): NONE
Land Grant Name: NON GRANT

PLSS Description (New Mexico Principal Meridian):

SE 1/4 of SE 1/4 of NW 1/4 of NW 1/4 of Section 24, Township 23S, Range 28E.

Coordinate System Details:

Geographic Coordinates:

Latitude:	32 Degrees	17 Minutes	42.7 Seconds	N
Longitude:	104 Degrees	2 Minutes	44.3 Seconds	W

Universal Transverse Mercator Zone: 13N

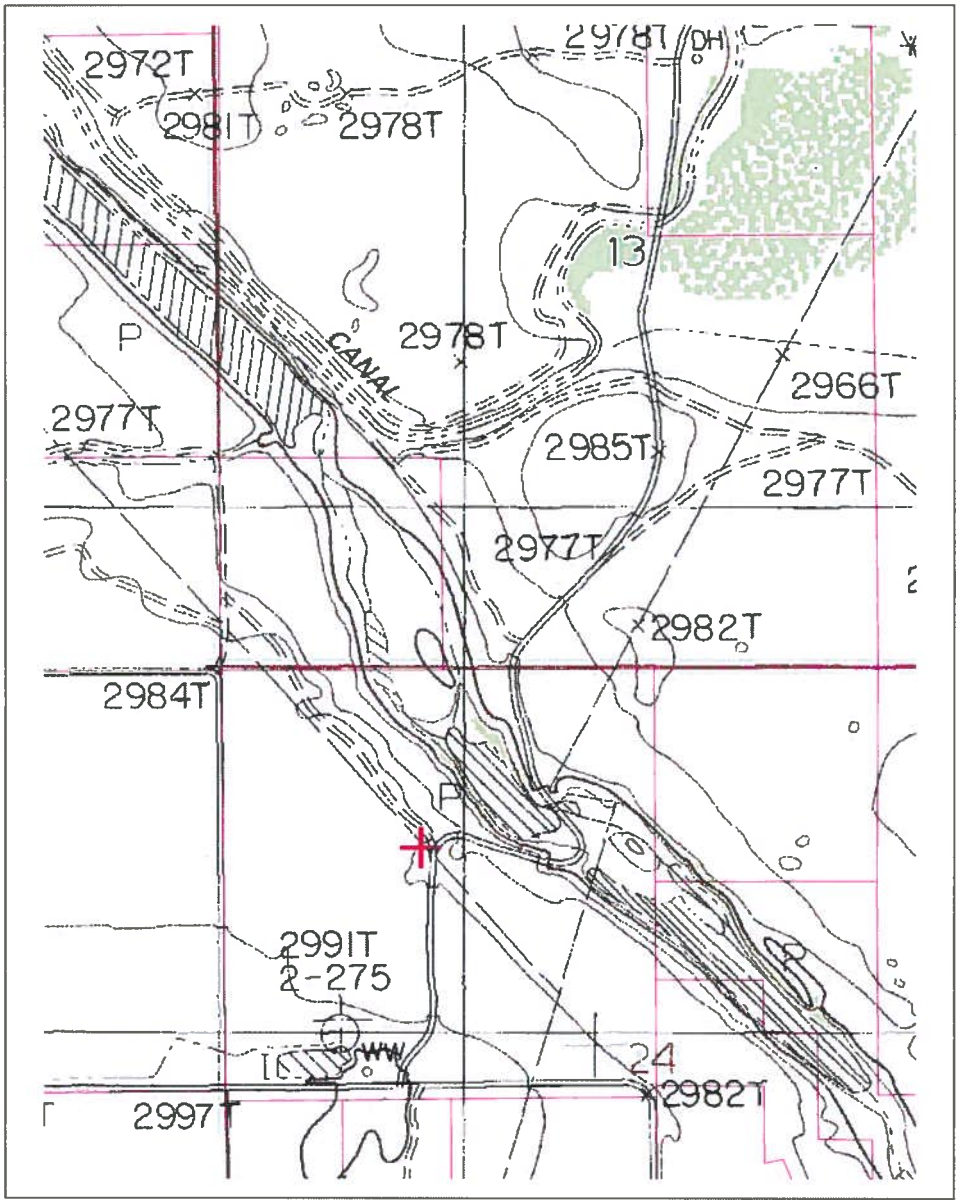
NAD 1983(92) (Meters)	N: 3,573,556	E: 589,856
NAD 1983(92) (Survey Feet)	N: 11,724,243	E: 1,935,218
NAD 1927 (Meters)	N: 3,573,355	E: 589,904
NAD 1927 (Survey Feet)	N: 11,723,581	E: 1,935,377

State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 143,635	E: 192,094
NAD 1983(92) (Survey Feet)	N: 471,244	E: 630,230
NAD 1927 (Meters)	N: 143,617	E: 179,542
NAD 1927 (Survey Feet)	N: 471,184	E: 589,047

NEW MEXICO OFFICE OF STATE ENGINEER

Locator Tool Report



WR File Number: C-MW-4 Scale: 1:14,368

Northing/Easting: UTM83(92) (Meter): N: 3,573,556 E: 589,856

Northing/Easting: SPCS83(92) (Feet): N: 471,244 E: 630,230

GW Basin: Carlsbad

Print Date: 07/11/2016

Locator Tool Report

General Information:

Application ID: 29 Date: 07-11-2016 Time: 11:02:22

WR File Number: C-MW-5
Purpose: OTHER

Applicant First Name: ROCKCLIFF OP NM LLC
Applicant Last Name: NICK KOCH

GW Basin: CARLSBAD
County: EDDY

Critical Management Area Name(s): NONE
Special Condition Area Name(s): NONE
Land Grant Name: NON GRANT

PLSS Description (New Mexico Principal Meridian):

NE 1/4 of NE 1/4 of SW 1/4 of NW 1/4 of Section 24, Township 23S, Range 28E.

