1R - 952

MONITORING REPORT

05/05/2009

Larson & Associates, Inc.
Environmental Consultants

1R952

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May 5, 2009

Mr. Glenn Von Gonten, Sr. Hydrologist
State of New Mexico – Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: OCD Remediation Project No. 1RP-952, North 10" Pipeline Release Delineation and Excavation Closure Report, Targa Midstream Services, LP, Unit B (NW/4, NE/4), Section 22, Township 21 South, Range 37 East, Lea County, New Mexico

Dear Mr. Von Gonten:

This report is submitted to the State of New Mexico Oil Conservation Division on behalf of Targa Midstream Services, LP (Targa) by Larson and Associates, Inc., its agent, and presents the results of remedial actions performed at referenced pipeline leak.

Based upon the results of this investigation, Targa believes the extended chloride contamination is not associated with the referenced pipeline release, but is the result of oilfield practices at nearby wells. Targa requests OCD case closure.

If you have any questions or concerns, please call me at 432.687.0901 to discuss.

Sincerely,

LARSON & ASSOCIATES, INC.

William D. Green, PG No. 136
Texas Licensed Professional Geologist
wgreen@laenvironmental.com

Attachments

CC Mr. Don Embrey – Targa, Midland, TX
Mr. Cal Wrangham – Targa, Midland, TX
Mr. Larry Johnson – OCD District 1

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Pipeline Release Delineation and Excavation Closure Report

North 10" Pipeline
Unit B, Section 22, T21S, R37E
Lea County, New Mexico

OCD Remediation Project No. 1RP-952

LAI Project No. 8-0132

May 5, 2009

Prepared for:
Targa Midstream Services, LP
6 Desta Drive, Suite 3300
Midland, Texas 79705

Prepared by:
William D. Green, PG No. 136
Texas Registered Professional Geologist

Larson & Associates, Inc.
507 North Marienfeld, Suite 200
Midland, Texas 79701

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Executive Summary

This report is submitted to the State of New Mexico Oil Conservation Division (OCD) on behalf of Targa Midstream Services, LP (Targa) by Larson and Associates, Inc. (LAI), its agent, and presents the results of delineation and remedial actions performed at referenced pipeline leak. The report has been prepared based upon the *Guidelines for Remediation of Leaks, Spills and Releases* (OCD, August 13, 1993).

Responsible Party Contact Information

Targa's contact for environmental concerns is:

Mr. Don Embrey, Advisor
Targa Resources – Permian Basin Region
6 Desta Drive, Suite 3300
Midland, Texas 79705
Office – 432.688.0542, Cell – 432.557.8831
Email – dembrey@targaresources.com

Release Information

The release occurred on August 16, 2002, about 2.8 miles northeast of Eunice, New Mexico, and was reported to the OCD on form C-141. The reported volume released was less than 5 barrels (bbl) of liquid which infiltrated near the point of release with no apparent overland flow. No product was recovered. Figure 1 presents the site and water well locations plotted on a topographic map. Appendix C presents the initial and final Form C-141.

General Site Characteristics

The release is located at latitude 32° 28' 05.36" north and longitude 103° 08' 52.41" west (Figure 1). The surface estate is owned by Mr. Charlie Bettis and is used for livestock grazing and oil and gas production. A railroad right-of-way is located about 250 feet west of the release.

The surface elevation is approximately 3,410 feet above mean sea level and slope gently east-southeast toward Monument Draw located about 4,500 feet east of the release. Surface soil is comprised of windblown sand with a vegetation cover of mesquite, with occasional shin oak, sand burr grass, and yucca. The nearest residence and domestic well is located about 900 feet north (up and cross gradient) of the release.

An oil well (Apache Corporation Northeast Drinkard Unit Well #824) is adjacent to northeast of the release location, and in the topological upgradient direction. Several other pipelines are either within the release response area, or are adjacent to the point of release (Figure 2).

Depth to groundwater is approximately 58.5 feet below ground surface (bgs), based on the four monitor wells completed at surface grade.

Soil Investigation

Initial release abatement measures included Targa excavating soil to expose, blind, and abandon the pipeline. Targa then contracted Environmental Plus, Inc. (EPI) to delineate the release, with activities conducted on July 19, 2005, August 29, 2005, August 31, 2005, October 24, 2005 and February 2, 2006. Soil investigation activities included collecting soil samples from the bottom of the excavation, backhoe trenches, and soil borings. Two borings (BH-1 and SB-4) were advanced below the groundwater level, with a temporary monitoring well (TMW-1) installed in boring SB-4.

The investigation results were submitted to the OCD in a letter dated June 30, 2006 (*Site Characterization and Soil Remediation Proposal, Targa Resources, Inc. – North 10-Inch Release Site (Ref. #210010), NW1/4 of the NE1/4, Section 22, T21S, R37E, Lea County, New Mexico*). In this report, Recommended Remediation Action Levels (RRALs) were determined using criteria published by *Guidelines for Remediation of Leaks, Spills and Releases*. The following RRAL were assigned to the site based on the total ranking score of 30:

Benzene:	10 milligrams per kilogram (mg/kg)
BTEX (benzene, toluene, ethylbenzene, and total xylenes):	50 mg/kg
TPH:	100 mg/kg

In September 2006, EPI deepened the excavation to approximately 11 feet bgs and expanded the sides to the current configuration. On October 16, 2006, twenty-one soil samples were collected from the sides of the expanded excavation. Fourteen samples were tested for chloride and reported concentrations from less than 16 mg/kg (SW-20) to 864 mg/kg (SW-10), with the highest chloride concentrations observed near the southwest corner of the excavation. The EPI soil sample results reported no concentrations of benzene, BTEX, nor TPH above the calculated RRAL.

On October 29 and 30, 2008, LAI installed six soil borings (B1 through B4, MW-1 and MW-2). Two soil borings (MW-1 and MW-2) were completed as temporary monitoring wells. TPH was below the RRAL (100 mg/kg) in all soil samples.

Chloride levels for soil in the upgradient-background boring (MW-1) ranged from 35.3 mg/kg to 371 mg/kg, with the high value observed in the 10 feet bgs sample. Please note, MW-1 is approximately 145 feet northwest and upslope from the point of release. Soil samples from MW-2 did not exhibit chloride concentrations above laboratory reporting levels until 30 feet bgs, where 281 mg/kg were detected. Chloride persisted in declining concentrations to 50 feet bgs. MW-2 is located approximately 130 feet south-southeast, and downslope, of release source. Sampling results indicated chlorides extended vertically to the groundwater; the lateral limits of the chlorides in soil were not determined during this phase of investigation.

On November 21, 2009, the results of the soil investigation, including final C-141, was submitted to the OCD in Hobbs and Santa Fe New Mexico. The report included a notice of groundwater water impairment due to chloride in groundwater that exceeded the New Mexico Water Quality Control Commission (WQCC) domestic water quality standard. The report proposed installing three monitor wells, installing a 20-mil thick liner in the excavation, and backfilling the excavation to the surface grade.

The workplan was approved by the OCD in Santa Fe on January 6, 2009. OCD communications and approval are presented in Appendix A.

Excavation Closure

On January 21, 2009, Akome Inc. installed a 20-mil thick high-density polyethylene (HDPE) liner in the excavation. The excavation was filled with clean soils acquired from a borrow area about ½-mile east of the site. The surface water contoured for drainage. Photographic document of the closure is presented in Appendix B.

Groundwater Investigation

On February 10, 2006, EPI collected groundwater sample aliquots from temporary monitor well TMW-1 for laboratory BTEX, chloride, and sulfate determination. The temporary well was subsequently plugged.

Groundwater laboratory samples from TMW-1 exhibited benzene (0.221 milligrams per liter, mg/l) at concentrations exceeding the New Mexico Water Quality Control Commission (WQCC) human health standard of 0.01 mg/l; toluene (0.298 mg/l), ethylbenzene (0.037 mg/l) and xylenes (0.075 mg/l) were less than the WQCC human health standards. Chloride and sulfate exhibited 3,799 mg/l and 468 mg/l, respectively. The chloride value exceeded the WQCC domestic water quality standard of 250 mg/l.

On October 29 and 30, 2008, LAI installed MW-1 and MW-2 north-northwest and south-southeast, respectfully, to approximate the known regional groundwater flow direction. Groundwater samples were collected and analyzed for BTEX volatile organic compounds, metals, and inorganics other than metals. BTEX was not reported above the method detection limits or WQCC human health standards in the groundwater samples. No dissolved metals, except manganese (0.255 mg/l, MW-1), exceeded the WQCC human health or domestic water quality standards. Chloride was reported at 190 mg/l and 824 mg/l in samples from wells MW-1 (upgradient) and MW-2 (downgradient), respectively. The sample from MW-2 exceeded the WQCC domestic water quality standard for chlorides (250 mg/l). Total Dissolved Solids (TDS) was 1,330 mg/l and 1,800 mg/l in samples from MW-1 and MW-2, respectively; both exceeded the WQCC domestic water quality standard of 1,000 mg/l.

On February 17, 2009, LAI mobilized to the site to install three monitor wells, and to convert the two temporary monitor wells to permanent monitor wells. MW-3 was installed approximately 115 feet southwest of the point of release; MW-4 was installed approximately 170 feet east-southeast from the point of release; MW-5 was installed in an excavation approximately 450 feet south-southeast from the point of release. Chloride concentrations observed in all soil samples from these three monitor wells was below action levels. Lateral soil delineation in these directions from the source was achieved.

After the installation of MW-3 through MW-5, all five site monitor wells were gauged, and the new monitor wells developed and sampled on March 2, 2009. Gauging data (Table 2) confirmed the groundwater flow direction towards the south-southeast, consistent with the regional gradient (Figure 3). Groundwater gradient at the site is calculated to be 0.00633 foot/foot.

The requested analyses for the newly-installed wells (MW-3 through MW-5) included heavy metals and common cations (Table 3), total alkalinity (as calcium carbonate), chloride and sulfate anions, and TDS (Table 4). Metals did not exceed WQCC action levels, but all three wells exhibited chloride and TDS concentrations exceeding the WQCC-published values. For holistic site evaluation purposes, analytical data from MW-1 and MW-2 (October 30, 2008), and the new monitor wells were plotted without regard to temporal variations. Laboratory data was plotted using Surfer® software. Chloride data plots indicate a chloride source emanating northeast of the Targa release as the primary influence on chemical distribution in the groundwater. A similar distribution of TDS is seen in those plotted values. Since both of these data plots have similar features, it is assumed from this data that groundwater chloride and TDS impacts are diffusing from a source northeast to easterly of the pipeline release.

Table 1 summarizes soil TPH and Chloride laboratory analyses. Appendix C presents boring lithology logs. Appendix D presents analytical laboratory report.

Conclusions

- Soil chlorides that may have emanated from the North 10" release have been delineated both vertically and horizontally.

- Groundwater flows from the north-northwest to the south-southeast at an approximate gradient of 0.00633 foot/foot.

- The data collected suggests that groundwater chloride and TDS concentration may be associated with a source to the northeast that is not a Targa asset.

Based on the presented data, Targa respectfully request site closure.

Table 1
Soil Analytical Data Summary
North 10-Inch Release (1RP-952) - Unit B, Sec 22, T21S, R37E
Targa Midstream Services, L.P.
Lea County, New Mexico

Sample ID	Date	PID	GRO C6-C12	DRO C12-C28	TPH C6-C28	Chlorides
RRAL:			---	---	1,000	250
DMNSN10071905ESW	7/19/2005	77.2	<10.0	<10.0	<10.0	29.0
DMNSN10071905WSW	7/19/2005	2,551	15.2	281	**296.2**	148
DMNSN10071905NSW	7/19/2005	16.1	<10.0	<10.0	<10.0	168
DMNSN10071905SSW	7/19/2005	6.7	<10.0	<10.0	<10.0	**1,130**
DMNSN10071905BH	7/19/2005	2,224	<10.0	<10.0	<10.0	18.8
BH-1 10'	8/31/2006	40.9	<10.0	<10.0	<10.0	84
BH-1 25'	8/31/2005	25.4	<10.0	<10.0	<10.0	**4,926**
BH-1 10'	10/24/2005	3.1	--	--	--	112
BH-1 15'	10/24/2005	3.5	--	--	--	**3,567**
BH-1 20'	10/24/2005	0.8	--	--	--	**1,536**
BH-1 25'	10/24/2005	0.5	--	--	--	**2,383**
BH-1 30'	10/24/2005	0.5	--	--	--	144
BH-1 35'	10/24/2005	0.5	--	--	--	**3,535**
BH-1 40'	10/24/2005	0.6	--	--	--	**1,344**
BH-1 45'	10/24/2005	0.5	--	--	--	**1,296**
BH-1 50'	10/24/2005	0.3	--	--	--	**960**
BH-1 55'	10/24/2005	1.1	--	--	--	**672**
BH-1 60'	10/24/2005	0.3	--	--	--	**512**
SB-4 10'-11'	2/2/2006	--	<10.0	<10.0	<10.0	25.2
SB-4 15'-16'	2/2/2006	--	<10.0	<10.0	<10.0	49.4
SB-4 65'-66'	2/2/2006	--	<10.0	<10.0	<10.0	**331**
SB-4 70'	2/2/2006	--	<10.0	<10.0	<10.0	**695**
B1-1'	10/29/2008	0.3	<15.7	<15.7	<15.7	<5.00
B1-5'	10/29/2008	0.3	<16.2	<16.2	<16.2	23.3
B1-10'	10/29/2008	0.3	<16.1	<16.1	<16.1	230
B1-15'	10/29/2008	0.3	<16.9	<16.9	<16.9	**581**
B1-20'	10/29/2008	0.4	<16.8	<16.8	<16.8	**818**
B1-30'	10/29/2008	0.2	<17.9	<17.9	<17.9	**1,230**
B1-40'	10/29/2008	0.2	<16.9	<16.9	<16.9	**1,730**
B1-50'	10/29/2008	0.2	<16.8	**24.1**	**24.1**	**590**
B2-1'	10/29/2008	0.2	<16.1	<16.1	<16.1	6.43
B2-5'	10/29/2008	0.3	<16.5	<16.5	<16.5	233
B2-10'	10/29/2008	0.2	<16.6	<16.6	<16.6	**628**
B2-15'	10/29/2008	0.2	<16.2	<16.2	<16.2	**707**
B2-20'	10/29/2008	0.2	<16.1	<16.1	<16.1	**1,080**
B2-30'	10/29/2008	0.0	<18.5	<18.5	<18.5	**3,310**
B2-40	10/29/2008	0.0	<17.0	<17.0	<17.0	**2,100**
B2-50'	10/29/2008	0.0	<17.1	<17.1	<17.1	**1,840**

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North 10-Inch Release (1RP-952) - Unit B, Sec 22, T21S, R37E
Targa Midstream Services, L.P.
Lea County, New Mexico

Sample ID	Date	PID	GRO C6-C12	DRO C12-C28	TPH C6-C28	Chlorides
RRAL:			---	---	1,000	250
B3-1'	10/29/2008	0.0	<15.7	<15.7	<15.7	<10.5
B3-5'	10/29/2008	0.0	<15.8	<15.8	<15.8	16.6
B3-10'	10/29/2008	0.0	<16.2	**17.2**	**17.2**	60.2
B3-15'	10/29/2008	0.0	<16.6	<16.6	<16.6	**678**
B3-20'	10/29/2008	0.0	<15.8	<15.8	<15.8	**429**
B3-30'	10/29/2008	0.0	<19.9	<19.9	<19.9	<13.3
B3-40'	10/29/2008	0.0	<16.0	<16.0	<16.0	<5.34
B3-50'	10/29/2008	0.0	<17.0	<17.0	<17.0	<11.3
B4-1'	10/30/2008	0.0	<16.4	<16.4	<16.4	240
B4-5'	10/30/2008	0.0	<15.6	<15.6	<15.6	181
B4-10'	10/30/2008	0.2	<16.6	<16.6	<16.6	<54.5
B4-15'	10/30/2008	0.0	<16.5	<16.5	<16.5	<52.0
B4-20'	10/30/2008	0.0	<16.0	<16.0	<16.0	<107
B4-30'	10/30/2008	0.0	<16.4	<16.4	<16.4	190
B4-40'	10/30/2008	0.0	<16.5	<16.5	<16.5	**251**
B4-50'	10/30/2008	0.0	<15.8	<15.8	<15.8	196
MW-1-1'	10/29/2008	0.7	<16.6	<16.6	<16.6	<5.00
MW-1-5'	10/29/2008	0.8	<16.2	<16.2	<16.2	35.3
MW-1-10'	10/29/2008	0.9	<17.1	<17.1	<17.1	**371**
MW-1-15'	10/29/2008	0.9	<15.8	<15.8	<15.8	171
MW-1-20'	10/29/2008	0.7	<15.7	<15.7	<15.7	110
MW-1-30'	10/29/2008	0.7	<16.8	<16.8	<16.8	82.7
MW-1-40'	10/29/2008	0.9	<16.6	<16.6	<16.6	90.7
MW-1-50'	10/29/2008	0.5	<16.6	<16.6	<16.6	140
MW-2-1'	10/30/2008	0.3	<16.8	<16.8	<16.8	<56.0
MW-2-5'	10/30/2008	0.4	<16.1	<16.1	<16.1	<53.5
MW-2-10'	10/30/2008	0.4	<16.9	<16.9	<16.9	<56.2
MW-2-15'	10/30/2008	0.3	<16.4	<16.4	<16.4	<109
MW-2-20'	10/30/2008	0.2	<15.4	<15.4	<15.4	<103
MW-2-30'	10/30/2008	0.0	<17.4	<17.4	<17.4	**281**
MW-2-40'	10/30/2008	0.0	<17.5	<17.5	<17.5	240
MW-2-50'	10/30/2008	0.0	<16.9	<16.9	<16.9	181

Table 1
Soil Analytical Data Summary
North 10-Inch Release (1RP-952) - Unit B, Sec 22, T21S, R37E
Targa Midstream Services, L.P.
Lea County, New Mexico

Sample ID	Date	PID	GRO C6-C12	DRO C12-C28	TPH C6-C28	Chlorides
RRAL:			---	---	1,000	250
MW-3-1'	2/17/2009	0.1	---	---	---	<5.44
MW-3-5'	2/17/2009	0.1	---	---	---	<5.22
MW-3-10'	2/17/2009	0.1	---	---	---	<5.30
MW-3-15'	2/17/2009	0.1	---	---	---	12.0
MW-3-20'	2/17/2009	0.1	---	---	---	<5.21
MW-3-30'	2/17/2009	0.1	---	---	---	61.1
MW-3-40'	2/17/2009	0.1	---	---	---	186
MW-3-50'	2/17/2009	0.1	---	---	---	136
MW-3-60'	2/17/2009	---	---	---	---	96.1
MW-4-1'	2/17/2009	2.1	---	---	---	<5.25
MW-4-5'	2/17/2009	1.7	---	---	---	<5.20
MW-4-10'	2/17/2009	1.5	---	---	---	<5.32
MW-4-15'	2/17/2009	1.7	---	---	---	6.40
MW-4-20'	2/17/2009	1.5	---	---	---	<11.2
MW-4-30'	2/17/2009	1.7	---	---	---	81.5
MW-4-40'	2/17/2009	1.5	---	---	---	47.6
MW-4-50'	2/17/2009	1.3	---	---	---	57.1
MW-4-60'	2/17/2009	1.1	---	---	---	77.0
MW-5-1'	2/17/2009	1.7	---	---	---	14.1
MW-5-5'	2/17/2009	1.5	---	---	---	8.8
MW-5-10'	2/17/2009	1.1	---	---	---	74.4
MW-5-15'	2/17/2009	1.5	---	---	---	54.4
MW-5-20'	2/17/2009	1.5	---	---	---	84.1
MW-5-30'	2/17/2009	1.3	---	---	---	124
MW-5-40'	2/17/2009	1.1	---	---	---	81.0
MW-5-50'	2/17/2009	1.3	---	---	---	9.6
MW-5-60'	2/17/2009	1.1	---	---	---	62.0

Notes

RRAL - Recommended Remediation Action Level

Total Petroleum Hydrocarbons analyzed via EPA SW Method 8015 Mod.