Coordinate System Details:

Geographic Coordinates:

Latitude:	32 Degrees	17 Minutes	38.0 Seconds	N
Longitude:	104 Degrees	2 Minutes	42.3 Seconds	W

Universal Transverse Mercator Zone: 13N

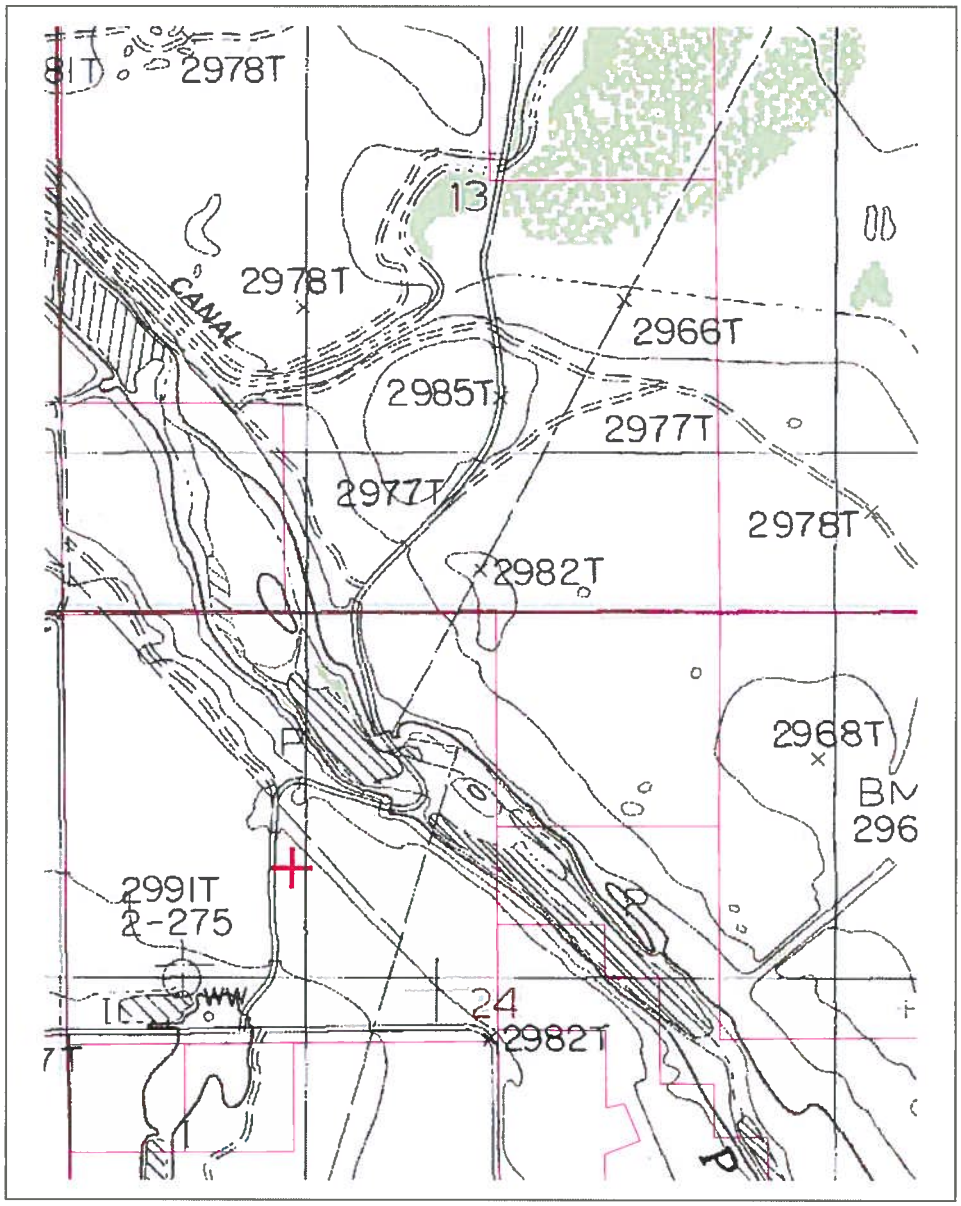
NAD 1983(92) (Meters)	N: 3,573,412	E: 589,911
NAD 1983(92) (Survey Feet)	N: 11,723,771	E: 1,935,399
NAD 1927 (Meters)	N: 3,573,211	E: 589,959
NAD 1927 (Survey Feet)	N: 11,723,109	E: 1,935,559

State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 143,491	E: 192,149
NAD 1983(92) (Survey Feet)	N: 470,770	E: 630,409
NAD 1927 (Meters)	N: 143,473	E: 179,596
NAD 1927 (Survey Feet)	N: 470,711	E: 589,226

NEW MEXICO OFFICE OF STATE ENGINEER

Locator Tool Report



WR File Number: C-MW-5 Scale: 1:14,368

Northing/Easting: UTM83(92) (Meter): N: 3,573,412 E: 589,911

Northing/Easting: SPCS83(92) (Feet): N: 470,770 E: 630,409

GW Basin: Carlsbad

Print Date: 07/11/2016

OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION – ROSWELL OFFICE

OFFICIAL RECEIPT NUMBER: 2 - 37250 DATE: 7/5/2016 FILE NO.: _____

TOTAL: 25.00 RECEIVED: Twenty five DOLLARS CHECK NO.: 130 CASH: _____

PAYOR: Samuel Enis ADDRESS: 2408 W. 7th St CITY: Austin STATE: TX

ZIP: 78703 RECEIVED BY: C. Guillen

INSTRUCTIONS: Indicate the number of actions to the left of the appropriate type of filing. Complete the receipt information. **Original** to payor; **pink** copy to Program Support/ASD; and **yellow** copy for Water Rights. If a mistake is made, void the original and all copies and submit to Program Support/ASD as part of your daily deposit.

A. Ground Water Filing Fees

___	1. Change of Ownership of Water Right	$ 2.00
___	2. Application to Appropriate or Supplement Domestic 72-12-1 Well	$ 125.00
___	3. Application to Repair or Deepen 72-12-1 Well	$ 75.00
___	4. Application for Replacement 72-12-1 Well	$ 75.00
___	5. Application to Change Purpose of Use 72-12-1 Well	$ 75.00
___	6. Application for Stock Well/Temp. Use	$ 5.00
___	7. Application to Appropriate Irrigation, Municipal, or Commercial Use	$ 25.00
___	8. Declaration of Water Right	$ 1.00
___	9. Application for Supplemental Non 72-12-1 Well	$ 25.00
___	10. Application to Change Place or Purpose of Use Non 72-12-1 Well	$ 25.00
___	11. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Ground Water	$ 50.00
___	12. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Ground Water	$ 50.00
___	13. Application to Change Point of Diversion of Non 72-12-1 Well	$ 25.00
___	14. Application to Repair or Deepen Non 72-12-1 Well	$ 5.00
5	15. Application for Test, Expl. Observ. Well	$ 5.00
___	16. Application for Extension of Time	$ 25.00
___	17. Proof of Application to Beneficial Use	$ 25.00
___	18. Notice of Intent to Appropriate	$ 25.00

B. Surface Water Filing Fees

___	1. Change of Ownership of a Water Right	$ 5.00
___	2. Declaration of Water Right	$ 10.00
___	3. Amended Declaration	$ 25.00
___	4. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Surface Water	$ 200.00
___	5. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Surface Water	$ 200.00
___	6. Application to Change Point of Diversion	$ 100.00
___	7. Application to Change Place and/or Purpose of Use	$ 100.00
___	8. Application to Appropriate	$ 25.00
___	9. Notice of Intent to Appropriate	$ 25.00
___	10. Application for Extension of Time	$ 50.00
___	11. Supplemental Well to a Surface Right	$ 100.00
___	12. Return Flow Credit	$ 100.00
___	13. Proof of Completion of Works	$ 25.00
___	14. Proof of Application of Water to Beneficial Use	$ 25.00
___	15. Water Development Plan	$ 100.00
___	16. Declaration of Livestock Water Impoundment	$ 10.00
___	17. Application for Livestock Water Impoundment	$ 10.00

APPLICANT COPY

All fees are non-refundable.