Chlorides analyzed via EPA Method 300.

All values reported in Milligrams per Kilogram - dry (mg/kg, parts per million).

Bold and blue indicates the value exceeds NMOCD requirements.

Samples collected after 10/29/2008 conducted by Larson & Associates, Inc.

Table 2
Monitoring Well Completion and Gauging Summary
North 10 Inch Release Site (1RP-952) - Unit B, Sec 22, T21S, R37E
Targa Midstream Services, L.P.
Lea County, New Mexico

Well Information									Groundwater Data			
Well ID	Date Drilled	Drilled Depth (bgs)	Well Depth from TOC	Well Diameter (inches)	Surface Elevation	Screen Interval (bgs)	Casing Stickup	TOC Elevation	Date Gauged	Depth to Fluid	Depth to Water	Corrected Water Elevation
MW-01	10/29/2008	75	74.57	2	3,410.68	52 - 72	3.08	3,413.76	3/2/2009	--	58.66	3,355.10
MW-02	10/30/2008	75	74.25	2	3409.72	52 - 72	3.15	3,412.87	3/2/2009	--	58.34	3,354.53
MW-03	2/17/2009	70	70.81	2	3,410.54	50 - 70	2.49	3,413.03	3/2/2009	--	58.28	3,354.75
MW-04	2/17/2009	72	74.31	2	3,409.93	52 - 72	2.69	3,412.62	3/2/2009	--	58.46	3,354.16
MW-05	2/17/2009	77	77.66	2	3,403.35	57 - 77	2.59	3,405.94	3/2/2009	--	52.44	3,353.50

Notes
All values are in feet, unless otherwise noted.
bgs - below ground surface
TOC - top of casing
Elevations are above mean sea level referenced to 1984 Geodetic Datum.
Wells drilled and installed by Scarbrough Drilling, Inc., Lamesa, Texas. Schedule 40 threaded PVC casing and screen set.

Table 3
Groundwater Metals Summary
North 10-Inch Release (1RP-952) - Unit B, Sec 22, T21S, R37E
Targa Midstream Services, L.P.
Lea County, New Mexico

Sample ID	Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Lead
WQCC:		---	0.1	1.0	---	0.01	---	0.05	0.05
MW-1	10/30/2008	<0.006	0.017	0.699	0.0012	<0.001	464	0.025	0.014
MW-2	10/30/2008	<0.006	0.016	0.409	0.001	<0.001	282	0.022	0.010
MW-3	3/2/2009	<0.0008	0.00628	0.114	<0.0003	<0.0003	220	<0.002	<0.0003
MW-4	3/2/2009	<0.0008	0.00678	0.0684	<0.0003	<0.0003	230	<0.002	<0.0003
MW-5	3/2/2009	<0.0008	0.011	0.0405	<0.0003	<0.0003	214	<0.002	<0.0003

Sample ID	Date	Manganese	Magnesium	Mercury	Nickel	Potassium	Selenium	Silver	Sodium
WQCC:		0.2	---	0.002	0.2	---	0.05	0.05	---
MW-1	10/30/2008	**0.255**	---	<0.0001	0.037	13.6	0.014	<0.002	183
MW-2	10/30/2008	0.198	---	<0.0001	0.027	12.9	0.018	<0.002	302
MW-3	3/2/2009	--	116	<0.00008	<0.003	9.90	0.018	<0.001	227
MW-4	3/2/2009	--	126	<0.00008	<0.003	12.4	0.0274	<0.001	644
MW-5	3/2/2009	--	121	<0.00008	<0.003	9.39	0.0555	<0.001	254

Notes

WQCC - Water Quality Control Commission action level

Metals except mercury analyzed via EPA SW Method 6020.

Mercury analyzed via EPA SW Method 7470A.

Bold and blue indicates the value exceeds regulatory requirements.

Table 4
Groundwater Anion TDS Summary
North 10-Inch Release (1RP-952) - Unit B Sec 22, T21S, R37E
Targa Midstream Services, L.P.
Lea County, New Mexico

Sample ID	Date	Total Alkalinity	Chlorides	Sulfate	Total Dissolved Solids
WQCC:		--	250	600	1,000
TMW-1	2/10/2006	--	**3,799**	468	--
MW-1	10/30/2008	156	190	511	**1,330**
MW-2	10/30/2008	208	**824**	303	**1,800**
MW-3	3/2/2009	199	**883**	256	**2,270**
MW-4	3/2/2009	173	**1,600**	532	**4,440**
MW-5	3/2/2009	154	**618**	**855**	**2,440**

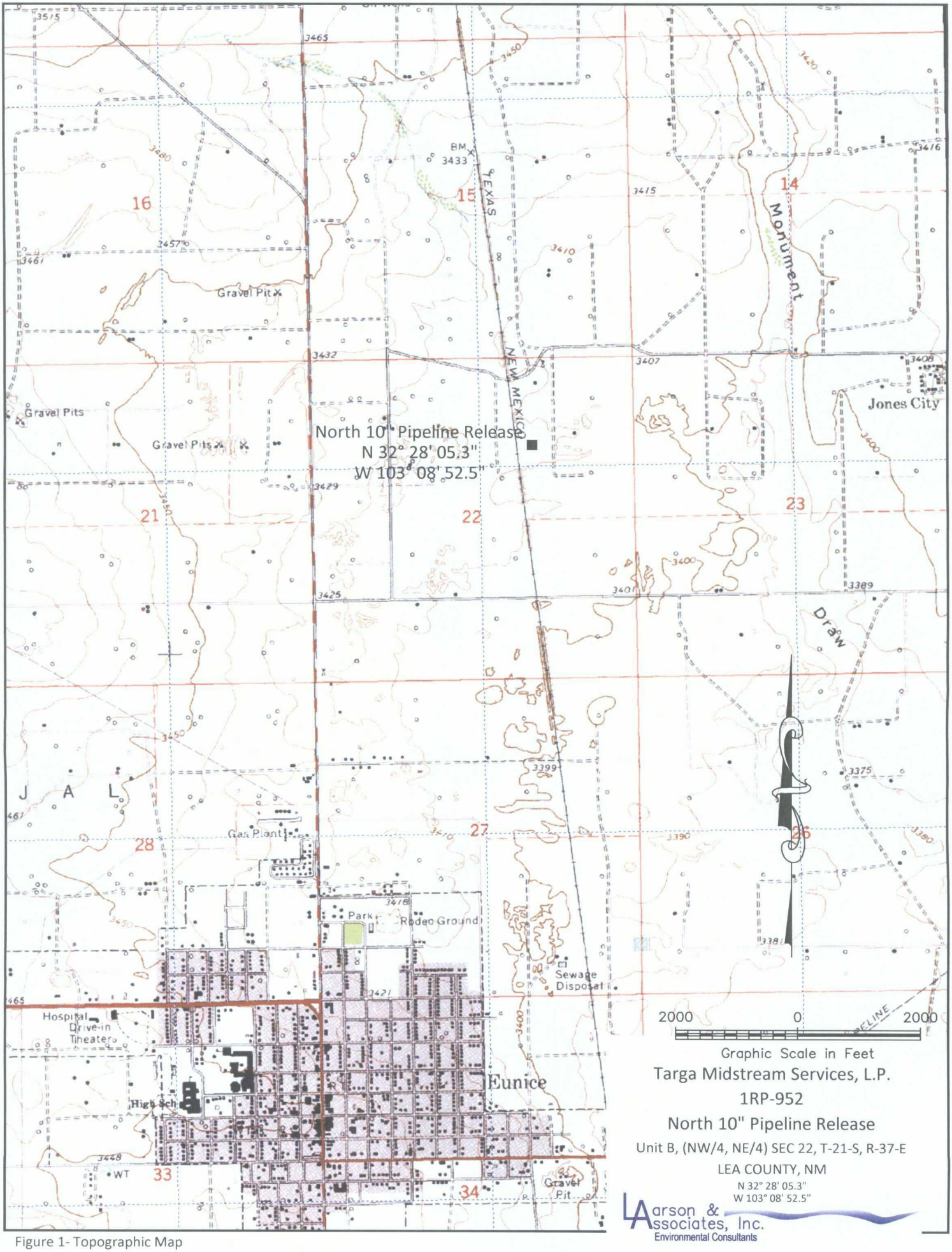
Notes

WQCC - Water Quality Control Commission action level

Bold and blue indicates the value exceeds regulatory requirements.

Samples collected after 10/29/2008 conducted by Larson & Associates, Inc.

JWW



Targa Midstream Services, L.P.

1RP-952

North 10" Pipeline Release

Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E

LEA COUNTY, NM

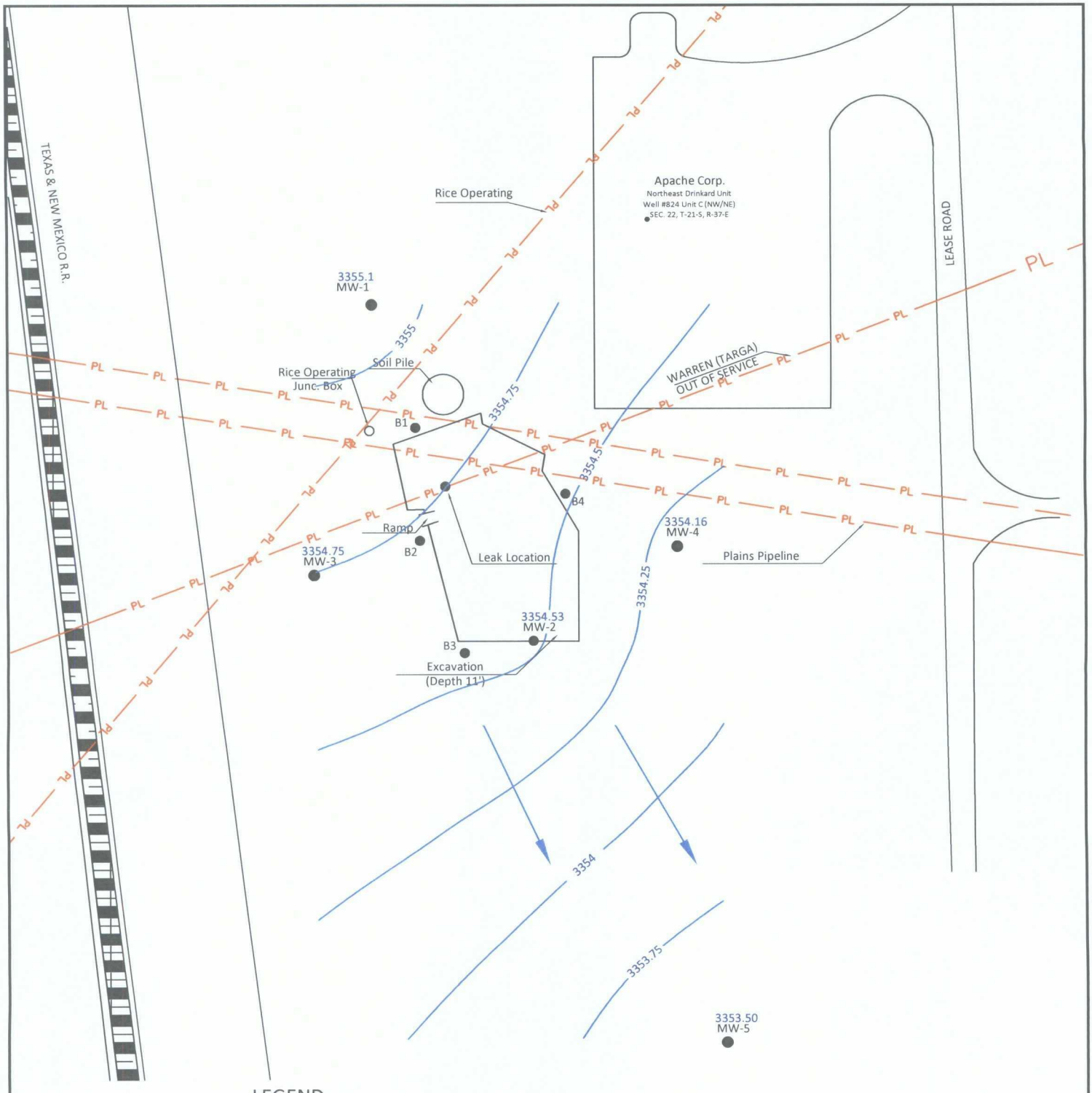
N 32° 28' 05.3"
W 103° 08' 52.5"

Larson & Associates, Inc.
Environmental Consultants

Figure 1- Topographic Map

JWW

Y:\PROJECTS\TARGA\8-0132\8-0132 NORTH PIPELINE SITE DRAWING.dwg, 4/20/2009 9:26:03 AM



LEGEND

Pipeline

PL PL PL

Lease Road

Fence

B1 - Soil Boring Location, October 29-30, 2008

MW-1 - Monitor Well Location

3200 - Contour of Groundwater Surface Elevation, Feet AMSL, March 2009

Gradient Map Determined Using Surfer Software

100 0 100

Graphic Scale in Feet

Targa Midstream Services, L.P.

1RP-952

North 10" Pipeline Release

Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E

LEA COUNTY, NM

N 32° 28' 05.3"

W 103° 08' 52.5"

Larson & Associates, Inc.

Environmental Consultants

Figure 3- Groundwater Gradient Map, March 2009

JWW

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Targa Midstream Services, L.P.

1RP-952

North 10" Pipeline Release

Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E

LEA COUNTY, NM

N 32° 28' 05.3"

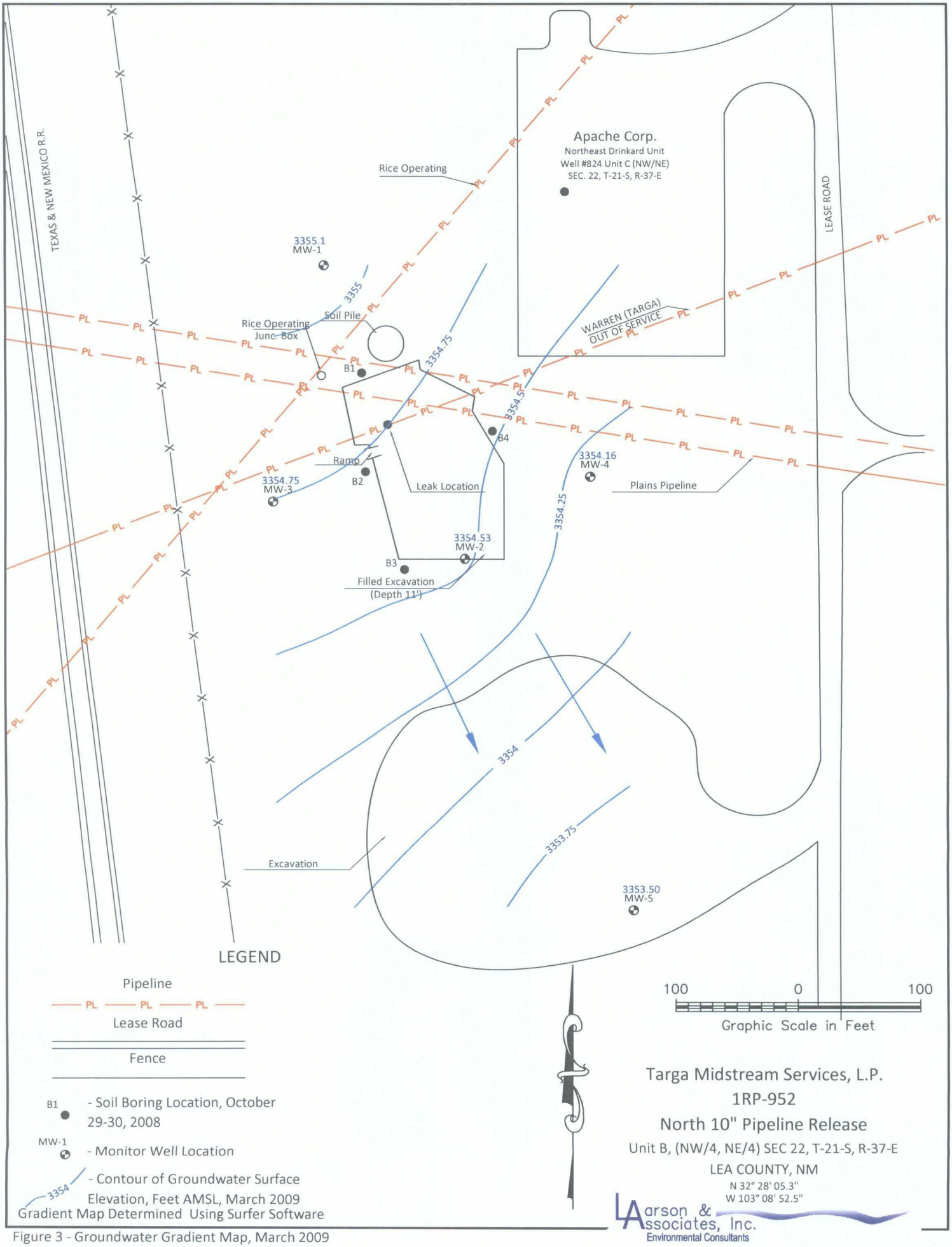
W 103° 08' 52.5"

Larson & Associates, Inc.
Environmental Consultants

Figure 2 - Aerial Map Google Image 2004

JWW

Y:\PROJECTS\TARGA\8-0132\8-0132 NORTH PIPELINE SITE DRAWING.dwg, 4/23/2009 3:08:53 PM



LEGEND

Pipeline

PL PL PL

Lease Road

Fence

B1 - Soil Boring Location, October 29-30, 2008

MW-1 - Monitor Well Location

3354 - Contour of Groundwater Surface Elevation, Feet AMSL, March 2009

Gradient Map Determined Using Surfer Software

100 0 100

Graphic Scale in Feet

Targa Midstream Services, L.P.

1RP-952

North 10" Pipeline Release

Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E

LEA COUNTY, NM

N 32° 28' 05.3"

W 103° 08' 52.5"

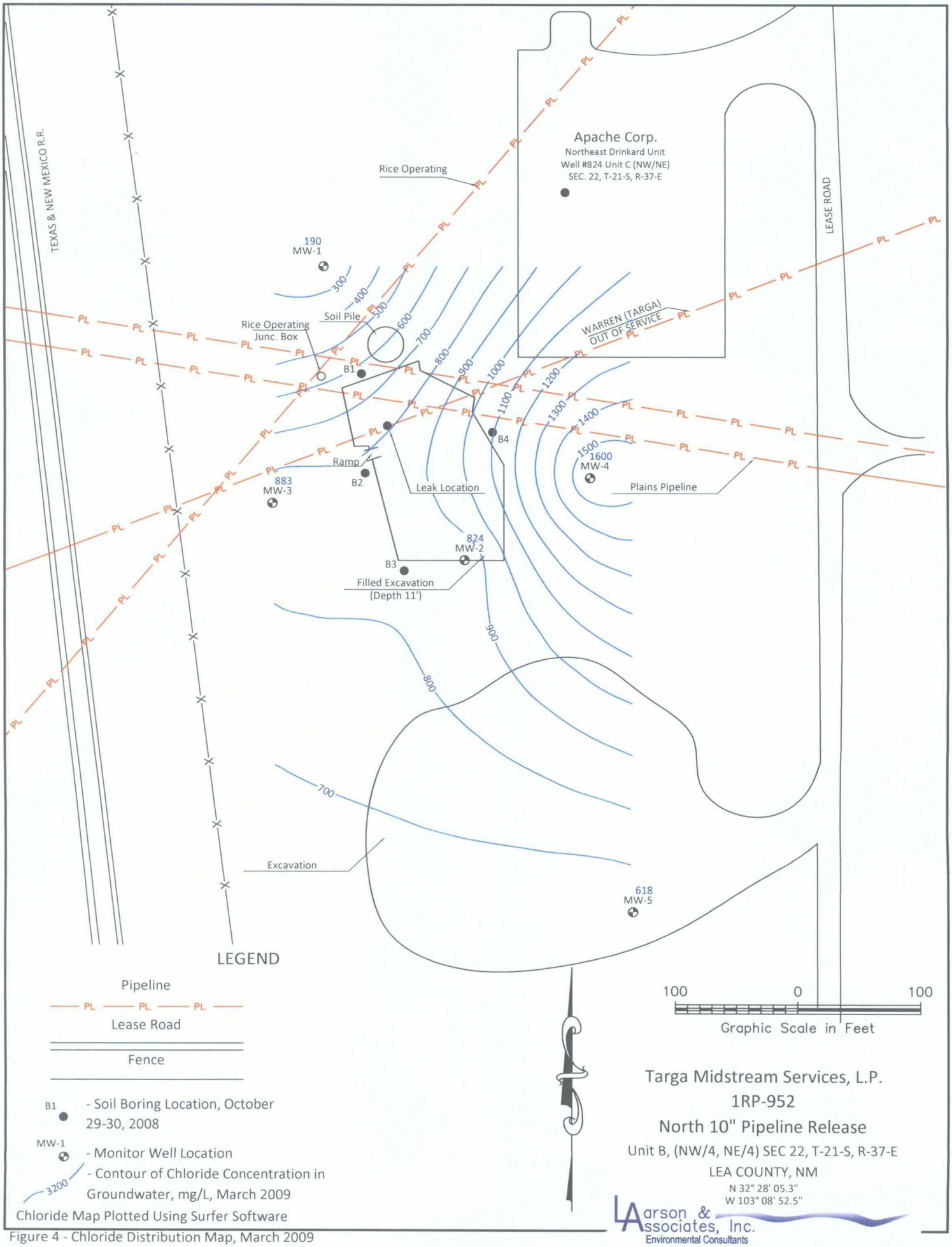
Larson & Associates, Inc.

Environmental Consultants

Figure 3 - Groundwater Gradient Map, March 2009

JWW

Y:\PROJECTS\TARGA\8-0132\8-0132 NORTH PIPELINE SITE DRAWING.dwg, 4/23/2009 3:05:28 PM



Targa Midstream Services, L.P.

1RP-952

North 10" Pipeline Release

Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E

LEA COUNTY, NM

N 32° 28' 05.3"

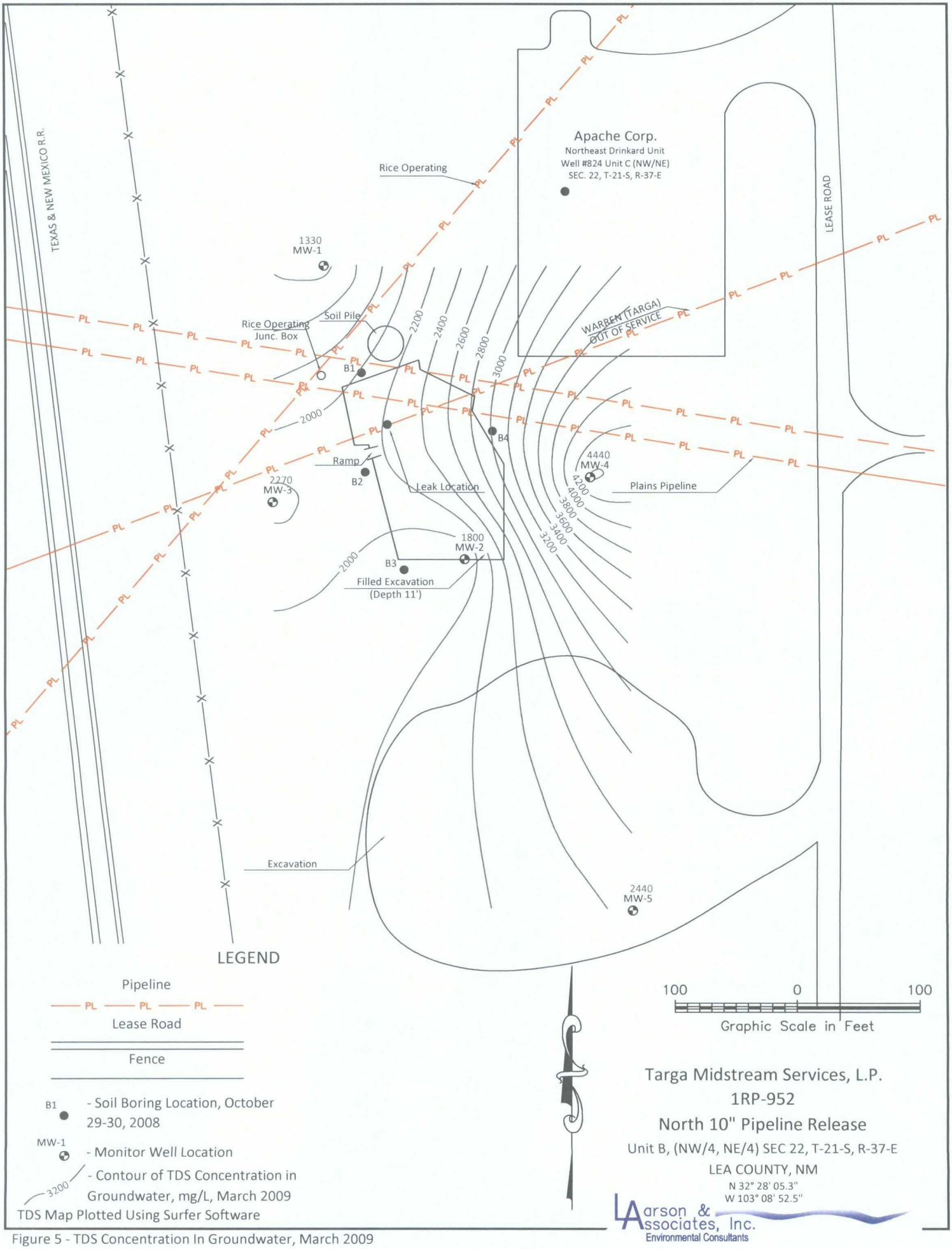
W 103° 08' 52.5"

Larson & Associates, Inc.
Environmental Consultants

Figure 4 - Chloride Distribution Map, March 2009

JWW

Y:\PROJECTS\TARGA\8-0132\8-0132 NORTH PIPELINE SITE DRAWING.dwg, 4/23/2009 2:59:56 PM



Targa Midstream Services, L.P.

1RP-952

North 10" Pipeline Release

Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E

LEA COUNTY, NM

N 32° 28' 05.3"

W 103° 08' 52.5"

Larson & Associates, Inc.
Environmental Consultants

Figure 5 - TDS Concentration In Groundwater, March 2009

Mark Larson

From: Price, Wayne, EMNRD [wayne.price@state.nm.us]
Sent: Tuesday, January 06, 2009 11:00 AM
To: Mark Larson
Cc: Johnson, Larry, EMNRD; VonGonten, Glenn, EMNRD
Subject: RE: 1RP-952, Notification of Groundwater Impairment - North 10" Pipeline Release, Targa Midstream Services, L.P., Unit B (NW/4, NE/4), S. 22, T. 22S., R. 37 E., Lea County, New Mexico
Attachments: image001.jpg

Dear Mark, I now remember this site. OCD hereby approves of the backfilling and disposal of the contaminated soil. Please submit a report when complete and a path forward for the groundwater monitoring, including recommendations by March 31, 2009. Also make this E-mail part of the record.

From: Mark Larson [mailto:Mark@laenvironmental.com]
Sent: Monday, January 05, 2009 3:15 PM
To: Price, Wayne, EMNRD
Subject: RE: 1RP-952, Notification of Groundwater Impairment - North 10" Pipeline Release, Targa Midstream Services, L.P., Unit B (NW/4, NE/4), S. 22, T. 22S., R. 37 E., Lea County, New Mexico

Wayne,
This release was originally investigated by Environmental Plus, Inc. (EPI) which excavated the release to about 11 feet below ground surface and collected soil samples from the bottom and sides of the excavation. EPI's analysis showed no benzene, BTEX or total petroleum hydrocarbons (TPH) in soil above the OCD thresholds, however, chloride was reported at 1,040 mg/Kg in a sample from about 50 feet near the center of the excavation. The excavation has been open since August 2002. On October 29 and 30, 2008, Larson and Associates, Inc. (LAI) collected soil samples to 50 feet at 6 locations, including a background location, and installed 2 monitoring wells (upgradient and downgradient) to determine if the release had impacted groundwater. No benzene, BTEX or TPH exceeded the OCD recommended remediation action levels in soil samples and chloride was delineated in all directions except on the west side of the location. No BTEX was reported in the groundwater samples. Chloride was 824 milligrams per liter (mg/L) in the downgradient sample (MW-2) and 190 mg/L in the upgradient sample (MW-1). Soil from the excavation is currently piled on the north side of the excavation and has chloride from 532 to 1,190 milligrams per kilogram (mg/Kg). The stock piled soil will be hauled to an OCD approved disposal facility (e.g., Sundance Services, Inc.) and a barrier consisting of either compacted clay or 20-mill thickness liner will be placed in the bottom of the excavation and the excavation filled with clean soil and seeded. Three (3) additional monitoring well will be installed to delineate chloride in the vadose zone and groundwater.

Thanks,

Mark J. Larson
Sr. Project Manager / President
507 N. Marienfeld St., Ste. 202
Midland, Texas 79701
(432) 687-0901 (office)
(432) 687-0456 (fax)
(432) 556-8656 (cell)
mark@laenvironmental.com

Larson & Associates, Inc.
Environmental Consultants

From: Price, Wayne, EMNRD [mailto:wayne.price@state.nm.us]
Sent: Monday, January 05, 2009 3:46 PM
To: Mark Larson; Johnson, Larry, EMNRD
Cc: Embrey, Donald M; jlingnau@targaresources.com
Subject: RE: 1RP-952, Notification of Groundwater Impairment - North 10" Pipeline Release, Targa Midstream Services, L.P., Unit B (NW/4, NE/4), S. 22, T. 22S., R. 37 E., Lea County, New Mexico

Dear Mark, normally all groundwater impacts are approved out of Santa Fe. How can we help you?

Wayne Price-Environmental Bureau Chief
Oil Conservation Division
1220 S. Saint Francis
Santa Fe, NM 87505
E-mail wayne.price@state.nm.us
Tele: 505-476-3490
Fax: 505-476-3462

-----Original Message-----
From: Mark Larson [mailto:Mark@laenvironmental.com]
Sent: Mon 1/5/2009 2:33 PM
To: Johnson, Larry, EMNRD
Cc: Price, Wayne, EMNRD; Embrey, Donald M; jlingnau@targaresources.com
Subject: Re: 1RP-952, Notification of Groundwater Impairment - North 10" Pipeline Release, Targa Midstream Services, L.P., Unit B (NW/4, NE/4), S. 22, T. 22S., R. 37 E., Lea County, New Mexico

Dear Larry,

On November 21, 2008, Larson & Associates, Inc. (LAI), as consultant to Targa Midstream Services, L.P. (Targa), submitted the above-referenced report to the New Mexico Oil Conservation Division (OCD) District 1 and Santa Fe offices to report groundwater impairment from a natural gas liquids pipeline release that occurred on August 16, 2002. The report included a proposal for the following:

1) Dispose of the contaminated soil piled north side of the excavation at a OCD approved disposal facility;

2) Install an impermeable barrier (i.e., compacted clay or 20-mil thickness polyethylene liner) in the bottom of the excavation, fill the excavation with clean soil, crown the surface for drainage and seed the surface to landowner specifications;

3) Install three (3) monitoring wells (MW-3, MW-4 and MW-5) to delineate the vadose zone and groundwater impact;

4) Analyze soil samples for chloride and groundwater samples for anions, cations and TDS;

5) Prepare a report that includes excavation closure summary, soil and groundwater investigation summary, geological logs and cross

sections, iopleth maps for chloride and TDS concentrations in groundwater;

6) Groundwater remedial alternative.

Your approval of the proposal is requested. Please do not hesitate to contact me with questions.

Sincerely,

Mark J. Larson

Sr. Project Manager / President

507 N. Marienfeld St., Ste. 202

Midland, Texas 79701

(432) 687-0901 (office)

(432) 687-0456 (fax)

(432) 556-8656 (cell)

mark@laenvironmental.com

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Mark Larson

From: Price, Wayne, EMNRD [wayne.price@state.nm.us]
Sent: Monday, January 05, 2009 3:46 PM
To: Mark Larson; Johnson, Larry, EMNRD
Cc: Embrey, Donald M; jlingnau@targaresources.com
Subject: RE: 1RP-952, Notification of Groundwater Impairment - North 10" Pipeline Release, Targa Midstream Services, L.P., Unit B (NW/4, NE/4), S. 22, T. 22S., R. 37 E., Lea County, New Mexico
Attachments: image001.jpg

Dear Mark, normally all groundwater impacts are approved out of Santa Fe. How can we help you?

Wayne Price-Environmental Bureau Chief
Oil Conservation Division
1220 S. Saint Francis
Santa Fe, NM 87505
E-mail wayne.price@state.nm.us
Tele: 505-476-3490
Fax: 505-476-3462

-----Original Message-----
From: Mark Larson [mailto:Mark@laenvironmental.com]
Sent: Mon 1/5/2009 2:33 PM
To: Johnson, Larry, EMNRD
Cc: Price, Wayne, EMNRD; Embrey, Donald M; jlingnau@targaresources.com
Subject: Re: 1RP-952, Notification of Groundwater Impairment - North 10" Pipeline Release, Targa Midstream Services, L.P., Unit B (NW/4, NE/4), S. 22, T. 22S., R. 37 E., Lea County, New Mexico

Dear Larry,

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2) Install an impermeable barrier (i.e., compacted clay or 20-mil thickness polyethylene liner) in the bottom of the excavation, fill the excavation with clean soil, crown the surface for drainage and seed the surface to landowner specifications;

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5) Prepare a report that includes excavation closure summary, soil and groundwater investigation summary, geological logs and cross sections, iopleth maps for chloride and TDS concentrations in

groundwater;

6) Groundwater remedial alternative.

Your approval of the proposal is requested. Please do not hesitate to contact me with questions.

Sincerely,

Mark J. Larson

Sr. Project Manager / President

507 N. Marienfeld St., Ste. 202

Midland, Texas 79701

(432) 687-0901 (office)

(432) 687-0456 (fax)

(432) 556-8656 (cell)

mark@laenvironmental.com

Photographic Documentation

Pipeline Release Excavation Looking Southwest, October 29, 2008

Pipeline Release Excavation Northeast, October 29, 2008

Photographic Documentation

Liner Installation Looking North, January 21, 2009

Liner Installation Looking Northeast January 21, 2009

Photographic Documentation

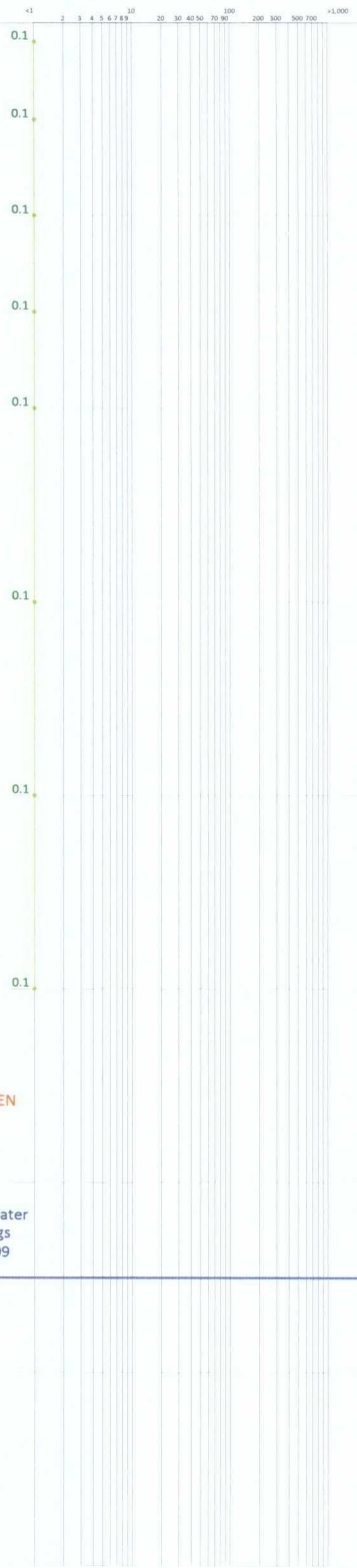
Excavation Filling Looking North, January 23, 2009

Excavation Filling Looking Northeast, January 23, 2009

Photographic Documentation

Excavation Filling Looking South, January 23, 2009

Latitude N 33° 29' 34.12"
Longitude W 104° 21' 02.94"
TOC Elevation : 3413.03'



Lithologic Well Log

Drilling started 2/17/2009, completed 2/17/2009.
Drilled with Air Rotary by Scarborough Drilling.