C. Well Driller Fees

___	1. Application for Well Driller's License	$ 50.00
___	2. Application for Renewal of Well Driller's License	$ 50.00
___	3. Application to Amend Well Driller's License	$ 50.00

D. Reproduction of Documents

___ @ 0.25¢ $_____

___ Map(s) $_____

E. Certification $_____

F. Other $_____

G. Comments:

- Walk in

ATTACHMENT 2

BORING LOGS AND WELL COMPLETION DIAGRAMS

SQ Environmental, LLC
PO Box 1991
Austin, TX 78767-1991
(512) 417-4659 or (512) 656-9445

Boring/Well Log

BORING ID: MW-04

WELL ID: MW-04

PROJECT INFORMATION

PROJECT: Candelario 24 #1 SWD Battery
SITE LOCATION: Loving, New Mexico
JOB NUMBER: 1072.002.005
PROJECT MANAGER: Susan Litherland, PE
LOGGED BY: Sam Enis, PG
DATE(S) DRILLED: 7/18/2016

DRILLING INFORMATION

DRILLING COMPANY: Straub Drilling
DRILLING METHOD: Air Rotary
TOTAL DEPTH: 40 ft bgs
BORING DIAMETER: 6-inch WELL DIAMETER: 2-inch

TOP OF CASING ELEVATION: NM
GROUND ELEVATION: NM

N. LATITUDE	W. LONGITUDE
NA	NA

REMARKS: Soil cuttings logged at surface. Locking flush-mounted surface completion installed at well.

INITIAL WATER LEVEL IN WELL: 32 ft bgs

STATIC WATER LEVEL IN WELL: 30.07 ft btoc

DEPTH	LITHOLOGY	USCS	DESCRIPTION	SAMPLE ID	REC. %	WELL COMPLETION	INSTALLATION NOTES
0		SW	0-15' Sand with gravel, reddish brown, fine to medium grained, sub-rounded gravel (black and gray) up to 1-inch diameter. Dry.		100		Bentonite-cement grout from 0-25 ft bgs
10			Color change to light brown from 5-15'. Increased gravel content.		100		
			15-20' Clayey Sand. Brown, fine grained, damp.				
20		SC	20-40' Sandy clay and sand. Occasional gravel, brown.		100		Bentonite from 25-27 ft bgs
							20/40 Sand from: 27-40 ft bgs
30			Wet at 32 ft.		100		Screen 0.01" slotted from 29.5 -39.5 ft bgs
40							

SQ Environmental, LLC
PO Box 1991
Austin, TX 78767-1991
(512) 417-4659 or (512) 656-9445

Boring/Well Log

BORING ID: MW-05

WELL ID: MW-05

PROJECT INFORMATION

PROJECT: Candelario 24 #1 SWD Battery
SITE LOCATION: Loving, New Mexico
JOB NUMBER: 1072.002.005
PROJECT MANAGER: Susan Litherland, PE
LOGGED BY: Sam Enis, PG
DATE(S) DRILLED: 7/18/2016

DRILLING INFORMATION

DRILLING COMPANY: Straub Drilling
DRILLING METHOD: Air Rotary
TOTAL DEPTH: 40 ft bgs
BORING DIAMETER: 6-inch WELL DIAMETER: 2-inch

TOP OF CASING ELEVATION: NM
GROUND ELEVATION: NM

N. LATITUDE	W. LONGITUDE
NA	NA

REMARKS: Soil cuttings logged at surface. Locking flush-mounted surface completion installed at well.

INITIAL WATER LEVEL IN WELL: 30 ft bgs

STATIC WATER LEVEL IN WELL: 26.69 ft btoc

DEPTH	LITHOLOGY	USCS	DESCRIPTION	SAMPLE ID	REC. %	WELL COMPLETION	INSTALLATION NOTES
0		SW	0-15' Sand with gravel, reddish brown, fine to medium grained, sub-rounded gravel (black and gray) up to 1-inch diameter. Dry.		100		Bentonite-cement grout from 0-21 ft bgs
10			Color change to light brown from 5-15'. Increased gravel content.		100		
			15-20' Clayey Sand. Brown, fine grained, damp.				Bentonite from 21-23 ft bgs
20		SC	20-40' Sandy clay and sand. Occasional gravel, brown.				20/40 Sand from: 23-35 ft bgs
					100		
30			Wet at 30 ft.				Screen 0.01" slotted from 24.5 -34.5 ft bgs
40							

ATTACHMENT 3

LABORATORY ANALYTICAL REPORTS

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

July 26, 2016

Sam Enis
SQ Environmental
PO Box 1991
Austin, TX 78767

Work Order: **HS16070777**

Laboratory Results for: **Loving NM 1072.002.005**

Dear Sam,

ALS Environmental received 8 sample(s) on Jul 20, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Dane J. Wacasey

Client: SQ Environmental
Project: Loving NM 1072.002.005
Work Order: HS16070777

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16070777-01	MW-01	Water		18-Jul-2016 14:10	20-Jul-2016 08:35	☐
HS16070777-02	MW-02	Water		18-Jul-2016 10:50	20-Jul-2016 08:35	☐
HS16070777-03	MW-03	Water		18-Jul-2016 13:05	20-Jul-2016 08:35	☐
HS16070777-04	MW-04	Water		18-Jul-2016 15:30	20-Jul-2016 08:35	☐
HS16070777-05	MW-05	Water		19-Jul-2016 09:40	20-Jul-2016 08:35	☐
HS16070777-06	WW-01	Water		19-Jul-2016 10:05	20-Jul-2016 08:35	☐
HS16070777-07	WW-02	Water		19-Jul-2016 10:30	20-Jul-2016 08:35	☐
HS16070777-08	WW-03	Water		19-Jul-2016 10:40	20-Jul-2016 08:35	☐

Client: SQ Environmental **CASE NARRATIVE**
Project: Loving NM 1072.002.005
Work Order: HS16070777

Metals by Method SW6020

Batch ID: 106445

Sample ID: **HS16070743-01MS**
- MS/MSD and DUPs are for an unrelated sample

WetChemistry by Method M2540C

Batch ID: R278715

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM2320B

Batch ID: R278588B

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E300

Batch ID: R278551

Sample ID: **WW-03 (HS16070777-08MS D)**
- Chloride and Sulfate recovered below the lower control limit, however, the result in the parent sample is greater than 4x the spike amount