SM- Reddish Brown (5YR 4/4) medium subround quartz with about 10% silt and clay

SP- Red (2.5YR 4/8) fine subround quartz decreasing percent of fines

SP- Red (2.5YR 5/8) very fine to fine quartz no noted fines

Lithology change to caliche
ML/CA- Pink (7.5YR 8/3) calcareous rock flour

ML/CA- Pink (7.5YR 8/3) calcareous rock flour

SM- Pink (5YR 7/4) very fine to fine quartz sand with about 25% carbonate

SP- Reddish Yellow (5YR 6/6) fine to medium quartz sand about 15% caliche

SP- Pink (5YR 7/4) fine subround quartz sand no noted fines

SP- Pink (7.5YR 7/4) fine subround quartz sand

SP- Reddish Yellow (7.5YR 6/6) slightly moist fine to medium subround quartz sand

SP- Yellowish Red (5YR 5/6) wet sand fine to medium subround quartz sand
Total depth 70'

Targa Midstream Services, L.P.
1RP-952
North 10" Pipeline Release
Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E
LEA COUNTY, NM
N 32° 28' 05.3"
W 103° 08' 52.5"

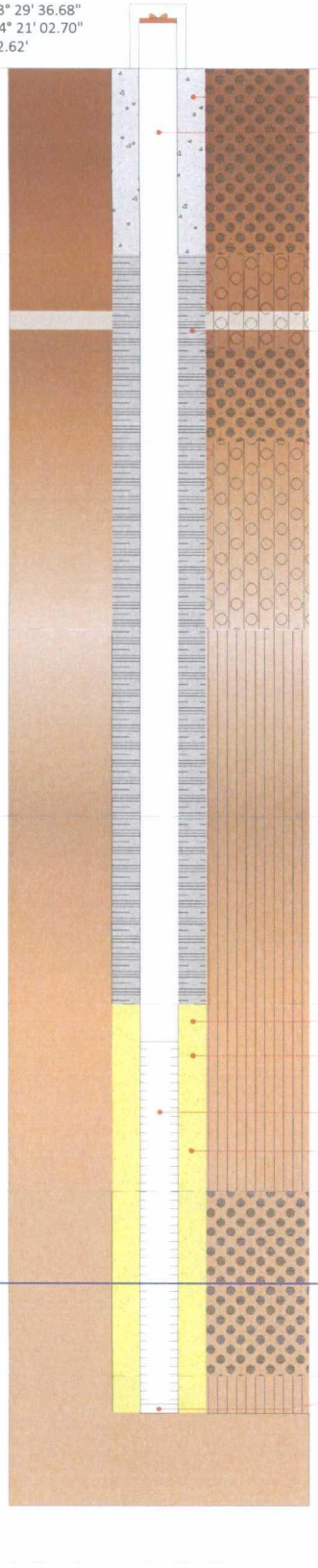
Larson & Associates, Inc.
Environmental Consultants

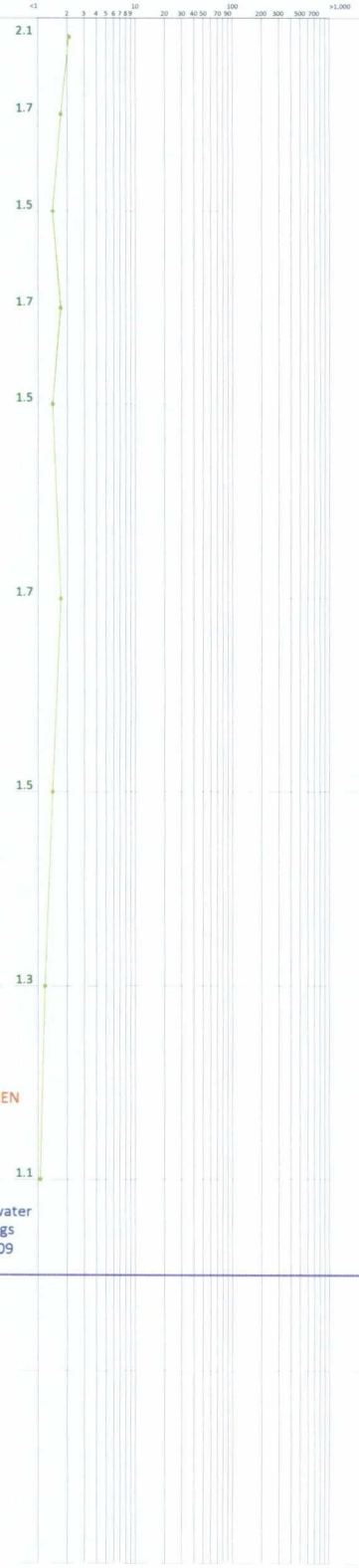
MW - 3 - Boring & Completion Log

JWW

Y:\PROJECTS\TARGA\8-0132\MW-4 Well Log.dwg, 4/20/2009 1:57:45 PM

Latitude N 33° 29' 36.68"
Longitude W 104° 21' 02.70"
TOC Elevation : 3412.62'





Lithologic Well Log

Drilling started 2/17/2009, completed 2/17/2009.
Drilled with Air Rotary by Scarborough Drilling.

SP- Red (2.5YR 4/8) medium subround quartz sand

SP- Red (2.5YR 4/8) fine to medium subround quartz sand

SM- Yellowish Red (5YR 5/8) very fine to fine subround quartz sand

Caliche - White (5YR 8/1) very fine grained
SP/CA- Yellowish Red (5YR 5/6) fine to medium sand with 2-3mm thick caliche interbeds

SM- Reddish Yellow (5YR 6/6) very fine to fine subround sand

ML/CA- Pinkish White (5YR 8/2) silty to very fine sand; caliche indurated

ML- Light Reddish Brown (5YR 6/4) silt to very fine sand; about 25% carbonate

ML- Reddish Yellow (5YR 7/6) very fine to fine subround quartz sand

SP- Pink (5YR 7/4) slightly moist, fine subround quartz sand

ML- Pink (5YR 7/4) moist fine sand

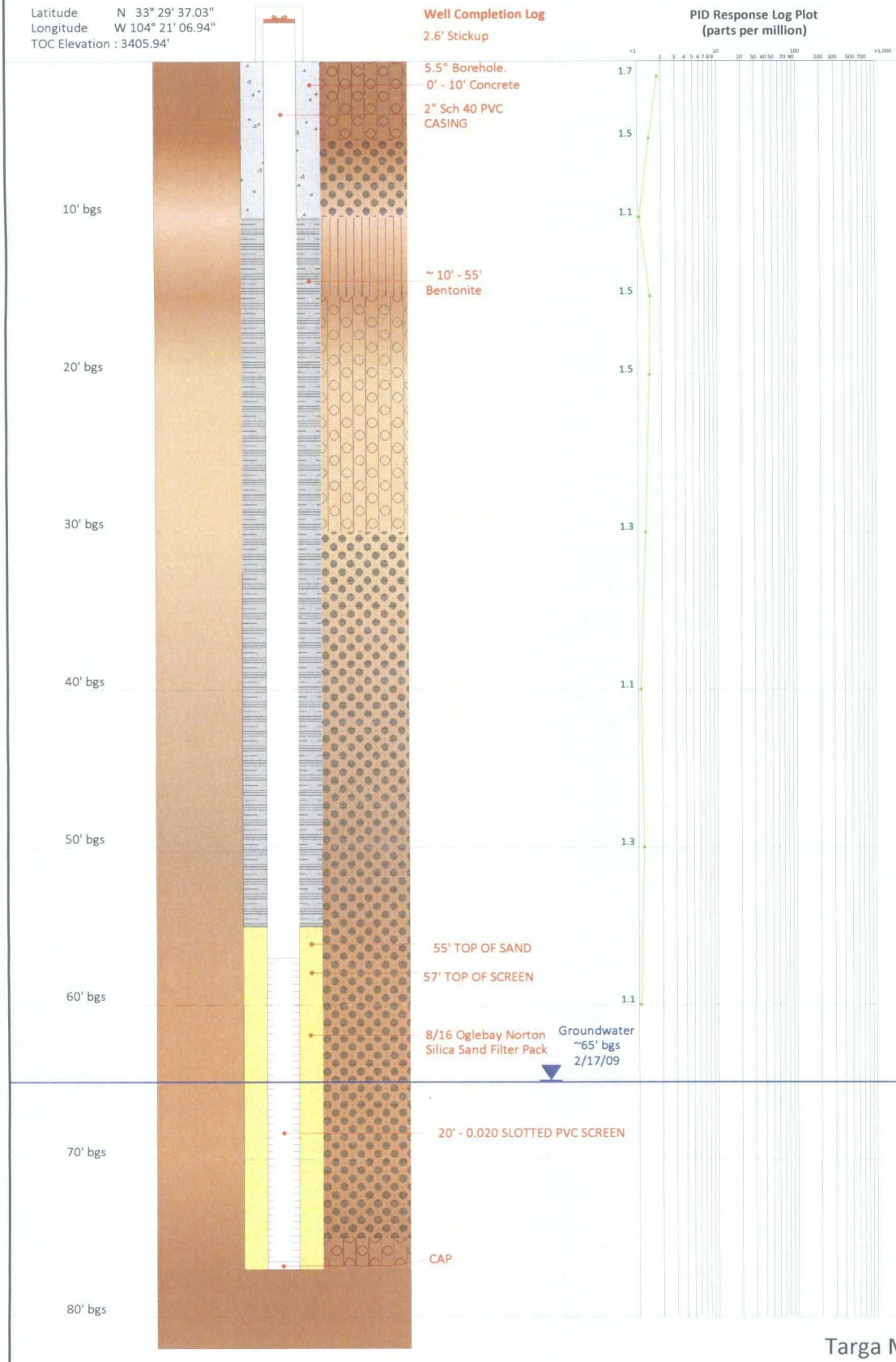
Total depth 72' increased fines

Targa Midstream Services, L.P.
1RP-952
North 10" Pipeline Release
Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E
LEA COUNTY, NM
N 32° 28' 05.3"
W 103° 08' 52.5"

Larson & Associates, Inc.
Environmental Consultants

MW - 4 - Boring & Completion Log

Latitude N 33° 29' 37.03"
Longitude W 104° 21' 06.94"
TOC Elevation : 3405.94'



Lithologic Well Log

Drilling started 2/17/2009, completed 2/17/2009.
Drilled with Air Rotary by Scarborough Drilling.

SM- Yellowish Red (5YR 5/6) very fine to fine subround quartz sand

SP- Yellowish Red (5YR 5/8) fine to medium subround quartz sand

ML/CA- Pink (5YR 5/3) very fine to fine sand with about 25% calcareous nodules

SM- Reddish Yellow (5YR 6/6) loose very fine sand and silt

SM/CA- Pink (7.5YR 8/3) silty very fine subround quartz sand; interbedded caliche about 25%

SM/CA- Pink (7.5YR 8/3) very fine to fine subround quartz sand and caliche flour

SP- Pink (5YR 7/4) fine to medium subround quartz sand

SP- Light Reddish Brown (5YR 6/4) fine to medium subround quartz sand; about 10% crushed carbonate

SP- Reddish Yellow (5YR 6/6) fine to medium subround quartz sand; no noted carbonates

SP- Reddish Yellow (5YR 6/6) slightly moist sand; fine to medium subround quartz sand; no noted carbonates

SP- Reddish Yellow (5YR 6/6) slightly moist sand; fine to medium subround quartz sand; no noted carbonates

SM- Yellowish Red (5YR 5/6) increasing moisture fine subround sand
Total depth 77'; losing soil moisture, powdery
Starting to see clay and moist sand - stop drilling

Targa Midstream Services, L.P.
1RP-952
North 10" Pipeline Release
Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E
LEA COUNTY, NM
N 32° 28' 05.3"
W 103° 08' 52.5"

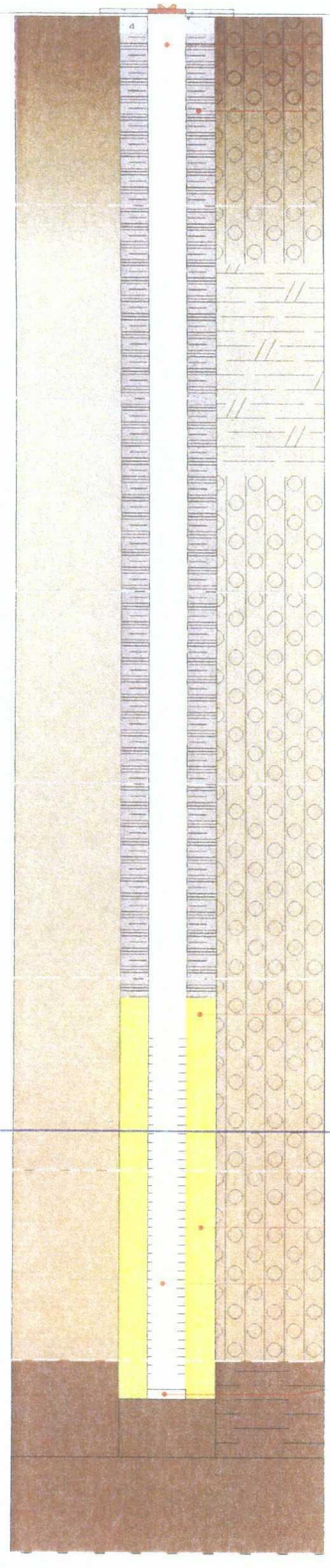
Larson & Associates, Inc.
Environmental Consultants

MW - 5 - Boring & Completion Log

JWW

Y:\PROJECTS\TARGA\8-0132\MW-1 Well Log.dwg, 11/25/2008 3:34:00 PM

Latitude N 32° 29' 55.9"
Longitude W 103° 10' 42.1"



Lithologic Well Log

Drilling started 10/29/2008, completed 10/29/2008. Drilled with Air Rotary by Scarborough Drilling.

SM- Yellowish Red (5YR 4/6) very fine grained quartz sand, round, moist, clay dry and brittle below 5',slightly mottled

Caliche - Pinkish White (10YR 4/6) very fine grained quartz sand, weakly cemented, interbedded with indurated layers and sand

SM - Pinkish White (2.5YR 7/4) very fine grained quartz sand, subround, poorly sorted, interbedded with thin Caliche units

SM - Reddish Yellow (5YR 7/4) below 60'

Shale - Red (2.5YR 4/6) silty, dry

Total depth 75'

Targa Midstream Services, L.P.
1RP-952
North 10" Pipeline Release
Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E
LEA COUNTY, NM
N 32° 28' 05.3"
W 103° 08' 52.5"

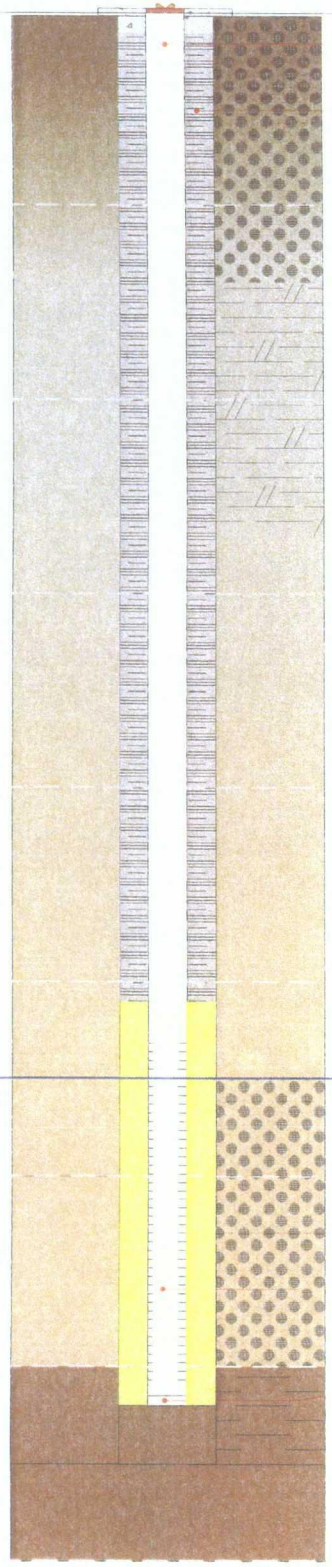
Larson & Associates, Inc.
Environmental Consultants

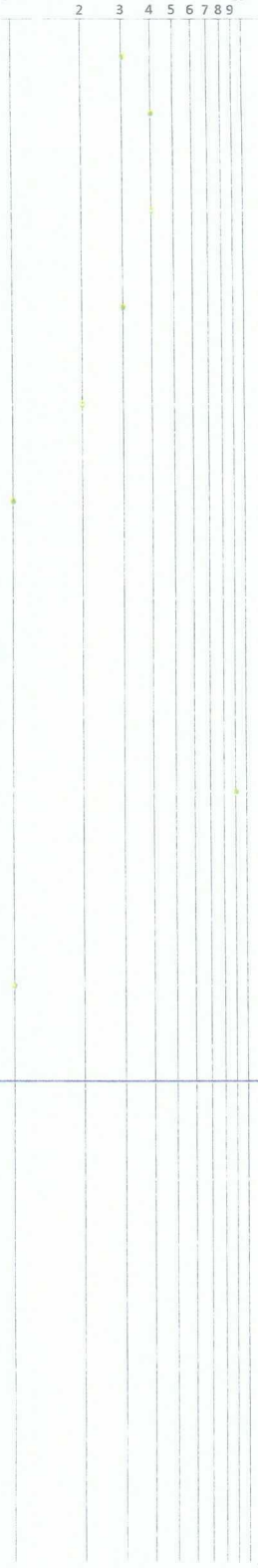
MW - 1 - Boring & Completion Log

JWW

Y:\PROJECTS\TARGA\8-0132\MW-2 Well Log.dwg, 11/25/2008 3:40:59 PM

Latitude N 32° 29' 55.9"
Longitude W 103° 10' 42.1"





Lithologic Well Log

Drilling started 10/30/2008, completed 10/30/2008. Drilled with Air Rotary by Scarborough Drilling.