Sample ID: **MW-02 (HS16070777-02MSD)**
- Chloride & Sulfate MS/MSD Spike recoveries w/in limits

Client: SQ Environmental
Project: Loving NM 1072.002.005
Sample ID: MW-01
Collection Date: 18-Jul-2016 14:10

ANALYTICAL REPORT
WorkOrder:HS16070777
Lab ID:HS16070777-01
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ALKALINITY BY SM2320B		**Method:SM2320B**				Analyst: KMU
Alkalinity, Bicarbonate (As CaCO3)	**124**		**5.00**	**mg/L**	1	23-Jul-2016 20:58
Alkalinity, Total (As CaCO3)	**124**		**5.00**	**mg/L**	1	23-Jul-2016 20:58
ICP-MS METALS BY SW6020A		**Method:SW6020**		Prep:SW3010A / 21-Jul-2016		Analyst: RPM
Calcium	**2,840**		**50.0**	**mg/L**	100	26-Jul-2016 10:37
Magnesium	**646**		**2.00**	**mg/L**	10	25-Jul-2016 16:07
Potassium	**45.6**		**2.00**	**mg/L**	10	25-Jul-2016 16:07
Sodium	**3,770**		**20.0**	**mg/L**	100	26-Jul-2016 10:37
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**				Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**27,400**		**10.0**	**mg/L**	1	25-Jul-2016 17:20
ANIONS BY E300.0		**Method:E300**				Analyst: JBA
Chloride	**12,600**		**100**	**mg/L**	200	22-Jul-2016 03:46
Sulfate	**1,770**		**20.0**	**mg/L**	40	22-Jul-2016 03:32

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
Sample ID: MW-02
Collection Date: 18-Jul-2016 10:50

ANALYTICAL REPORT
WorkOrder:HS16070777
Lab ID:HS16070777-02
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ALKALINITY BY SM2320B		**Method:SM2320B**				Analyst: KMU
Alkalinity, Bicarbonate (As CaCO3)	**226**		**5.00**	**mg/L**	1	23-Jul-2016 21:03
Alkalinity, Total (As CaCO3)	**226**		**5.00**	**mg/L**	1	23-Jul-2016 21:03
ICP-MS METALS BY SW6020A		**Method:SW6020**		Prep:SW3010A / 21-Jul-2016		Analyst: RPM
Calcium	**711**		**5.00**	**mg/L**	10	26-Jul-2016 10:46
Magnesium	**254**		**2.00**	**mg/L**	10	26-Jul-2016 10:46
Potassium	**6.37**		**0.200**	**mg/L**	1	25-Jul-2016 16:10
Sodium	**920**		**2.00**	**mg/L**	10	26-Jul-2016 10:46
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**				Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**7,640**		**10.0**	**mg/L**	1	25-Jul-2016 17:20
ANIONS BY E300.0		**Method:E300**				Analyst: JBA
Chloride	**1,880**		**20.0**	**mg/L**	40	22-Jul-2016 05:14
Sulfate	**2,170**		**20.0**	**mg/L**	40	22-Jul-2016 05:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
Sample ID: MW-03
Collection Date: 18-Jul-2016 13:05

ANALYTICAL REPORT
WorkOrder:HS16070777
Lab ID:HS16070777-03
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ALKALINITY BY SM2320B		**Method:SM2320B**				Analyst: KMU
Alkalinity, Bicarbonate (As CaCO3)	**402**		**5.00**	**mg/L**	1	23-Jul-2016 21:09
Alkalinity, Total (As CaCO3)	**402**		**5.00**	**mg/L**	1	23-Jul-2016 21:09
ICP-MS METALS BY SW6020A		**Method:SW6020**		Prep:SW3010A / 21-Jul-2016		Analyst: RPM
Calcium	**732**		**50.0**	**mg/L**	100	26-Jul-2016 10:49
Magnesium	**1,190**		**20.0**	**mg/L**	100	26-Jul-2016 10:49
Potassium	**83.8**		**20.0**	**mg/L**	100	26-Jul-2016 10:49
Sodium	**5,110**		**20.0**	**mg/L**	100	26-Jul-2016 10:49
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**				Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**27,800**		**10.0**	**mg/L**	1	25-Jul-2016 17:20
ANIONS BY E300.0		**Method:E300**				Analyst: JBA
Chloride	**10,900**		**100**	**mg/L**	200	22-Jul-2016 06:12
Sulfate	**5,770**		**100**	**mg/L**	200	22-Jul-2016 06:12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
Sample ID: MW-04
Collection Date: 18-Jul-2016 15:30

ANALYTICAL REPORT
WorkOrder:HS16070777
Lab ID:HS16070777-04
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ALKALINITY BY SM2320B		**Method:SM2320B**				Analyst: KMU
Alkalinity, Bicarbonate (As CaCO3)	**201**		**5.00**	**mg/L**	1	23-Jul-2016 21:14
Alkalinity, Total (As CaCO3)	**201**		**5.00**	**mg/L**	1	23-Jul-2016 21:14
ICP-MS METALS BY SW6020A		**Method:SW6020**		Prep:SW3010A / 21-Jul-2016		Analyst: RPM
Calcium	**694**		**5.00**	**mg/L**	10	26-Jul-2016 10:52
Magnesium	**254**		**2.00**	**mg/L**	10	26-Jul-2016 10:52
Potassium	**8.24**		**0.200**	**mg/L**	1	25-Jul-2016 16:15
Sodium	**935**		**2.00**	**mg/L**	10	26-Jul-2016 10:52
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**				Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**7,520**		**10.0**	**mg/L**	1	25-Jul-2016 17:20
ANIONS BY E300.0		**Method:E300**				Analyst: JBA
Chloride	**1,990**		**20.0**	**mg/L**	40	22-Jul-2016 06:26
Sulfate	**2,210**		**20.0**	**mg/L**	40	22-Jul-2016 06:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
Sample ID: MW-05
Collection Date: 19-Jul-2016 09:40

ANALYTICAL REPORT
WorkOrder:HS16070777
Lab ID:HS16070777-05
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ALKALINITY BY SM2320B		**Method:SM2320B**				Analyst: KMU
Alkalinity, Bicarbonate (As CaCO3)	**227**		**5.00**	**mg/L**	1	23-Jul-2016 21:19
Alkalinity, Total (As CaCO3)	**227**		**5.00**	**mg/L**	1	23-Jul-2016 21:19
ICP-MS METALS BY SW6020A		**Method:SW6020**		Prep:SW3010A / 21-Jul-2016		Analyst: RPM
Calcium	**529**		**5.00**	**mg/L**	10	26-Jul-2016 10:55
Magnesium	**306**		**2.00**	**mg/L**	10	26-Jul-2016 10:55
Potassium	**5.92**		**0.200**	**mg/L**	1	25-Jul-2016 16:18
Sodium	**923**		**2.00**	**mg/L**	10	26-Jul-2016 10:55
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**				Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**7,300**		**10.0**	**mg/L**	1	25-Jul-2016 17:20
ANIONS BY E300.0		**Method:E300**				Analyst: JBA
Chloride	**1,860**		**20.0**	**mg/L**	40	22-Jul-2016 06:55
Sulfate	**2,230**		**20.0**	**mg/L**	40	22-Jul-2016 06:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
Sample ID: WW-01
Collection Date: 19-Jul-2016 10:05

ANALYTICAL REPORT
WorkOrder:HS16070777
Lab ID:HS16070777-06
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ALKALINITY BY SM2320B		**Method:SM2320B**				Analyst: KMU
Alkalinity, Bicarbonate (As CaCO3)	**180**		**5.00**	**mg/L**	1	23-Jul-2016 21:37
Alkalinity, Total (As CaCO3)	**180**		**5.00**	**mg/L**	1	23-Jul-2016 21:37
ICP-MS METALS BY SW6020A		**Method:SW6020**		Prep:SW3010A / 21-Jul-2016		Analyst: RPM
Calcium	**729**		**5.00**	**mg/L**	10	26-Jul-2016 10:58
Magnesium	**220**		**2.00**	**mg/L**	10	26-Jul-2016 10:58
Potassium	**6.46**		**0.200**	**mg/L**	1	25-Jul-2016 16:21
Sodium	**874**		**2.00**	**mg/L**	10	26-Jul-2016 10:58
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**				Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**7,880**		**10.0**	**mg/L**	1	25-Jul-2016 17:20
ANIONS BY E300.0		**Method:E300**				Analyst: JBA
Chloride	**1,950**		**20.0**	**mg/L**	40	22-Jul-2016 08:08
Sulfate	**2,070**		**20.0**	**mg/L**	40	22-Jul-2016 08:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
Sample ID: WW-02
Collection Date: 19-Jul-2016 10:30

ANALYTICAL REPORT
WorkOrder:HS16070777
Lab ID:HS16070777-07
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ALKALINITY BY SM2320B		**Method:SM2320B**				Analyst: KMU
Alkalinity, Bicarbonate (As CaCO3)	**696**		**5.00**	**mg/L**	1	23-Jul-2016 21:43
Alkalinity, Total (As CaCO3)	**696**		**5.00**	**mg/L**	1	23-Jul-2016 21:43
ICP-MS METALS BY SW6020A		**Method:SW6020**		Prep:SW3010A / 21-Jul-2016		Analyst: RPM
Calcium	**281**		**5.00**	**mg/L**	10	25-Jul-2016 16:30
Magnesium	**212**		**2.00**	**mg/L**	10	25-Jul-2016 16:30
Potassium	**33.0**		**2.00**	**mg/L**	10	25-Jul-2016 16:30
Sodium	**1,090**		**2.00**	**mg/L**	10	25-Jul-2016 16:30
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**				Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**8,840**		**10.0**	**mg/L**	1	25-Jul-2016 17:20
ANIONS BY E300.0		**Method:E300**				Analyst: JBA
Chloride	**2,030**		**20.0**	**mg/L**	40	22-Jul-2016 08:37
Sulfate	**2,550**		**20.0**	**mg/L**	40	22-Jul-2016 08:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
Sample ID: WW-03
Collection Date: 19-Jul-2016 10:40

ANALYTICAL REPORT
WorkOrder:HS16070777
Lab ID:HS16070777-08
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ALKALINITY BY SM2320B		**Method:SM2320B**				Analyst: KMU
Alkalinity, Bicarbonate (As CaCO3)	**229**		**5.00**	**mg/L**	1	23-Jul-2016 21:48
Alkalinity, Total (As CaCO3)	**229**		**5.00**	**mg/L**	1	23-Jul-2016 21:48
ICP-MS METALS BY SW6020A		**Method:SW6020**		Prep:SW3010A / 21-Jul-2016		Analyst: RPM
Calcium	**694**		**5.00**	**mg/L**	10	26-Jul-2016 11:01
Magnesium	**217**		**2.00**	**mg/L**	10	26-Jul-2016 11:01
Potassium	**6.06**		**0.200**	**mg/L**	1	25-Jul-2016 16:33
Sodium	**910**		**2.00**	**mg/L**	10	26-Jul-2016 11:01
TOTAL DISSOLVED SOLIDS BY SM2540C		**Method:M2540C**				Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	**7,760**		**10.0**	**mg/L**	1	25-Jul-2016 17:20
ANIONS BY E300.0		**Method:E300**				Analyst: JBA
Chloride	**1,900**		**100**	**mg/L**	200	22-Jul-2016 09:50
Sulfate	**2,180**		**100**	**mg/L**	200	22-Jul-2016 09:50

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: SQ Environmental
Project: Loving NM 1072.002.005
WorkOrder: HS16070777

Batch ID: 106445 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16070777-01	1	50	50 (mL)	1
HS16070777-02	1	50	50 (mL)	1
HS16070777-03	1	50	50 (mL)	1
HS16070777-04	1	50	50 (mL)	1
HS16070777-05	1	50	50 (mL)	1
HS16070777-06	1	50	50 (mL)	1
HS16070777-07	1	50	50 (mL)	1
HS16070777-08	1	50	50 (mL)	1