SP- Yellowish Red (5YR 4/6) very fine grained quartz sand, poorly sorted, round, moist, dry below 5'

Caliche - Pinkish White (10YR 7/1) very fine grained quartz sand, weakly cemented, interbedded with indurated layers and sand

SM - Reddish Yellow (5YR 7/4) very fine grained quartz sand, subround, poorly sorted, wekly cemented, interbedded with indurated layer of Caliche

Shale - Red (2.5YR 4/6) silty, dry

Total depth 75'

Targa Midstream Services, L.P.
1RP-952
North 10" Pipeline Release
Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E
LEA COUNTY, NM
N 32° 28' 05.3"
W 103° 08' 52.5"

Larson & Associates, Inc.
Environmental Consultants

MW - 2 - Boring & Completion Log

Latitude N 32° 36' 29.42"
Longitude W 103° 18' 57.75"

PID Response Log Plot (parts per million)

<1 2 3 4 5 6 7 8 9 10 20 30 40 50 70 90 100 200 300 500 700 >1,000

Lithologic Well Log

Drilling started 09/30/2008, completed 09/30/2008.
Drilled with Air Rotary by Scarborough Drilling.

SP- Yellowish Red (5YR 6/6) silty sand, very fine grained sand, poorly sorted, dry, brittle

10' bgs

Reddish Brown(5YR 6/6) below 10'

20' bgs

Interbedded with thin Caliche units below 20'

30' bgs

40' bgs

50' bgs

Total Depth 51'

60' bgs

70' bgs

80' bgs

Targa Midstream Services, L.P.
1RP-952
North 10" Pipeline Release
Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E
LEA COUNTY, NM
N 32° 28' 05.3"
W 103° 08' 52.5"

Larson & Associates, Inc.
Environmental Consultants

B1 - Boring Log

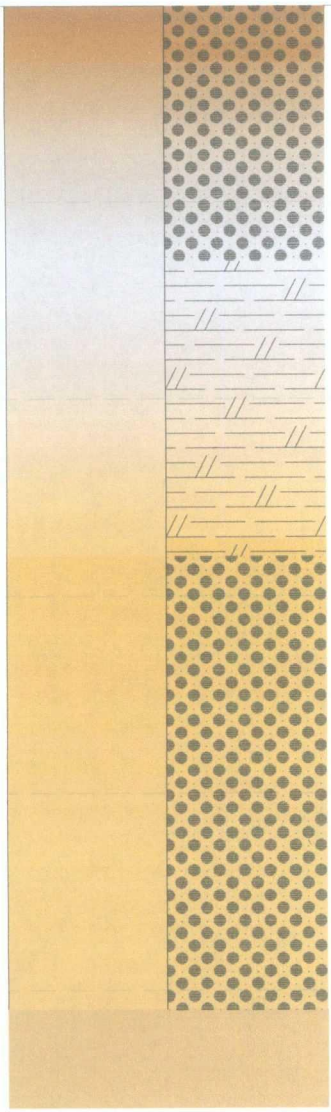
Latitude N 32° 36' 29.42"
Longitude W 103° 18' 57.75"

PID Response Log Plot (parts per million)

<1 2 3 4 5 6 7 8 9 10 20 30 40 50 70 90 100 200 300 500 700 >1,000

Lithologic Well Log

Drilling started 09/30/2008, completed 09/30/2008.
Drilled with Air Rotary by Scarborough Drilling.



0.2
0.3
0.2
0.2
0.2
0.0
0.0
0.0

10' bgs
20' bgs
30' bgs
40' bgs
50' bgs
60' bgs
70' bgs
80' bgs

SP- Yellowish Red (5YR 4/6) silty sand, very fine grained sand, poorly sorted, moist, brittle

Caliche - Pinkish White (10YR 7/1) very fine ground quartz sand, weakly cemented, interbedded with indurated layers and sand

SP - Yellowish Red (7.5 YR 6/6) very fine ground quartz sand, poorly sorted, interbedded with thin units of indurated Caliche

Total Depth 51'

Targa Midstream Services, L.P.
1RP-952
North 10" Pipeline Release
Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E
LEA COUNTY, NM
N 32° 28' 05.3"
W 103° 08' 52.5"

Larson & Associates, Inc.
Environmental Consultants

B2 - Boring Log

Latitude N 32° 36' 29.42"
Longitude W 103° 18' 57.75"

PID Response Log Plot (parts per million)

<1 2 3 4 5 6 7 8 9 10 20 30 40 50 70 90 100 200 300 500 700 >1,000

Lithologic Well Log

Drilling started 09/30/2008, completed 09/30/2008.
Drilled with Air Rotary by Scarborough Drilling.

SP- Yellowish Red (5YR 4/6) silty sand, very fine grained sand, poorly sorted, moist, brittle

10' bgs

Caliche - Pinkish White (10YR 7/1) very fine ground quartz sand, weakly cemented, interbedded with indurated layers and sand

20' bgs

30' bgs

SP - Yellowish Red (7.5 YR 6/6) very fine ground quartz sand, poorly sorted, weakly cemented

40' bgs

50' bgs

Total Depth 51'

60' bgs

70' bgs

80' bgs

Targa Midstream Services, L.P.
1RP-952
North 10" Pipeline Release
Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E
LEA COUNTY, NM
N 32° 28' 05.3"
W 103° 08' 52.5"

Larson & Associates, Inc.
Environmental Consultants

B3 - Boring Log

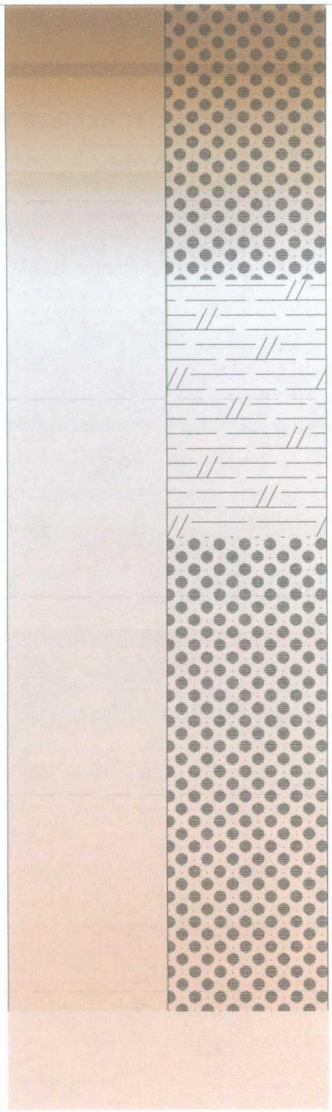
Latitude N 32° 36' 29.42"
Longitude W 103° 18' 57.75"

PID Response Log Plot (parts per million)

<1 2 3 4 5 6 7 8 9 10 20 30 40 50 70 90 100 200 300 500 700 >1,000

Lithologic Well Log

Drilling started 09/30/2008, completed 09/30/2008.
Drilled with Air Rotary by Scarborough Drilling.



0.0
0.0
0.2
0.0
0.0
0.0
0.0

10' bgs
20' bgs
30' bgs
40' bgs
50' bgs
60' bgs
70' bgs
80' bgs

SP- Yellowish Red (5YR 4/6) silty sand, very fine grained sand, poorly sorted, moist, dry below 5', iron oxide observed below 5'

Caliche - Pinkish White (10YR 8/1) very fine ground quartz sand, weakly cemented, interbedded with indurated units and sand

SP - Reddish Yellow (5 YR 7/4) very fine ground quartz sand, poorly sorted, weakly cemented

Total Depth 51'

Targa Midstream Services, L.P.
1RP-952
North 10" Pipeline Release
Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E
LEA COUNTY, NM
N 32° 28' 05.3"
W 103° 08' 52.5"

Larson & Associates, Inc.
Environmental Consultants

B4 - Boring Log

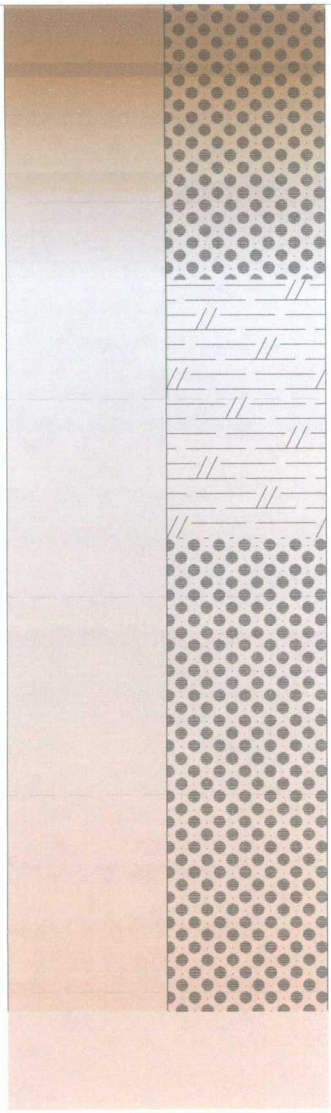
Latitude N 32° 36' 29.42"
Longitude W 103° 18' 57.75"

PID Response Log Plot (parts per million)

<1 2 3 4 5 6 7 8 9 10 20 30 40 50 70 90 100 200 300 500 700 >1,000

Lithologic Well Log

Drilling started 09/30/2008, completed 09/30/2008.
Drilled with Air Rotary by Scarborough Drilling.



0.3
0.4
0.4
0.3
0.2
0.0
0.0
0.0

10' bgs
20' bgs
30' bgs
40' bgs
50' bgs
60' bgs
70' bgs
80' bgs

SP- Yellowish Red (5YR 4/6) silty sand, very fine grained sand, poorly sorted, moist, dry below 5'

Caliche - Pinkish White (10YR 7/1) very fine ground quartz sand, weakly cemented, interbedded with indurated layers and sand

SP - Reddish Yellow (5 YR 7/4) very fine ground quartz sand, poorly sorted, weakly cemented, interbedded with indurated layer of caliche

Total Depth 51'

Targa Midstream Services, L.P.
1RP-952
North 10" Pipeline Release
Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E
LEA COUNTY, NM
N 32° 28' 05.3"
W 103° 08' 52.5"

Larson & Associates, Inc.
Environmental Consultants

B6 - Boring Log

Analytical Report 325237

for

Larson & Associates

Project Manager: Michelle Green

North 10"

8-0132

19-FEB-09

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

19-FEB-09

Project Manager: **Michelle Green**
Larson & Associates
P.O. Box 50685
Midland, TX 79710

Reference: XENCO Report No: **325237**
North 10"
Project Address:

Michelle Green:

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 325237. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 325237 will be filed for 60 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,

Brent Barron, II
Odessa Laboratory Manager

XENCO Laboratories

Sample Cross Reference 325237

ACCREDITED IN ACCORDANCE WITH nelac

Larson & Associates, Midland, TX

North 10"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW 3 (0-1')	S	Feb-17-09 08:21	0 - 1 ft	325237-001
MW 3 (5')	S	Feb-17-09 08:22	5 ft	325237-002
MW 3 (10')	S	Feb-17-09 08:25	10 ft	325237-003
MW 3 (15')	S	Feb-17-09 08:27	15 ft	325237-004
MW 3 (20')	S	Feb-17-09 08:30	20 ft	325237-005
MW 3 (30')	S	Feb-17-09 08:33	30 ft	325237-006
MW 3 (40')	S	Feb-17-09 08:36	40 ft	325237-007
MW 3 (50')	S	Feb-17-09 08:43	50 ft	325237-008
MW 3 (60')	S	Feb-17-09 09:00	60 ft	325237-009
MW 5 (0-1')	S	Feb-17-09 09:57	0 - 1 ft	325237-010
MW 5 (5')	S	Feb-17-09 09:59	5 ft	325237-011
MW 5 (10')	S	Feb-17-09 10:00	10 ft	325237-012
MW 5 (15')	S	Feb-17-09 10:01	15 ft	325237-013
MW 5 (20')	S	Feb-17-09 10:04	20 ft	325237-014
MW 5 (30')	S	Feb-17-09 10:06	30 ft	325237-015
MW 5 (40')	S	Feb-17-09 10:10	40 ft	325237-016
MW 5 (50')	S	Feb-17-09 10:14	50 ft	325237-017
MW 5 (60')	S	Feb-17-09 10:20	60 ft	325237-018
MW 4 (0-1')	S	Feb-17-09 13:00	0 - 1 ft	325237-019
MW 4 (5')	S	Feb-17-09 13:03	5 ft	325237-020
MW 4 (10')	S	Feb-17-09 13:04	10 ft	325237-021
MW 4 (15')	S	Feb-17-09 13:05	15 ft	325237-022
MW 4 (20')	S	Feb-17-09 13:07	20 ft	325237-023
MW 4 (30')	S	Feb-17-09 13:10	30 ft	325237-024
MW 4 (40')	S	Feb-17-09 13:14	40 ft	325237-025
MW 4 (50')	S	Feb-17-09 13:20	50 ft	325237-026
MW 4 (60')	S	Feb-17-09 13:29	50 ft	325237-027

Project Id: 8-0132 **Project Name:** North 10

Contact: Michelle Green

Project Location:

Date Received in Lab: Tue Feb-17-09 04:47 pm

Report Date: 19-FEB-09

Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	325237-001		325237-002		325237-003		325237-004		325237-005		325237-006	
	Field Id:	MW 3 (0-1')		MW 3 (5')		MW 3 (10')		MW 3 (15')		MW 3 (20')		MW 3 (30')	
	Depth:	0-1 ft		5 ft		10 ft		15 ft		20 ft		30 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-17-09 08:21		Feb-17-09 08:22		Feb-17-09 08:25		Feb-17-09 08:27		Feb-17-09 08:30		Feb-17-09 08:33	
Anions by EPA 300	***Extracted:***												
	Analyzed:	Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 15:05	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		ND	5.44	ND	5.22	ND	5.30	12.0	5.27	ND	5.21	61.1	12.2
Percent Moisture	***Extracted:***												
	Analyzed:	Feb-18-09 09:00		Feb-18-09 09:00		Feb-18-09 09:00		Feb-18-09 09:00		Feb-18-09 09:00		Feb-18-09 09:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		8.06	1.00	4.24	1.00	5.66	1.00	5.17	1.00	4.09	1.00	17.72	1.00

Brent Barron
Odessa Laboratory Director

Project Id: 8-0132 **Project Name:** North 10

Contact: Michelle Green

Project Location:

Date Received in Lab: Tue Feb-17-09 04:47 pm

Report Date: 19-FEB-09

Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	325237-007		325237-008		325237-009		325237-010		325237-011		325237-012	
	Field Id:	MW 3 (40')		MW 3 (50')		MW 3 (60')		MW 5 (0-1')		MW 5 (5')		MW 5 (10')	
	Depth:	40 ft		50 ft		60 ft		0-1 ft		5 ft		10 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-17-09 08:36		Feb-17-09 08:43		Feb-17-09 09:00		Feb-17-09 09:57		Feb-17-09 09:59		Feb-17-09 10:00	
Anions by EPA 300	***Extracted:***												
	Analyzed:	Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 15:05	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		186	12.2	136	10.7	96.1	5.34	14.1	5.22	8.76	5.44	74.4	22.3
Percent Moisture	***Extracted:***												
	Analyzed:	Feb-18-09 09:00		Feb-18-09 09:00		Feb-18-09 09:00		Feb-18-09 09:00		Feb-18-09 09:00		Feb-18-09 09:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		18.05	1.00	6.22	1.00	6.45	1.00	4.29	1.00	8.13	1.00	10.51	1.00

Brent Barron
Odessa Laboratory Director

Project Id: 8-0132
Contact: Michelle Green
Project Location:

Project Name: North 10

Date Received in Lab: Tue Feb-17-09 04:47 pm
Report Date: 19-FEB-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	325237-013		325237-014		325237-015		325237-016		325237-017		325237-018	
	Field Id:	MW 5 (15')		MW 5 (20')		MW 5 (30')		MW 5 (40')		MW 5 (50')		MW 5 (60')	
	Depth:	15 ft		20 ft		30 ft		40 ft		50 ft		60 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-17-09 10:01		Feb-17-09 10:04		Feb-17-09 10:06		Feb-17-09 10:10		Feb-17-09 10:14		Feb-17-09 10:20	
Anions by EPA 300	***Extracted:***												
	Analyzed:	Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 15:05		Feb-18-09 20:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		54.4	11.4	84.1	11.2	124	11.7	81.0	5.45	9.60	5.34	62.0	5.47
Percent Moisture	***Extracted:***												
	Analyzed:	Feb-18-09 09:30		Feb-18-09 09:30		Feb-18-09 09:30		Feb-18-09 09:30		Feb-18-09 09:30		Feb-18-09 09:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		12.06	1.00	10.46	1.00	14.63	1.00	8.34	1.00	6.39	1.00	8.56	1.00

Brent Barron
Odessa Laboratory Director

Project Id: 8-0132
Contact: Michelle Green
Project Location:

Project Name: North 10

Date Received in Lab: Tue Feb-17-09 04:47 pm
Report Date: 19-FEB-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	325237-019		325237-020		325237-021		325237-022		325237-023		325237-024	
	Field Id:	MW 4 (0-1')		MW 4 (5')		MW 4 (10')		MW 4 (15')		MW 4 (20')		MW 4 (30')	
	Depth:	0-1 ft		5 ft		10 ft		15 ft		20 ft		30 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-17-09 13:00		Feb-17-09 13:03		Feb-17-09 13:04		Feb-17-09 13:05		Feb-17-09 13:07		Feb-17-09 13:10	
Anions by EPA 300	***Extracted:***												
	Analyzed:	Feb-18-09 20:24		Feb-18-09 20:24		Feb-18-09 20:24		Feb-18-09 20:24		Feb-18-09 20:24		Feb-18-09 20:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		ND	5.25	ND	5.20	ND	5.32	6.40	5.44	ND	11.2	81.5	11.3
Percent Moisture	***Extracted:***												
	Analyzed:	Feb-18-09 09:30		Feb-18-09 09:30		Feb-18-09 09:30		Feb-18-09 09:30		Feb-18-09 09:30		Feb-18-09 09:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		4.81	1.00	3.80	1.00	6.00	1.00	8.16	1.00	10.67	1.00	11.13	1.00

Brent Barron
Odessa Laboratory Director

Project Id: 8-0132
Contact: Michelle Green
Project Location:

Project Name: North 10

Date Received in Lab: Tue Feb-17-09 04:47 pm
Report Date: 19-FEB-09
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	325237-025		325237-026		325237-027					
	Field Id:	MW 4 (40')		MW 4 (50')		MW 4 (60')					
	Depth:	40 ft		50 ft		50 ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Feb-17-09 13:14		Feb-17-09 13:20		Feb-17-09 13:29					
Anions by EPA 300	***Extracted:***										
	Analyzed:	Feb-18-09 20:24		Feb-18-09 20:24		Feb-18-09 20:24					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		47.6	5.47	57.1	5.28	77.0	5.34				
Percent Moisture	***Extracted:***										
	Analyzed:	Feb-18-09 09:30		Feb-18-09 09:30		Feb-18-09 09:30					
	Units/RL:	%	RL	%	RL	%	RL				
Percent Moisture		8.58	1.00	5.31	1.00	6.45	1.00				

Brent Barron
Odessa Laboratory Director

XENCO Laboratories

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

* Outside XENCO's scope of NELAC Accreditation.