Client: SQ Environmental
Project: Loving NM 1072.002.005
WorkOrder: HS16070777

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 106445	**Test Name :** ICP-MS METALS BY SW6020A			**Matrix:** Water		
HS16070777-01	MW-01	18 Jul 2016 14:10		21 Jul 2016 09:25	26 Jul 2016 10:37	100
HS16070777-01	MW-01	18 Jul 2016 14:10		21 Jul 2016 09:25	25 Jul 2016 16:07	10
HS16070777-02	MW-02	18 Jul 2016 10:50		21 Jul 2016 09:25	26 Jul 2016 10:46	10
HS16070777-02	MW-02	18 Jul 2016 10:50		21 Jul 2016 09:25	25 Jul 2016 16:10	1
HS16070777-03	MW-03	18 Jul 2016 13:05		21 Jul 2016 09:25	26 Jul 2016 10:49	100
HS16070777-04	MW-04	18 Jul 2016 15:30		21 Jul 2016 09:25	26 Jul 2016 10:52	10
HS16070777-04	MW-04	18 Jul 2016 15:30		21 Jul 2016 09:25	25 Jul 2016 16:15	1
HS16070777-05	MW-05	19 Jul 2016 09:40		21 Jul 2016 09:25	26 Jul 2016 10:55	10
HS16070777-05	MW-05	19 Jul 2016 09:40		21 Jul 2016 09:25	25 Jul 2016 16:18	1
HS16070777-06	WW-01	19 Jul 2016 10:05		21 Jul 2016 09:25	26 Jul 2016 10:58	10
HS16070777-06	WW-01	19 Jul 2016 10:05		21 Jul 2016 09:25	25 Jul 2016 16:21	1
HS16070777-07	WW-02	19 Jul 2016 10:30		21 Jul 2016 09:25	25 Jul 2016 16:30	10
HS16070777-08	WW-03	19 Jul 2016 10:40		21 Jul 2016 09:25	26 Jul 2016 11:01	10
HS16070777-08	WW-03	19 Jul 2016 10:40		21 Jul 2016 09:25	25 Jul 2016 16:33	1
Batch ID R278551	**Test Name :** ANIONS BY E300.0			**Matrix:** Water		
HS16070777-01	MW-01	18 Jul 2016 14:10			22 Jul 2016 03:46	200
HS16070777-01	MW-01	18 Jul 2016 14:10			22 Jul 2016 03:32	40
HS16070777-02	MW-02	18 Jul 2016 10:50			22 Jul 2016 05:14	40
HS16070777-03	MW-03	18 Jul 2016 13:05			22 Jul 2016 06:12	200
HS16070777-04	MW-04	18 Jul 2016 15:30			22 Jul 2016 06:26	40
HS16070777-05	MW-05	19 Jul 2016 09:40			22 Jul 2016 06:55	40
HS16070777-06	WW-01	19 Jul 2016 10:05			22 Jul 2016 08:08	40
HS16070777-07	WW-02	19 Jul 2016 10:30			22 Jul 2016 08:37	40
HS16070777-08	WW-03	19 Jul 2016 10:40			22 Jul 2016 09:50	200
Batch ID R278588 B	**Test Name :** ALKALINITY BY SM2320B			**Matrix:** Water		
HS16070777-01	MW-01	18 Jul 2016 14:10			23 Jul 2016 20:58	1
HS16070777-02	MW-02	18 Jul 2016 10:50			23 Jul 2016 21:03	1
HS16070777-03	MW-03	18 Jul 2016 13:05			23 Jul 2016 21:09	1
HS16070777-04	MW-04	18 Jul 2016 15:30			23 Jul 2016 21:14	1
HS16070777-05	MW-05	19 Jul 2016 09:40			23 Jul 2016 21:19	1
HS16070777-06	WW-01	19 Jul 2016 10:05			23 Jul 2016 21:37	1
HS16070777-07	WW-02	19 Jul 2016 10:30			23 Jul 2016 21:43	1
HS16070777-08	WW-03	19 Jul 2016 10:40			23 Jul 2016 21:48	1

Client: SQ Environmental
Project: Loving NM 1072.002.005
WorkOrder: HS16070777

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R278715	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C			**Matrix:** Water		
HS16070777-01	MW-01	18 Jul 2016 14:10			25 Jul 2016 17:20	1
HS16070777-02	MW-02	18 Jul 2016 10:50			25 Jul 2016 17:20	1
HS16070777-03	MW-03	18 Jul 2016 13:05			25 Jul 2016 17:20	1
HS16070777-04	MW-04	18 Jul 2016 15:30			25 Jul 2016 17:20	1
HS16070777-05	MW-05	19 Jul 2016 09:40			25 Jul 2016 17:20	1
HS16070777-06	WW-01	19 Jul 2016 10:05			25 Jul 2016 17:20	1
HS16070777-07	WW-02	19 Jul 2016 10:30			25 Jul 2016 17:20	1
HS16070777-08	WW-03	19 Jul 2016 10:40			25 Jul 2016 17:20	1

Client: SQ Environmental
Project: Loving NM 1072.002.005
WorkOrder: HS16070777

QC BATCH REPORT

Batch ID: 106445 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-106445** Units: **mg/L** Analysis Date: **22-Jul-2016 15:16**
Client ID: Run ID: **ICPMS05_278537** SeqNo: **3769752** PrepDate: **21-Jul-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	ND	0.500								
Magnesium	ND	0.200								
Potassium	ND	0.200								
Sodium	ND	0.200								

LCS Sample ID: **LCS-106445** Units: **mg/L** Analysis Date: **22-Jul-2016 15:19**
Client ID: Run ID: **ICPMS05_278537** SeqNo: **3769753** PrepDate: **21-Jul-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	4.842	0.500	5	0	96.8	80 - 120				
Magnesium	4.657	0.200	5	0	93.1	80 - 120				
Potassium	4.926	0.200	5	0	98.5	80 - 120				
Sodium	4.981	0.200	5	0	99.6	80 - 120				

MS Sample ID: **HS16070743-01MS** Units: **mg/L** Analysis Date: **22-Jul-2016 15:28**
Client ID: Run ID: **ICPMS05_278537** SeqNo: **3769756** PrepDate: **21-Jul-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	198.5	0.500	5	200	-30.5	80 - 120				SEO
Magnesium	64.88	0.200	5	54.79	202	80 - 120				SO
Potassium	7.874	0.200	5	2.798	102	80 - 120				
Sodium	122.2	0.200	5	112.7	190	80 - 120				SO

MSD Sample ID: **HS16070743-01MSD** Units: **mg/L** Analysis Date: **22-Jul-2016 15:31**
Client ID: Run ID: **ICPMS05_278537** SeqNo: **3769757** PrepDate: **21-Jul-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	198.8	0.500	5	200	-23.7	80 - 120	198.5	0.172	20	SEO
Magnesium	65.59	0.200	5	54.79	216	80 - 120	64.88	1.09	20	SO
Potassium	7.681	0.200	5	2.798	97.7	80 - 120	7.874	2.49	20	
Sodium	118	0.200	5	112.7	106	80 - 120	122.2	3.5	20	O

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
WorkOrder: HS16070777

QC BATCH REPORT

Batch ID: 106445 **Instrument: ICPMS05** **Method: SW6020**

PDS Sample ID: **HS16070743-01BS** Units: **mg/L** Analysis Date: **22-Jul-2016 15:34**
Client ID: Run ID: **ICPMS05_278537** SeqNo: **3769758** PrepDate: **21-Jul-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	190.9	0.500	10	200	-91.1	75 - 125				SEO
Magnesium	66.87	0.200	10	54.79	121	75 - 125				O
Potassium	11.81	0.200	10	2.798	90.1	75 - 125				
Sodium	115.2	0.200	10	112.7	24.6	75 - 125				SO

SD Sample ID: **HS16070743-01 DIL SX** Units: **mg/L** Analysis Date: **22-Jul-2016 15:25**
Client ID: Run ID: **ICPMS05_278537** SeqNo: **3769755** PrepDate: **21-Jul-2016** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Calcium	200.8	2.50					200	0.416	10	
Magnesium	58.51	1.00					54.79	6.78	10	
Potassium	3.111	1.00					2.798	11.2	10	R
Sodium	113.2	1.00					112.7	0.46	10	

The following samples were analyzed in this batch:

HS16070777-01	HS16070777-02	HS16070777-03	HS16070777-04
HS16070777-05	HS16070777-06	HS16070777-07	HS16070777-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
WorkOrder: HS16070777

QC BATCH REPORT

Batch ID: R278551 **Instrument: ICS2100** **Method: E300**

MBLK Sample ID: **WBLKW3-072116** Units: **mg/L** Analysis Date: **22-Jul-2016 07:25**
Client ID: Run ID: **ICS2100_278551** SeqNo: **3769425** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.500								
Sulfate	ND	0.500								

LCS Sample ID: **WLCSW3-072116** Units: **mg/L** Analysis Date: **22-Jul-2016 02:34**
Client ID: Run ID: **ICS2100_278551** SeqNo: **3769405** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.37	0.500	20	0	102	90 - 110				
Sulfate	20.73	0.500	20	0	104	90 - 110				

LCSD Sample ID: **WLCSDW3-072116** Units: **mg/L** Analysis Date: **22-Jul-2016 02:48**
Client ID: Run ID: **ICS2100_278551** SeqNo: **3769406** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.38	0.500	20	0	102	90 - 110	20.37	0.0393	20	
Sulfate	20.86	0.500	20	0	104	90 - 110	20.73	0.601	20	

MS Sample ID: **HS16070777-08MS** Units: **mg/L** Analysis Date: **22-Jul-2016 09:21**
Client ID: **WW-03** Run ID: **ICS2100_278551** SeqNo: **3769433** PrepDate: DF: **40**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	2295	20.0	400	1869	107	80 - 120				O
Sulfate	2526	20.0	400	2101	106	80 - 120				O

MS Sample ID: **HS16070777-08MS** Units: **mg/L** Analysis Date: **22-Jul-2016 10:05**
Client ID: **WW-03** Run ID: **ICS2100_278551** SeqNo: **3769436** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	3811	100	2000	1897	95.7	80 - 120				
Sulfate	4065	100	2000	2181	94.2	80 - 120				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
WorkOrder: HS16070777

QC BATCH REPORT

Batch ID: R278551 **Instrument: ICS2100** **Method: E300**

MS Sample ID: **HS16070777-02MS** Units: **mg/L** Analysis Date: **22-Jul-2016 05:28**
Client ID: **MW-02** Run ID: **ICS2100_278551** SeqNo: **3769417** PrepDate: DF: **40**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	2286	20.0	400	1883	101	80 - 120				O
Sulfate	2593	20.0	400	2172	105	80 - 120				O

MS Sample ID: **HS16070777-02MS** Units: **mg/L** Analysis Date: **22-Jul-2016 04:15**
Client ID: **MW-02** Run ID: **ICS2100_278551** SeqNo: **3769412** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	3981	100	2000	1959	101	80 - 120				
Sulfate	4351	100	2000	2347	100	80 - 120				

MSD Sample ID: **HS16070777-08MSD** Units: **mg/L** Analysis Date: **22-Jul-2016 10:19**
Client ID: **WW-03** Run ID: **ICS2100_278551** SeqNo: **3769437** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	3868	100	2000	1897	98.6	80 - 120	3811	1.5	20	
Sulfate	4194	100	2000	2181	101	80 - 120	4065	3.12	20	

MSD Sample ID: **HS16070777-08MSD** Units: **mg/L** Analysis Date: **22-Jul-2016 09:35**
Client ID: **WW-03** Run ID: **ICS2100_278551** SeqNo: **3769434** PrepDate: DF: **40**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	2207	20.0	400	1897	77.5	80 - 120	2295	3.91	20	SO
Sulfate	2442	20.0	400	2181	65.3	80 - 120	2526	3.37	20	SO

MSD Sample ID: **HS16070777-02MSD** Units: **mg/L** Analysis Date: **22-Jul-2016 04:30**
Client ID: **MW-02** Run ID: **ICS2100_278551** SeqNo: **3769413** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	3945	100	2000	1883	103	80 - 120	3981	0.929	20	
Sulfate	4314	100	2000	2172	107	80 - 120	4351	0.854	20	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
WorkOrder: HS16070777

QC BATCH REPORT

Batch ID: R278551 **Instrument: ICS2100** **Method: E300**

MSD Sample ID: **HS16070777-02MSD** Units: **mg/L** Analysis Date: **22-Jul-2016 05:43**
Client ID: **MW-02** Run ID: **ICS2100_278551** SeqNo: **3769418** PrepDate: DF: **40**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	2247	20.0	400	1883	91.1	80 - 120	2286	1.72	20	O
Sulfate	2563	20.0	400	2172	97.6	80 - 120	2593	1.19	20	O

The following samples were analyzed in this batch: HS16070777-01 HS16070777-02 HS16070777-03 HS16070777-04 HS16070777-05 HS16070777-06 HS16070777-07 HS16070777-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
WorkOrder: HS16070777

QC BATCH REPORT

Batch ID: R278588B **Instrument: ManTech01** **Method: SM2320B**

MBLK Sample ID: **WBLKW2-160723** Units: **mg/L** Analysis Date: **23-Jul-2016 20:38**
Client ID: Run ID: **ManTech01_278588** SeqNo: **3770152** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.00								
Alkalinity, Total (As CaCO3)	ND	5.00								

LCS Sample ID: **LCS-ALK2-160723** Units: **mg/L** Analysis Date: **23-Jul-2016 20:44**
Client ID: Run ID: **ManTech01_278588** SeqNo: **3770153** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1030	5.00	1000	0	103	80 - 120				

LCSD Sample ID: **LCSD-ALK2-160723** Units: **mg/L** Analysis Date: **23-Jul-2016 20:50**
Client ID: Run ID: **ManTech01_278588** SeqNo: **3770154** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1031	5.00	1000	0	103	80 - 120	1030	0.105	20	

DUP Sample ID: **HS16070834-01DUP** Units: **mg/L** Analysis Date: **23-Jul-2016 22:14**
Client ID: Run ID: **ManTech01_278588** SeqNo: **3770170** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	135.8	5.00					135.4	0.273	20	
Alkalinity, Total (As CaCO3)	135.8	5.00					135.4	0.273	20	