Xenco Laboratories

Blank Spike Recovery

Project Name: North 10"

Work Order #: 325237 **Project ID:** 8-0132

Lab Batch #: 750049 **Sample:** 750049-1-BKS **Matrix:** Solid

Date Analyzed: 02/18/2009 **Date Prepared:** 02/18/2009 **Analyst:** LATCOR

Reporting Units: mg/kg **Batch #:** 1

Anions by EPA 300 Analytes	Blank Result [A]	BLANK /BLANK SPIKE RECOVERY STUDY Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	11.1	111	90-110	H

Lab Batch #: 750050 **Sample:** 750050-1-BKS **Matrix:** Solid

Date Analyzed: 02/18/2009 **Date Prepared:** 02/18/2009 **Analyst:** LATCOR

Reporting Units: mg/kg **Batch #:** 1

Anions by EPA 300 Analytes	Blank Result [A]	BLANK /BLANK SPIKE RECOVERY STUDY Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	10.5	105	90-110	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: North 10"

ACCREDITED IN ACCORDANCE WITH nelac

Work Order #: 325237
Lab Batch #: 750049
Project ID: 8-0132
Date Analyzed: 02/18/2009
Date Prepared: 02/18/2009
Analyst: LATCOR
QC- Sample ID: 325200-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	117	120	246	108	80-120	

Lab Batch #: 750050
Date Analyzed: 02/18/2009
Date Prepared: 02/18/2009
Analyst: LATCOR
QC- Sample ID: 325237-018 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	62.0	109	179	107	80-120	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: North 10"

Work Order #: 325237

Lab Batch #: 750049 **Project ID:** 8-0132
Date Analyzed: 02/18/2009 **Date Prepared:** 02/18/2009 **Analyst:** LATCOR
QC- Sample ID: 325200-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Anions by EPA 300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	117	118	1	20	

Lab Batch #: 750050
Date Analyzed: 02/18/2009 **Date Prepared:** 02/18/2009 **Analyst:** LATCOR
QC- Sample ID: 325237-018 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Anions by EPA 300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	62.0	63.6	3	20	

Lab Batch #: 749984
Date Analyzed: 02/18/2009 **Date Prepared:** 02/18/2009 **Analyst:** BEV
QC- Sample ID: 325242-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	4.81	6.79	34	20	F

Lab Batch #: 749985
Date Analyzed: 02/18/2009 **Date Prepared:** 02/18/2009 **Analyst:** BEV
QC- Sample ID: 325237-013 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	12.1	10.5	14	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

DHL ANALYTICAL
2300 Double Creek Drive • Round Rock, TX 78664
Phone (512) 388-8222 • FAX (512) 388-8229

CLIENT: Larson & Associates
ADDRESS:
PHONE: 432-687-0901 FAX
DATA REPORTED TO: Mr. Green
ADDITIONAL REPORT COPIES TO:

DATE: 2-17-2009
PO #: DH
PROJECT LOCATION OR NAME:
CLIENT PROJECT #: 8-0132

Authorize 5% surcharge for TRRP report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR P=PAINT SL=SLUDGE OT=OTHER

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ | TRPH 418.1 ☐ | TPH 1005 ☐ TPH 1006 ☐ | GASOLINE MOD 8015 ☐ | DIESEL - MOD 8015 ☐ | VOC 8260 ☐ | SVOC 8270 ☐ | PAH 8270 ☐ HOLDPAH ☐ | 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ | 8082 PCBS ☐ | TCLP - METALS (RCRA) ☐ | TCLP - PEST ☐ HE | TOTAL METALS | LEAD

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers
MW3 (0-1')	01	2-17-09	0821	S	4oz	1
MW3 (5')	02		0822			
MW3 (10')	03		0825			
MW3 (15')	04		0827			
MW3 (20')	05		0830			
MW3 (30')	06		0833			
MW3 (40')	07		0836			
MW3 (50')	08		0840			
MW3 (60')	09		0900			
MW5 (0-1')	10		0957			
MW5 (5')	11		0959			
MW5 (10')	12		1000			
MW5 (15')	13		1001			
MW5 (20')	14		1004			
MW5 (30')	15		1006			

TOTAL

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	2-17-09 1647	[signature]
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☑
OTHER ☐

LAB
REC
CUS
☐ C
☐ AI
☐ H

DHL ANALYTICAL
2300 Double Creek Drive • Round Rock, TX 78664
Phone (512) 388-8222 • FAX (512) 388-8229

CLIENT: Larson & Associates
ADDRESS:
PHONE: 432-687-0901 FAX
DATA REPORTED TO: M. Green
ADDITIONAL REPORT COPIES TO:

DATE: 2-17-09
PO #: D
PROJECT LOCATION OR NAME:
CLIENT PROJECT #: 8-0132

Authorize 5% surcharge for TRRP report? ☐ Yes ☐ No

S=SOIL P=PAINT W=WATER SL=SLUDGE A=AIR OT=OTHER

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐	TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐	PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐	TCLP - PEST ☐ HE	TOTAL METALS	LEAD
MW 5 (40')	16	2-17-09	1010	S	4oz	1																			
MW 5 (50')	17		1014																						
MW 5 (60')	18		1020																						
MW 4 (0-1')	19		1300																						
MW 4 (5')	20		1303																						
MW 4 (10')	21		1304																						
MW 4 (15')	22		1305																						
MW 4 (20')	23		1307																						
MW 4 (30')	24		1310																						
MW 4 (40')	25		1314																						
MW 4 (50')	26		1320																						
TOTAL																									

RELINQUISHED BY: (Signature) DATE/TIME 2-17-09 / 1647 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☑
OTHER ☐

LAB
RECI
CUS
☐ CA
☐ AP
☐ HA

#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

_____

Corrective Action Taken:

_____

_____

_____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Gracie Avalos
Project Assistant
Xenco Labs - Odessa
432-563-1800 Office
432-4563-1713 Fax
gracie.avalos@xenco.com

2/19/2009

Subject: Sample

Brent,

Bill and Don drop off samples yesterday for project # 8-0132.

Please add the project name: North 10"

Thank you,

Michelle L. Green
Larson & Associates, Inc.
507 N Marienfeld, Suite 200
Midland, TX 79701

Office: 432.687.0901
Fax: 432.687.0456
Cell: 432.934.3231

Larson & Associates, Inc.
Environmental Consultants

2/19/2009

DHL ANALYTICAL

March 11, 2009

Michelle Green
Larson & Associates
507 N. Marienfeld #200
Midland, TX 79701

TEL: (432) 687-0901
FAX: (432) 687-0456

Order No: 0903005

RE: North 10"

Dear Michelle Green:

DHL Analytical received 3 sample(s) on 3/3/2009 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

John DuPont
Lab Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-08B-TX

ACCREDITED IN ACCORDANCE WITH nelac

Table of Contents

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 3/2/09 PAGE 1 OF 1
PO #: LAB WORK ORDER #: 0903005
PROJECT LOCATION OR NAME: North 10 11
LAI PROJECT #: 8-0132 COLLECTOR: DM

TRRP report? ☐ Yes ☒ No
TIME ZONE: Time zone/State: NM / MST
S=SOIL W=WATER A=AIR
P=PAINT SL=SLUDGE OT=OTHER

Field Sample I.D.	Lab #	Date	Time (MST)	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☒	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☒ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☒	SO4	FIELD NOTES
MW-3	01	3/2/09	1044	W	3				✓											X		X			X	X				Metals: Lab filter (0.45u) RCRA + Sb, Be, Ni Ca, Mg, K, Na
MW-4	02	↓	1250	W	↓				↓											↓		↓			↓	↓				
MW-5	03	↓	1135	W	↓				↓											↓		↓			↓	↓				
TOTAL																														

RELINQUISHED BY:(Signature) DATE/TIME 3-2-09 / 424 MST RECEIVED BY: (Signature) Rorester
RELINQUISHED BY:(Signature) Rorester DATE/TIME 3/3/09 8:30 RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 1.1° THERM #: 57
CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED
☒ CARRIER BILL # Rorester
☐ HAND DELIVERED

ABCode: 441164

Lone Star Overnight

WWW.LSO.COM
Questions? Call 800-800-8984

Airbill No. 39724525

39724525

1. To:

Print Name (Person)	Phone (Important)
	512-388-8222

Company Name: DHL ANALYTICAL

Street Address (No P.O. Box or P.O. Box Zip Code For Deliveries): 2300 DOUBLE CREEK DR

Suite / Floor:

City: ROUND ROCK State: TX Zip: 78664

2. From:

Print Name (Person)	Phone (Important)
	432-687-0901

Company Name: LARSON & ASSOCIATES

Street Address: 507 NORTH MARIENFELD

Suite / Floor: 202

City: MIDLAND State: TX Zip: 79701

3. Service:

- [X] By 10:30am Delivery (Noon to select zipcodes.)
- [ ] By 8:30am Delivery (Most Cities) (Extra Charge, No Signature Obtained)
- [ ] Saturday Delivery - By 12 Noon (Extra Charge)
- [ ] Other

- [X] Deliver Without Delivery Signature (See Limits of Liability below)

Release Signature

4. Package: Weight: 40 Package Value: 100

Your Company's Billing Reference Information: 8-0132

Ship Date: (mm/dd/yy) 3-2-09

5. Payment: Bill To Account Number: 124324

Bill To Credit Card - MC, VISA, AMEX, DISCOVER

Credit Card Number:

Expiration Date: (mm/yy)

FOR COURIER USE ONLY

Courier Number: 3556

Pick-up Location: 111

Date: 3-2

Time: 1830

City Code: MDS

LIMIT OF LIABILITY: We are not responsible for claims in excess of $100 for any reason unless you: 1) declare a greater value (not to exceed $25,000), 2) pay an additional fee, 3) and document your actual loss in a timely manner. We will not pay any claim in excess of the actual loss. We are not liable for any special or consequential damages. Additional limitations or liability are contained in our current Service Guide. If you ask us to deliver a package without obtaining a courtesy signature, you release us of all liability for claims resulting from such service. NO DELIVERY SIGNATURE WILL BE OBTAINED FOR 8:30 AM DELIVERIES AND RESIDENTIAL DELIVERIES. DELIVERY GUARANTEE MAY VARY. ADDITIONAL FEE MAY APPLY.

CUSTODY SEAL
DATE
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical

Sample Receipt Checklist

Client Name Larson & Associates | Date Received: 3/3/2009

Work Order Number 0903005 | Received by JB

Checklist completed by: [signature] 3/3/09 (Signature / Date) | Reviewed by DL 3/3/09 (Initials / Date)

Carrier name: LoneStar

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping 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 ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	1.1 °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

DHL Analytical

Date: 03/11/09

CLIENT: Larson & Associates
Project: North 10"
Lab Order: 0903005

CASE NARRATIVE

Sample was analyzed using the methods outlined in the following references:

Method SW6020 - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M2320 B (18th edition) - Alkalinity Analysis
Method M2540C (18th Edition) - TDS Analysis

LOG IN

Samples were received and log-in performed on 3/3/09. A total of 3 samples were received. The time of collection was Mountain Standard Time. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 3/6/09 the matrix spike and matrix spike duplicate recoveries were out of control limits for a few analytes. These are flagged accordingly in the QC summary report. The reference sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 3/6/09 the RPD for the serial dilution was above control limits for Selenium. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

DHL Analytical

Date: 03/11/09

CLIENT: Larson & Associates
Project: North 10"
Lab Order: 0903005

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recv'd
0903005-01	MW-3		03/02/09 10:44 AM	03/03/09
0903005-02	MW-4		03/02/09 12:50 PM	03/03/09
0903005-03	MW-5		03/02/09 11:35 AM	03/03/09

DHL Analytical

Date: 03/11/09

CLIENT: Larson & Associates
Project: North 10"
Lab Order: 0903005

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
0903005-01A	MW-3	03/02/09 10:44 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/04/09 09:48 AM	33775
	MW-3	03/02/09 10:44 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved - 0.45µ Filter	03/04/09 09:52 AM	33777
	MW-3	03/02/09 10:44 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved - 0.45µ Filter	03/04/09 09:52 AM	33777
	MW-3	03/02/09 10:44 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved - 0.45µ Filter	03/04/09 09:52 AM	33777
0903005-01C	MW-3	03/02/09 10:44 AM	Aqueous	E300	Anion Preparation	03/03/09 09:00 AM	33765
	MW-3	03/02/09 10:44 AM	Aqueous	E300	Anion Preparation	03/03/09 09:00 AM	33765
	MW-3	03/02/09 10:44 AM	Aqueous	M2320 B	Alkalinity Preparation	03/03/09 10:45 AM	33762
	MW-3	03/02/09 10:44 AM	Aqueous	M2540C	TDS Preparation	03/04/09 10:15 AM	33803
0903005-02A	MW-4	03/02/09 12:50 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/04/09 09:48 AM	33775
	MW-4	03/02/09 12:50 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved - 0.45µ Filter	03/04/09 09:52 AM	33777
	MW-4	03/02/09 12:50 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved - 0.45µ Filter	03/04/09 09:52 AM	33777
	MW-4	03/02/09 12:50 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved - 0.45µ Filter	03/04/09 09:52 AM	33777
	MW-4	03/02/09 12:50 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved - 0.45µ Filter	03/04/09 09:52 AM	33777
0903005-02C	MW-4	03/02/09 12:50 PM	Aqueous	E300	Anion Preparation	03/03/09 09:00 AM	33765
	MW-4	03/02/09 12:50 PM	Aqueous	E300	Anion Preparation	03/03/09 09:00 AM	33765
	MW-4	03/02/09 12:50 PM	Aqueous	E300	Anion Preparation	03/03/09 09:00 AM	33765
	MW-4	03/02/09 12:50 PM	Aqueous	M2320 B	Alkalinity Preparation	03/03/09 10:45 AM	33762
	MW-4	03/02/09 12:50 PM	Aqueous	M2540C	TDS Preparation	03/04/09 10:15 AM	33803
0903005-03A	MW-5	03/02/09 11:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/04/09 09:48 AM	33775
	MW-5	03/02/09 11:35 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved - 0.45µ Filter	03/04/09 09:52 AM	33777
	MW-5	03/02/09 11:35 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved - 0.45µ Filter	03/04/09 09:52 AM	33777
	MW-5	03/02/09 11:35 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved - 0.45µ Filter	03/04/09 09:52 AM	33777
0903005-03C	MW-5	03/02/09 11:35 AM	Aqueous	E300	Anion Preparation	03/03/09 09:00 AM	33765
	MW-5	03/02/09 11:35 AM	Aqueous	E300	Anion Preparation	03/03/09 09:00 AM	33765
	MW-5	03/02/09 11:35 AM	Aqueous	M2320 B	Alkalinity Preparation	03/03/09 10:45 AM	33762
	MW-5	03/02/09 11:35 AM	Aqueous	M2540C	TDS Preparation	03/04/09 10:15 AM	33803

DHL Analytical

Date: 03/11/09

CLIENT: Larson & Associates
Project: North 10"
Lab Order: 0903005

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
0903005-01A	MW-3	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	33777	1	03/05/09 02:09 PM	ICP-MS3_090305A
	MW-3	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	33777	100	03/06/09 03:34 PM	ICP-MS3_090306B
	MW-3	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	33777	1	03/06/09 06:35 PM	ICP-MS3_090306B
	MW-3	Aqueous	SW7470A	Mercury Filtered (0.45µ)	33775	1	03/04/09 03:34 PM	CETAC_HG_090304C
0903005-01C	MW-3	Aqueous	M2320 B	Alkalinity	33762	1	03/03/09 11:12 AM	TITRATOR_090303B
	MW-3	Aqueous	E300	Anions by IC method - Water	33765	10	03/03/09 11:28 AM	IC_090303A
	MW-3	Aqueous	E300	Anions by IC method - Water	33765	100	03/03/09 11:44 AM	IC_090303A
	MW-3	Aqueous	M2540C	Total Dissolved Solids	33803	1	03/04/09 10:15 AM	WC_090304A
0903005-02A	MW-4	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	33777	1	03/05/09 01:43 PM	ICP-MS3_090305A
	MW-4	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	33777	100	03/06/09 03:18 PM	ICP-MS3_090306B
	MW-4	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	33777	5	03/06/09 04:06 PM	ICP-MS3_090306B
	MW-4	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	33777	1	03/06/09 06:09 PM	ICP-MS3_090306B
	MW-4	Aqueous	SW7470A	Mercury Filtered (0.45µ)	33775	1	03/04/09 03:36 PM	CETAC_HG_090304C
0903005-02C	MW-4	Aqueous	M2320 B	Alkalinity	33762	1	03/03/09 11:26 AM	TITRATOR_090303B
	MW-4	Aqueous	E300	Anions by IC method - Water	33765	100	03/03/09 12:00 PM	IC_090303A
	MW-4	Aqueous	E300	Anions by IC method - Water	33765	100	03/10/09 11:15 AM	IC_090310A
	MW-4	Aqueous	E300	Anions by IC method - Water	33765	10	03/10/09 11:30 AM	IC_090310A
	MW-4	Aqueous	M2540C	Total Dissolved Solids	33803	1	03/04/09 10:15 AM	WC_090304A
0903005-03A	MW-5	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	33777	1	03/05/09 02:14 PM	ICP-MS3_090305A
	MW-5	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	33777	100	03/06/09 03:39 PM	ICP-MS3_090306B
	MW-5	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	33777	1	03/06/09 06:40 PM	ICP-MS3_090306B
	MW-5	Aqueous	SW7470A	Mercury Filtered (0.45µ)	33775	1	03/04/09 03:38 PM	CETAC_HG_090304C
0903005-03C	MW-5	Aqueous	M2320 B	Alkalinity	33762	1	03/03/09 11:31 AM	TITRATOR_090303B
	MW-5	Aqueous	E300	Anions by IC method - Water	33765	10	03/03/09 12:31 PM	IC_090303A
	MW-5	Aqueous	E300	Anions by IC method - Water	33765	100	03/03/09 01:52 PM	IC_090303A
	MW-5	Aqueous	M2540C	Total Dissolved Solids	33803	1	03/04/09 10:15 AM	WC_090304A