The following samples were analyzed in this batch: HS16070777-01 HS16070777-02 HS16070777-03 HS16070777-04 HS16070777-05 HS16070777-06 HS16070777-07 HS16070777-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
WorkOrder: HS16070777

QC BATCH REPORT

Batch ID: R278715 **Instrument: Balance1** **Method: M2540C**

MBLK Sample ID: **WBLK-072516** Units: **mg/L** Analysis Date: **25-Jul-2016 17:20**
Client ID: Run ID: **Balance1_278715** SeqNo: **3772988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	ND	10.0								

LCS Sample ID: **WLCS-072516** Units: **mg/L** Analysis Date: **25-Jul-2016 17:20**
Client ID: Run ID: **Balance1_278715** SeqNo: **3772989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	1052	10.0	1000	0	105	85 - 115				

DUP Sample ID: **HS16070822-01DUP** Units: **mg/L** Analysis Date: **25-Jul-2016 17:20**
Client ID: Run ID: **Balance1_278715** SeqNo: **3772987** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	10120	10.0					9900	2.2	5	

DUP Sample ID: **HS16070748-01DUP** Units: **mg/L** Analysis Date: **25-Jul-2016 17:20**
Client ID: Run ID: **Balance1_278715** SeqNo: **3772974** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	956	10.0					996	4.1	5	

The following samples were analyzed in this batch:

HS16070777-01	HS16070777-02	HS16070777-03	HS16070777-04
HS16070777-05	HS16070777-06	HS16070777-07	HS16070777-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: SQ Environmental
Project: Loving NM 1072.002.005
WorkOrder: **HS16070777**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	16-022-0	27-Mar-2017
California	2919	31-Jul-2016
Illinois	003872	09-May-2017
Kansas	E-10352 2014-2015	31-Jul-2016
Kentucky	96 2016-2017	30-Apr-2017
Louisiana	03087 2016/2017	30-Jun-2017
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R193 2016-2017	30-Apr-2017
Oklahoma	2015-047	31-Aug-2016
Texas	TX104704231-16-17	30-Apr-2017

Client: SQ Environmental
Project: Loving NM 1072.002.005
Work Order: HS16070777

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16070777-01	MW-01	Login	7/20/2016 2:32:44 PM	PMG	1C
HS16070777-01	MW-01	Login	7/20/2016 2:32:44 PM	PMG	1C
HS16070777-02	MW-02	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-02	MW-02	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-03	MW-03	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-03	MW-03	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-04	MW-04	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-04	MW-04	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-05	MW-05	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-05	MW-05	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-06	WW-01	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-06	WW-01	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-07	WW-02	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-07	WW-02	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-08	WW-03	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-08	WW-03	Login	7/20/2016 2:35:55 PM	PMG	1C
HS16070777-01	MW-01	Return	7/21/2016 12:18:07 PM	OFO	1C
HS16070777-02	MW-02	Return	7/21/2016 12:18:07 PM	OFO	1C
HS16070777-03	MW-03	Return	7/21/2016 12:18:07 PM	OFO	1C
HS16070777-04	MW-04	Return	7/21/2016 12:18:07 PM	OFO	1C
HS16070777-05	MW-05	Return	7/21/2016 12:18:07 PM	OFO	1C
HS16070777-06	WW-01	Return	7/21/2016 12:18:07 PM	OFO	1C
HS16070777-07	WW-02	Return	7/21/2016 12:18:07 PM	OFO	1C
HS16070777-08	WW-03	Return	7/21/2016 12:18:07 PM	OFO	1C

Sample Receipt Checklist

Client Name: SQ ENVIRONMENTAL TX
Work Order: HS16070777
Date/Time Received: **20-Jul-2016 08:35**
Received by: **RPG**

Checklist completed by: *Paresh M. Giga* eSignature — 20-Jul-2016 Date
Reviewed by: *Dane J. Wacasey* eSignature — 22-Jul-2016 Date

Matrices: **Water**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.3c/1.8c U/C	IR6	
Cooler(s)/Kit(s):	25545		
Date/Time sample(s) sent to storage:	7/20/16 14:55		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	N/A ☐
pH adjusted?	Yes ☑	No ☐	N/A ☐
pH adjusted by:	Si Ma		

Login Notes: Dates on COC reference June collection and relinquishment. July was used for receipt and collection dates.
WW-02 pH>2 for Metals. Preserved with 1ml HNO3 on 7/20/16 12:05.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Everett, WA +1 425 356 2600 | Fort Collins, CO +1 970 490 1511 | Holland, MI +1 616 399 6070

Chain of Custody For

Page 1 of 1

COC ID: 145007

HS16070777

SQ Environmental

Loving NM 1072.002.005

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	1072.002.005	Project Name	Loving NM 1072.002.005
Work Order		Project Number	1072.002.005
Company Name	SQ Environmental	Bill To Company	SQ Environmental
Send Report To	Sam Enis	Invoice Attn	Accounts Payable
Address	PO Box 1991	Address	PO Box 1991
City/State/Zip	Austin, TX 78767	City/State/Zip	Austin, TX 78767
Phone	(281) 413-4266	Phone	(281) 413-4266
Fax		Fax	
e-Mail Address	S.enis@sqenv.com	e-Mail Address	

A	9056_S (9056 Chloride)
B	MOIST_SW3550 (Moist%)
C	TDS_W 2540C (SM2540C - TDS)
D	ICP_TW (6020 Total Ca, Mg, K, Na)
E	300_W (E300.0 - Chloride, Sulfate)
F	ALK_W 2320B (SM2320B - Alkalinity (Bicarb.))
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-01	6-18-16	1410	Water	2,8	2	X		X	X	X	X					
2	MW-02		10:50				X		X	X	X	X					
3	MW-03		1305				X		X	X	X	X					
4	MW-04		1530				X		X	X	X	X					
5	MW-05	6-19-16	9:40				X		X	X	X	X					
6	WW-01		10:05				X		X	X	X	X					
7	WW-02		1030				X		X	X	X	X					
8	WW-03		1040				X		X	X	X	X					
9							(SE)										
10																	

Sampler(s) Please Print & Sign: Sam Enis

Shipment Method: Fedex

Required Turnaround Time: (Check Box) TAT: 5 days Other:

Results Due Date:

Relinquished by: Date: 6-19-16 Time: 1400 Received by:

Relinquished by: Date: Time: Received by (Laboratory): R Cigs 7/20/16 08:35

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: [SQ Envt Loving NM]

Cooler ID	Cooler Temp.
25545	UC 1.3
1R6	
CF+05	

QC Package: (Check One Box Below)

QC Level: STD

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be

ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

25545

CUSTODY SEAL

Date: 7-19-2016 Time: 14:00
Name: CLIFF LITHERLAND
Company: SGF

Seal Broken By:

Date: 07/20/16

25545 JUL 20 2016