DHL Analytical

Date: 03/11/09

CLIENT:	Larson & Associates	**Client Sample ID:**	MW-3
Project:	North 10"	**Lab ID:**	0903005-01
Project No:	8-0132	**Collection Date:**	03/02/09 10:44 AM
Lab Order:	0903005	**Matrix:**	Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Mercury Filtered (0.45µ)		**SW7470A**					**Analyst: LM**
Mercury	ND	0.0000800	0.000200		mg/L	1	03/04/09 03:34 PM
Dissolved Metals-ICPMS (0.45µ)		**SW6020**					**Analyst: CZ**
Antimony	ND	0.000800	0.00250		mg/L	1	03/05/09 02:09 PM
Arsenic	0.00628	0.00200	0.00600		mg/L	1	03/05/09 02:09 PM
Barium	0.114	0.00300	0.0100		mg/L	1	03/05/09 02:09 PM
Beryllium	ND	0.000300	0.00100		mg/L	1	03/06/09 06:35 PM
Cadmium	ND	0.000300	0.00100		mg/L	1	03/05/09 02:09 PM
Calcium	220	10.0	30.0		mg/L	100	03/06/09 03:34 PM
Chromium	ND	0.00200	0.00600		mg/L	1	03/05/09 02:09 PM
Lead	ND	0.000300	0.00100		mg/L	1	03/05/09 02:09 PM
Magnesium	116	10.0	30.0		mg/L	100	03/06/09 03:34 PM
Nickel	ND	0.00300	0.0100		mg/L	1	03/05/09 02:09 PM
Potassium	9.90	0.100	0.300		mg/L	1	03/05/09 02:09 PM
Selenium	0.0180	0.00200	0.00600		mg/L	1	03/06/09 06:35 PM
Silver	ND	0.00100	0.00200		mg/L	1	03/05/09 02:09 PM
Sodium	227	10.0	30.0		mg/L	100	03/06/09 03:34 PM
Anions by IC method - Water		**E300**					**Analyst: JBC**
Chloride	883	30.0	100		mg/L	100	03/03/09 11:44 AM
Sulfate	256	10.0	30.0		mg/L	10	03/03/09 11:28 AM
Alkalinity		**M2320 B**					**Analyst: JBC**
Alkalinity, Bicarbonate (As CaCO3)	199	10.0	20.0		mg/L	1	03/03/09 11:12 AM
Alkalinity, Carbonate (As CaCO3)	ND	10.0	20.0		mg/L	1	03/03/09 11:12 AM
Alkalinity, Hydroxide (As CaCO3)	ND	10.0	20.0		mg/L	1	03/03/09 11:12 AM
Alkalinity, Total (As CaCO3)	199	10.0	20.0		mg/L	1	03/03/09 11:12 AM
Total Dissolved Solids		**M2540C**					**Analyst: AAD**
Total Dissolved Solids (Residue, Filterable)	2270	10.0	10.0		mg/L	1	03/04/09 10:15 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 03/11/09

CLIENT:	Larson & Associates	**Client Sample ID:**	MW-4
Project:	North 10"	**Lab ID:**	0903005-02
Project No:	8-0132	**Collection Date:**	03/02/09 12:50 PM
Lab Order:	0903005	**Matrix:**	Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Mercury Filtered (0.45µ)		**SW7470A**					**Analyst: LM**
Mercury	ND	0.0000800	0.000200		mg/L	1	03/04/09 03:36 PM
Dissolved Metals-ICPMS (0.45µ)		**SW6020**					**Analyst: CZ**
Antimony	ND	0.000800	0.00250		mg/L	1	03/05/09 01:43 PM
Arsenic	0.00678	0.00200	0.00600		mg/L	1	03/05/09 01:43 PM
Barium	0.0684	0.00300	0.0100		mg/L	1	03/05/09 01:43 PM
Beryllium	ND	0.000300	0.00100		mg/L	1	03/06/09 06:09 PM
Cadmium	ND	0.000300	0.00100		mg/L	1	03/05/09 01:43 PM
Calcium	230	10.0	30.0		mg/L	100	03/06/09 03:18 PM
Chromium	ND	0.00200	0.00600		mg/L	1	03/05/09 01:43 PM
Lead	ND	0.000300	0.00100		mg/L	1	03/05/09 01:43 PM
Magnesium	126	10.0	30.0		mg/L	100	03/06/09 03:18 PM
Nickel	ND	0.00300	0.0100		mg/L	1	03/05/09 01:43 PM
Potassium	12.4	0.500	1.50		mg/L	5	03/06/09 04:06 PM
Selenium	0.0274	0.00200	0.00600		mg/L	1	03/06/09 06:09 PM
Silver	ND	0.00100	0.00200		mg/L	1	03/05/09 01:43 PM
Sodium	644	10.0	30.0		mg/L	100	03/06/09 03:18 PM
Anions by IC method - Water		**E300**					**Analyst: JBC**
Chloride	1600	30.0	100		mg/L	100	03/10/09 11:15 AM
Sulfate	532	10.0	30.0		mg/L	10	03/10/09 11:30 AM
Alkalinity		**M2320 B**					**Analyst: JBC**
Alkalinity, Bicarbonate (As CaCO3)	173	10.0	20.0		mg/L	1	03/03/09 11:26 AM
Alkalinity, Carbonate (As CaCO3)	ND	10.0	20.0		mg/L	1	03/03/09 11:26 AM
Alkalinity, Hydroxide (As CaCO3)	ND	10.0	20.0		mg/L	1	03/03/09 11:26 AM
Alkalinity, Total (As CaCO3)	173	10.0	20.0		mg/L	1	03/03/09 11:26 AM
Total Dissolved Solids		**M2540C**					**Analyst: AAD**
Total Dissolved Solids (Residue, Filterable)	4440	10.0	10.0		mg/L	1	03/04/09 10:15 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT:	Larson & Associates	**Client Sample ID:**	MW-5
Project:	North 10"	**Lab ID:**	0903005-03
Project No:	8-0132	**Collection Date:**	03/02/09 11:35 AM
Lab Order:	0903005	**Matrix:**	Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Mercury Filtered (0.45µ)		**SW7470A**					**Analyst: LM**
Mercury	ND	0.0000800	0.000200		mg/L	1	03/04/09 03:38 PM
Dissolved Metals-ICPMS (0.45µ)		**SW6020**					**Analyst: CZ**
Antimony	ND	0.000800	0.00250		mg/L	1	03/05/09 02:14 PM
Arsenic	0.0110	0.00200	0.00600		mg/L	1	03/05/09 02:14 PM
Barium	0.0405	0.00300	0.0100		mg/L	1	03/05/09 02:14 PM
Beryllium	ND	0.000300	0.00100		mg/L	1	03/06/09 06:40 PM
Cadmium	ND	0.000300	0.00100		mg/L	1	03/05/09 02:14 PM
Calcium	214	10.0	30.0		mg/L	100	03/06/09 03:39 PM
Chromium	ND	0.00200	0.00600		mg/L	1	03/05/09 02:14 PM
Lead	ND	0.000300	0.00100		mg/L	1	03/05/09 02:14 PM
Magnesium	121	10.0	30.0		mg/L	100	03/06/09 03:39 PM
Nickel	ND	0.00300	0.0100		mg/L	1	03/05/09 02:14 PM
Potassium	9.39	0.100	0.300		mg/L	1	03/05/09 02:14 PM
Selenium	0.0555	0.00200	0.00600		mg/L	1	03/06/09 06:40 PM
Silver	ND	0.00100	0.00200		mg/L	1	03/05/09 02:14 PM
Sodium	254	10.0	30.0		mg/L	100	03/06/09 03:39 PM
Anions by IC method - Water		**E300**					**Analyst: JBC**
Chloride	618	30.0	100		mg/L	100	03/03/09 01:52 PM
Sulfate	855	10.0	30.0		mg/L	10	03/03/09 12:31 PM
Alkalinity		**M2320 B**					**Analyst: JBC**
Alkalinity, Bicarbonate (As CaCO3)	154	10.0	20.0		mg/L	1	03/03/09 11:31 AM
Alkalinity, Carbonate (As CaCO3)	ND	10.0	20.0		mg/L	1	03/03/09 11:31 AM
Alkalinity, Hydroxide (As CaCO3)	ND	10.0	20.0		mg/L	1	03/03/09 11:31 AM
Alkalinity, Total (As CaCO3)	154	10.0	20.0		mg/L	1	03/03/09 11:31 AM
Total Dissolved Solids		**M2540C**					**Analyst: AAD**
Total Dissolved Solids (Residue, Filterable)	2440	10.0	10.0		mg/L	1	03/04/09 10:15 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC_HG_090304C

Sample ID:	MB-33775	Batch ID:	33775	TestNo:	SW7470A			Units:	mg/L		
SampType:	MBLK	Run ID:	CETAC_HG_090304C	Analysis Date:	03/04/09 03:01 PM			Prep Date:	03/04/09		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		ND	0.000200								

Sample ID:	Filter Blank-33775	Batch ID:	33775	TestNo:	SW7470A			Units:	mg/L		
SampType:	MBLK	Run ID:	CETAC_HG_090304C	Analysis Date:	03/04/09 03:03 PM			Prep Date:	03/04/09		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		ND	0.000200								

Sample ID:	LCS-33775	Batch ID:	33775	TestNo:	SW7470A			Units:	mg/L		
SampType:	LCS	Run ID:	CETAC_HG_090304C	Analysis Date:	03/04/09 03:09 PM			Prep Date:	03/04/09		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00194	0.000200	0.00200	0	97.0	85	115			

Sample ID:	LCSD-33775	Batch ID:	33775	TestNo:	SW7470A			Units:	mg/L		
SampType:	LCSD	Run ID:	CETAC_HG_090304C	Analysis Date:	03/04/09 03:11 PM			Prep Date:	03/04/09		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00200	0.000200	0.00200	0	100	85	115	3.05	15	

Sample ID:	0902127-02C SD	Batch ID:	33775	TestNo:	SW7470A			Units:	mg/L		
SampType:	SD	Run ID:	CETAC_HG_090304C	Analysis Date:	03/04/09 03:15 PM			Prep Date:	03/04/09		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0	0.00100	0	0				0	10	

Sample ID:	0902127-02C PDS	Batch ID:	33775	TestNo:	SW7470A			Units:	mg/L		
SampType:	PDS	Run ID:	CETAC_HG_090304C	Analysis Date:	03/04/09 03:17 PM			Prep Date:	03/04/09		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00252	0.000200	0.00250	0	101	85	115			

Sample ID:	0902127-02C MS	Batch ID:	33775	TestNo:	SW7470A			Units:	mg/L		
SampType:	MS	Run ID:	CETAC_HG_090304C	Analysis Date:	03/04/09 03:19 PM			Prep Date:	03/04/09		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00212	0.000200	0.00200	0	106	80	120			

Sample ID:	0902127-02C MSD	Batch ID:	33775	TestNo:	SW7470A			Units:	mg/L		
SampType:	MSD	Run ID:	CETAC_HG_090304C	Analysis Date:	03/04/09 03:25 PM			Prep Date:	03/04/09		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00216	0.000200	0.00200	0	108	80	120	1.87	15	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC_HG_090304C

Sample ID:	ICV-090304	Batch ID:	R42187		TestNo:		SW7470A		Units:		mg/L
SampType:	ICV	Run ID:	CETAC_HG_090304C		Analysis Date:		03/04/09 02:57 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00400	0.000200	0.00400	0	100	90	110			

Sample ID:	CCV1-090304	Batch ID:	R42187		TestNo:		SW7470A		Units:		mg/L
SampType:	CCV	Run ID:	CETAC_HG_090304C		Analysis Date:		03/04/09 03:21 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00207	0.000200	0.00200	0	104	90	110			

Sample ID:	CCV2-090304	Batch ID:	R42187		TestNo:		SW7470A		Units:		mg/L
SampType:	CCV	Run ID:	CETAC_HG_090304C		Analysis Date:		03/04/09 03:42 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00215	0.000200	0.00200	0	108	90	110			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_090305A

Sample ID:	MB-33777	Batch ID:	33777		TestNo:		SW6020		Units:	mg/L
SampType:	MBLK	Run ID:	ICP-MS3_090305A		Analysis Date:		03/05/09 12:35 PM		Prep Date:	03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Antimony		ND	0.00250								
Arsenic		ND	0.00600								
Barium		ND	0.0100								
Cadmium		ND	0.00100								
Calcium		ND	0.300								
Chromium		ND	0.00600								
Lead		ND	0.00100								
Magnesium		ND	0.300								
Nickel		ND	0.0100								
Potassium		ND	0.300								
Selenium		ND	0.00600								
Silver		ND	0.00200								
Sodium		ND	0.300								

Sample ID:	Filter Blank-33777	Batch ID:	33777		TestNo:		SW6020		Units:	mg/L
SampType:	MBLK	Run ID:	ICP-MS3_090305A		Analysis Date:		03/05/09 12:45 PM		Prep Date:	03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Antimony		ND	0.00250								
Arsenic		ND	0.00600								
Barium		ND	0.0100								
Cadmium		ND	0.00100								
Calcium		ND	0.300								
Chromium		ND	0.00600								
Lead		ND	0.00100								
Magnesium		ND	0.300								
Nickel		ND	0.0100								
Potassium		ND	0.300								
Selenium		ND	0.00600								
Silver		ND	0.00200								
Sodium		ND	0.300								

Sample ID:	LCS-33777	Batch ID:	33777		TestNo:		SW6020		Units:	mg/L
SampType:	LCS	Run ID:	ICP-MS3_090305A		Analysis Date:		03/05/09 12:50 PM		Prep Date:	03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Antimony		0.198	0.00250	0.200	0	99.2	80	120			
Arsenic		0.200	0.00600	0.200	0	99.8	80	120			
Barium		0.208	0.0100	0.200	0	104	80	120			
Cadmium		0.199	0.00100	0.200	0	99.4	80	120			
Calcium		4.87	0.300	5.00	0	97.4	80	120			
Chromium		0.201	0.00600	0.200	0	100	80	120			
Lead		0.214	0.00100	0.200	0	107	80	120			
Magnesium		4.71	0.300	5.00	0	94.2	80	120			
Nickel		0.188	0.0100	0.200	0	94.2	80	120			
Potassium		4.97	0.300	5.00	0	99.5	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_090305A

Selenium		0.200	0.00600	0.200	0	100	80	120		
Silver		0.196	0.00200	0.200	0	98.1	80	120		
Sodium		4.77	0.300	5.00	0	95.4	80	120		

Sample ID:	LCSD-33777	**Batch ID:**	33777		**TestNo:**		SW6020		**Units:**	mg/L
SampType:	LCSD	**Run ID:**	ICP-MS3_090305A		**Analysis Date:**		03/05/09 12:55 PM		**Prep Date:**	03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit** **Qual**
Antimony		0.198	0.00250	0.200	0	99.2	80	120	0.0504	15
Arsenic		0.201	0.00600	0.200	0	100	80	120	0.600	15
Barium		0.208	0.0100	0.200	0	104	80	120	0.0481	15
Cadmium		0.200	0.00100	0.200	0	100	80	120	0.602	15
Calcium		4.90	0.300	5.00	0	98.0	80	120	0.593	15
Chromium		0.201	0.00600	0.200	0	101	80	120	0.249	15
Lead		0.216	0.00100	0.200	0	108	80	120	0.558	15
Magnesium		4.70	0.300	5.00	0	94.1	80	120	0.127	15
Nickel		0.190	0.0100	0.200	0	94.8	80	120	0.635	15
Potassium		5.00	0.300	5.00	0	100	80	120	0.581	15
Selenium		0.203	0.00600	0.200	0	102	80	120	1.44	15
Silver		0.197	0.00200	0.200	0	98.4	80	120	0.305	15
Sodium		4.76	0.300	5.00	0	95.2	80	120	0.168	15

Sample ID:	0903005-02A SD	**Batch ID:**	33777		**TestNo:**		SW6020		**Units:**	mg/L
SampType:	SD	**Run ID:**	ICP-MS3_090305A		**Analysis Date:**		03/05/09 01:48 PM		**Prep Date:**	03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit** **Qual**
Antimony		0	0.0125	0	0				0	10
Arsenic		0	0.0300	0	0.00678				0	10
Barium		0.0682	0.0500	0	0.0684				0.351	10
Cadmium		0	0.00500	0	0				0	10
Chromium		0	0.0300	0	0				0	10
Lead		0	0.00500	0	0				0	10
Nickel		0	0.0500	0	0				0	10
Silver		0	0.0100	0	0				0	10

Sample ID:	0903005-02A PDS	**Batch ID:**	33777		**TestNo:**		SW6020		**Units:**	mg/L
SampType:	PDS	**Run ID:**	ICP-MS3_090305A		**Analysis Date:**		03/05/09 01:53 PM		**Prep Date:**	03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit** **Qual**
Antimony		0.184	0.00250	0.200	0	92.2	75	125		
Arsenic		0.193	0.00600	0.200	0.00678	93.2	75	125		
Barium		0.276	0.0100	0.200	0.0684	104	75	125		
Cadmium		0.158	0.00100	0.200	0	78.8	75	125		
Chromium		0.185	0.00600	0.200	0	92.6	75	125		
Lead		0.226	0.00100	0.200	0	113	75	125		
Nickel		0.163	0.0100	0.200	0	81.5	75	125		
Silver		0.164	0.00200	0.200	0	81.9	75	125		

Sample ID:	0903005-02A MS	**Batch ID:**	33777	**TestNo:**	SW6020	**Units:**	mg/L
SampType:	MS	**Run ID:**	ICP-MS3_090305A	**Analysis Date:**	03/05/09 01:59 PM	**Prep Date:**	03/04/09

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_090305A

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Antimony	0.191	0.00250	0.200	0	95.4	80	120			
Arsenic	0.198	0.00600	0.200	0.00678	95.8	80	120			
Barium	0.291	0.0100	0.200	0.0684	111	80	120			
Cadmium	0.166	0.00100	0.200	0	82.8	80	120			
Chromium	0.191	0.00600	0.200	0	95.6	80	120			
Lead	0.232	0.00100	0.200	0	116	80	120			
Nickel	0.170	0.0100	0.200	0	85.0	80	120			
Silver	0.167	0.00200	0.200	0	83.3	80	120			

Sample ID:	0903005-02A MSD	**Batch ID:**	33777	**TestNo:**	SW6020	**Units:**	mg/L
SampType:	MSD	**Run ID:**	ICP-MS3_090305A	**Analysis Date:**	03/05/09 02:04 PM	**Prep Date:**	03/04/09

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Antimony	0.190	0.00250	0.200	0	95.2	80	120	0.262	15	
Arsenic	0.191	0.00600	0.200	0.00678	92.3	80	120	3.59	15	
Barium	0.285	0.0100	0.200	0.0684	108	80	120	1.98	15	
Cadmium	0.162	0.00100	0.200	0	80.8	80	120	2.44	15	
Chromium	0.188	0.00600	0.200	0	94.2	80	120	1.47	15	
Lead	0.232	0.00100	0.200	0	116	80	120	0.172	15	
Nickel	0.167	0.0100	0.200	0	83.6	80	120	1.72	15	
Silver	0.168	0.00200	0.200	0	83.8	80	120	0.539	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_090305A

Sample ID:	ICV1-090305	Batch ID:	R42202		TestNo:		SW6020		Units:		mg/L
SampType:	ICV	Run ID:	ICP-MS3_090305A		Analysis Date:		03/05/09 12:14 PM		Prep Date:		
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Antimony		0.0984	0.00250	0.100	0	98.4	90	110			
Arsenic		0.100	0.00600	0.100	0	100	90	110			
Barium		0.103	0.0100	0.100	0	103	90	110			
Cadmium		0.0985	0.00100	0.100	0	98.5	90	110			
Calcium		2.52	0.300	2.50	0	101	90	110			
Chromium		0.104	0.00600	0.100	0	104	90	110			
Lead		0.107	0.00100	0.100	0	107	90	110			
Magnesium		2.45	0.300	2.50	0	98.1	90	110			
Nickel		0.0945	0.0100	0.100	0	94.5	90	110			
Potassium		2.52	0.300	2.50	0	101	90	110			
Selenium		0.0972	0.00600	0.100	0	97.2	90	110			
Silver		0.0957	0.00200	0.100	0	95.6	90	110			
Sodium		2.46	0.300	2.50	0	98.5	90	110			

Sample ID:	CCV1-090305	Batch ID:	R42202		TestNo:		SW6020		Units:		mg/L
SampType:	CCV	Run ID:	ICP-MS3_090305A		Analysis Date:		03/05/09 01:11 PM		Prep Date:		
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Antimony		0.196	0.00250	0.200	0	98.0	90	110			
Arsenic		0.202	0.00600	0.200	0	101	90	110			
Barium		0.209	0.0100	0.200	0	104	90	110			
Cadmium		0.200	0.00100	0.200	0	99.8	90	110			
Calcium		4.85	0.300	5.00	0	97.0	90	110			
Chromium		0.200	0.00600	0.200	0	99.8	90	110			
Lead		0.212	0.00100	0.200	0	106	90	110			
Magnesium		4.66	0.300	5.00	0	93.1	90	110			
Nickel		0.187	0.0100	0.200	0	93.3	90	110			
Potassium		5.02	0.300	5.00	0	100	90	110			
Selenium		0.209	0.00600	0.200	0	104	90	110			
Silver		0.196	0.00200	0.200	0	98.2	90	110			
Sodium		4.62	0.300	5.00	0	92.5	90	110			

Sample ID:	CCV2-090305	Batch ID:	R42202		TestNo:		SW6020		Units:		mg/L
SampType:	CCV	Run ID:	ICP-MS3_090305A		Analysis Date:		03/05/09 02:19 PM		Prep Date:		
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Antimony		0.204	0.00250	0.200	0	102	90	110			
Arsenic		0.208	0.00600	0.200	0	104	90	110			
Barium		0.214	0.0100	0.200	0	107	90	110			
Cadmium		0.204	0.00100	0.200	0	102	90	110			
Chromium		0.204	0.00600	0.200	0	102	90	110			
Lead		0.213	0.00100	0.200	0	107	90	110			
Nickel		0.182	0.0100	0.200	0	90.8	90	110			
Potassium		5.02	0.300	5.00	0	100	90	110			
Silver		0.199	0.00200	0.200	0	99.6	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_090305B

Sample ID:	MB-33777	**Batch ID:**	33777		**TestNo:**	SW6020			**Units:**		mg/L
SampType:	MBLK	**Run ID:**	ICP-MS3_090305B		**Analysis Date:**	03/05/09 06:25 PM			**Prep Date:**		03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Beryllium		ND	0.00100								

Sample ID:	Filter Blank-33777	**Batch ID:**	33777		**TestNo:**	SW6020			**Units:**		mg/L
SampType:	MBLK	**Run ID:**	ICP-MS3_090305B		**Analysis Date:**	03/05/09 06:30 PM			**Prep Date:**		03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Beryllium		ND	0.00100								

Sample ID:	LCS-33777	**Batch ID:**	33777		**TestNo:**	SW6020			**Units:**		mg/L
SampType:	LCS	**Run ID:**	ICP-MS3_090305B		**Analysis Date:**	03/05/09 06:36 PM			**Prep Date:**		03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Beryllium		0.201	0.00100	0.200	0	100	80	120			

Sample ID:	LCSD-33777	**Batch ID:**	33777		**TestNo:**	SW6020			**Units:**		mg/L
SampType:	LCSD	**Run ID:**	ICP-MS3_090305B		**Analysis Date:**	03/05/09 06:41 PM			**Prep Date:**		03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Beryllium		0.200	0.00100	0.200	0	99.8	80	120	9.60	15	

Qualifiers:	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

DHL Analytical

Date: 03/11/09

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_090305B

Sample ID:	ICV1-090305	**Batch ID:**	R42205		**TestNo:**		SW6020			**Units:**	mg/L
SampType:	ICV	**Run ID:**	ICP-MS3_090305B		**Analysis Date:**		03/05/09 05:54 PM			**Prep Date:**	
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Beryllium		0.0994	0.00100	0.100	0	99.4	90	110			

Sample ID:	CCV1-090305	**Batch ID:**	R42205		**TestNo:**		SW6020			**Units:**	mg/L
SampType:	CCV	**Run ID:**	ICP-MS3_090305B		**Analysis Date:**		03/05/09 06:46 PM			**Prep Date:**	
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Beryllium		0.197	0.00100	0.200	0	98.3	90	110			

Qualifiers:	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_090306B

Sample ID:	0903005-02A SD	Batch ID:	33777	TestNo:	SW6020	Units:	mg/L
SampType:	SD	Run ID:	ICP-MS3_090306B	Analysis Date:	03/06/09 03:24 PM	Prep Date:	03/04/09

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Calcium	234	150	0	230				1.62	10	
Magnesium	129	150	0	126				2.86	10	
Sodium	678	150	0	644				5.22	10	

Sample ID:	0903005-02A PDS	Batch ID:	33777	TestNo:	SW6020	Units:	mg/L
SampType:	PDS	Run ID:	ICP-MS3_090306B	Analysis Date:	03/06/09 03:29 PM	Prep Date:	03/04/09

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Calcium	684	30.0	500	230	90.8	75	125			
Magnesium	585	30.0	500	126	91.8	75	125			
Sodium	1110	30.0	500	644	92.9	75	125			

Sample ID:	0903005-02A SD	Batch ID:	33777	TestNo:	SW6020	Units:	mg/L
SampType:	SD	Run ID:	ICP-MS3_090306B	Analysis Date:	03/06/09 04:11 PM	Prep Date:	03/04/09

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Potassium	12.1	7.50	0	12.4				2.16	10	

Sample ID:	0903005-02A PDS	Batch ID:	33777	TestNo:	SW6020	Units:	mg/L
SampType:	PDS	Run ID:	ICP-MS3_090306B	Analysis Date:	03/06/09 04:17 PM	Prep Date:	03/04/09

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Potassium	37.3	1.50	25.0	12.4	99.4	75	125			

Sample ID:	0903005-02A SD	Batch ID:	33777	TestNo:	SW6020	Units:	mg/L
SampType:	SD	Run ID:	ICP-MS3_090306B	Analysis Date:	03/06/09 06:14 PM	Prep Date:	03/04/09

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Beryllium	0	0.00500	0	0				0	10	
Selenium	0.0338	0.0300	0	0.0274				20.9	10	R

Sample ID:	0903005-02A PDS	Batch ID:	33777	TestNo:	SW6020	Units:	mg/L
SampType:	PDS	Run ID:	ICP-MS3_090306B	Analysis Date:	03/06/09 06:19 PM	Prep Date:	03/04/09

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Beryllium	0.199	0.00100	0.200	0	99.4	75	125			
Selenium	0.200	0.00600	0.200	0.0274	86.1	75	125			

Sample ID:	0903005-02A MS	Batch ID:	33777	TestNo:	SW6020	Units:	mg/L
SampType:	MS	Run ID:	ICP-MS3_090306B	Analysis Date:	03/06/09 06:24 PM	Prep Date:	03/04/09

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Beryllium	0.174	0.00100	0.200	0	86.8	80	120			
Calcium	215	0.300	5.00	216	-26.0	80	120			S
Magnesium	120	0.300	5.00	120	-12.0	80	120			S
Potassium	18.5	0.300	5.00	13.0	111	80	120			
Selenium	0.207	0.00600	0.200	0.0274	89.9	80	120			
Sodium	642	0.300	5.00	656	-262	80	120			S

Sample ID:	0903005-02A MSD	Batch ID:	33777	TestNo:	SW6020	Units:	mg/L

Qualifiers:					
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_090306B

SampType:	MSD	Run ID:	ICP-MS3_090306B	Analysis Date:	03/06/09 06:30 PM			Prep Date:	03/04/09	
Analyte	**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Beryllium	0.198	0.00100	0.200	0	99.0	80	120	13.1	15	
Calcium	217	0.300	5.00	216	16.0	80	120	0.973	15	S
Magnesium	124	0.300	5.00	120	60.0	80	120	2.96	15	S
Potassium	17.8	0.300	5.00	13.0	97.6	80	120	3.74	15	
Selenium	0.200	0.00600	0.200	0.0274	86.5	80	120	3.34	15	
Sodium	655	0.300	5.00	656	-16.0	80	120	1.90	15	S

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_090306B

Sample ID:	ICV1-090306	Batch ID:	R42218		TestNo:		SW6020		Units:		mg/L
SampType:	ICV	Run ID:	ICP-MS3_090306B		Analysis Date:		03/06/09 01:10 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Beryllium		0.104	0.00100	0.100	0	104	90	110			
Calcium		2.57	0.300	2.50	0	103	90	110			
Magnesium		2.55	0.300	2.50	0	102	90	110			
Potassium		2.59	0.300	2.50	0	104	90	110			
Selenium		0.0985	0.00600	0.100	0	98.5	90	110			
Sodium		2.59	0.300	2.50	0	104	90	110			

Sample ID:	CCV2-090306	Batch ID:	R42218		TestNo:		SW6020		Units:		mg/L
SampType:	CCV	Run ID:	ICP-MS3_090306B		Analysis Date:		03/06/09 03:03 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Calcium		4.79	0.300	5.00	0	95.8	90	110			
Magnesium		4.84	0.300	5.00	0	96.9	90	110			
Sodium		4.86	0.300	5.00	0	97.3	90	110			

Sample ID:	CCV3-090306	Batch ID:	R42218		TestNo:		SW6020		Units:		mg/L
SampType:	CCV	Run ID:	ICP-MS3_090306B		Analysis Date:		03/06/09 03:45 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Calcium		4.89	0.300	5.00	0	97.8	90	110			
Magnesium		4.80	0.300	5.00	0	95.9	90	110			
Potassium		5.13	0.300	5.00	0	103	90	110			
Sodium		4.82	0.300	5.00	0	96.3	90	110			

Sample ID:	CCV4-090306	Batch ID:	R42218		TestNo:		SW6020		Units:		mg/L
SampType:	CCV	Run ID:	ICP-MS3_090306B		Analysis Date:		03/06/09 04:32 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Potassium		5.20	0.300	5.00	0	104	90	110			

Sample ID:	CCV5-090306	Batch ID:	R42218		TestNo:		SW6020		Units:		mg/L
SampType:	CCV	Run ID:	ICP-MS3_090306B		Analysis Date:		03/06/09 05:43 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Beryllium		0.207	0.00100	0.200	0	103	90	110			
Calcium		4.93	0.300	5.00	0	98.6	90	110			
Magnesium		4.94	0.300	5.00	0	98.8	90	110			
Potassium		5.33	0.300	5.00	0	107	90	110			
Selenium		0.212	0.00600	0.200	0	106	90	110			
Sodium		4.95	0.300	5.00	0	99.0	90	110			

Sample ID:	CCV6-090306	Batch ID:	R42218		TestNo:		SW6020		Units:		mg/L
SampType:	CCV	Run ID:	ICP-MS3_090306B		Analysis Date:		03/06/09 06:55 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Beryllium		0.202	0.00100	0.200	0	101	90	110			
Calcium		5.02	0.300	5.00	0	100	90	110			
Magnesium		4.66	0.300	5.00	0	93.2	90	110			
Potassium		5.19	0.300	5.00	0	104	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_090306B

Selenium	0.205	0.00600	0.200	0	103	90	110
Sodium	4.79	0.300	5.00	0	95.7	90	110

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: IC_090303A

Sample ID:	LCS-33765	**Batch ID:**	33765		**TestNo:**		E300			**Units:**	mg/L
SampType:	LCS	**Run ID:**	IC_090303A		**Analysis Date:**		03/03/09 09:46 AM			**Prep Date:**	03/03/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Chloride		10.2	1.00	10.00	0	102	90	110			
Sulfate		30.0	3.00	30.00	0	100	90	110			

Sample ID:	LCSD-33765	**Batch ID:**	33765		**TestNo:**		E300			**Units:**	mg/L
SampType:	LCSD	**Run ID:**	IC_090303A		**Analysis Date:**		03/03/09 10:02 AM			**Prep Date:**	03/03/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Chloride		10.2	1.00	10.00	0	102	90	110	0.0530	20	
Sulfate		30.0	3.00	30.00	0	100	90	110	0.104	20	

Sample ID:	MB-33765	**Batch ID:**	33765		**TestNo:**		E300			**Units:**	mg/L
SampType:	MBLK	**Run ID:**	IC_090303A		**Analysis Date:**		03/03/09 10:17 AM			**Prep Date:**	03/03/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Chloride		ND	1.00								
Sulfate		ND	3.00								

Sample ID:	0903005-02C MS	**Batch ID:**	33765		**TestNo:**		E300			**Units:**	mg/L
SampType:	MS	**Run ID:**	IC_090303A		**Analysis Date:**		03/03/09 02:08 PM			**Prep Date:**	03/03/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Chloride		2160	100	1000	1098	107	90	110			
Sulfate		3290	300	3000	342.0	98.3	90	110			

Sample ID:	0903005-02C MSD	**Batch ID:**	33765		**TestNo:**		E300			**Units:**	mg/L
SampType:	MSD	**Run ID:**	IC_090303A		**Analysis Date:**		03/03/09 03:53 PM			**Prep Date:**	03/03/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Chloride		2200	100	1000	1098	110	90	110	1.52	20	
Sulfate		3330	300	3000	342.0	99.8	90	110	1.31	20	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: IC_090303A

Sample ID:	ICV-090303	**Batch ID:**	R42155		**TestNo:**		E300		**Units:**	mg/L
SampType:	ICV	**Run ID:**	IC_090303A		**Analysis Date:**		03/03/09 09:28 AM		**Prep Date:**	03/03/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit** **Qual**
Chloride		26.2	1.00	25.00	0	105	90	110		
Sulfate		77.9	3.00	75.00	0	104	90	110		

Sample ID:	CCV1-090303	**Batch ID:**	R42155		**TestNo:**		E300		**Units:**	mg/L
SampType:	CCV	**Run ID:**	IC_090303A		**Analysis Date:**		03/03/09 12:47 PM		**Prep Date:**	03/03/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit** **Qual**
Chloride		10.4	1.00	10.00	0	104	90	110		
Sulfate		30.3	3.00	30.00	0	101	90	110		

Sample ID:	CCV2-090303	**Batch ID:**	R42155		**TestNo:**		E300		**Units:**	mg/L
SampType:	CCV	**Run ID:**	IC_090303A		**Analysis Date:**		03/03/09 02:39 PM		**Prep Date:**	03/03/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit** **Qual**
Chloride		10.4	1.00	10.00	0	104	90	110		
Sulfate		30.4	3.00	30.00	0	101	90	110		

Sample ID:	CCV3-090303	**Batch ID:**	R42155		**TestNo:**		E300		**Units:**	mg/L
SampType:	CCV	**Run ID:**	IC_090303A		**Analysis Date:**		03/03/09 04:17 PM		**Prep Date:**	03/03/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit** **Qual**
Chloride		10.3	1.00	10.00	0	103	90	110		
Sulfate		30.2	3.00	30.00	0	101	90	110		

Qualifiers:	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

DHL Analytical

Date: 03/11/09

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: IC_090310A

Sample ID:	MB-33765	**Batch ID:**	33765	**TestNo:**	E300	**Units:**	mg/L
SampType:	MBLK	**Run ID:**	IC_090310A	**Analysis Date:**	03/10/09 10:59 AM	**Prep Date:**	03/03/09

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Chloride	ND	1.00								
Sulfate	ND	3.00								

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: IC_090310A

Sample ID:	ICV-090310	Batch ID:	R42253		TestNo:		E300		Units:		mg/L
SampType:	ICV	Run ID:	IC_090310A		Analysis Date:		03/10/09 10:38 AM		Prep Date:		03/10/09
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Chloride		26.3	1.00	25.00	0	105	90	110			
Sulfate		77.3	3.00	75.00	0	103	90	110			

Sample ID:	CCV1-090310	Batch ID:	R42253		TestNo:		E300		Units:		mg/L
SampType:	CCV	Run ID:	IC_090310A		Analysis Date:		03/10/09 11:46 AM		Prep Date:		03/10/09
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Chloride		10.3	1.00	10.00	0	103	90	110			
Sulfate		30.2	3.00	30.00	0	101	90	110			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_090303B

Sample ID:	MB-33762	Batch ID:	33762		TestNo:		M2320 B		Units:		mg/L
SampType:	MBLK	Run ID:	TITRATOR_090303B		Analysis Date:		03/03/09 11:04 AM		Prep Date:		03/03/09
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)		ND	20.0								
Alkalinity, Carbonate (As CaCO3)		ND	20.0								
Alkalinity, Hydroxide (As CaCO3)		ND	20.0								
Alkalinity, Total (As CaCO3)		ND	20.0								

Sample ID:	LCS-33762	Batch ID:	33762		TestNo:		M2320 B		Units:		mg/L
SampType:	LCS	Run ID:	TITRATOR_090303B		Analysis Date:		03/03/09 11:08 AM		Prep Date:		03/03/09
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)		54.7	20.0	50.00	0	109	74	129			

Sample ID:	0903005-01C DUP	Batch ID:	33762		TestNo:		M2320 B		Units:		mg/L
SampType:	DUP	Run ID:	TITRATOR_090303B		Analysis Date:		03/03/09 11:16 AM		Prep Date:		03/03/09
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)		199	20.0	0	199.4				0.402	20	
Alkalinity, Carbonate (As CaCO3)		0	20.0	0	0				0	20	
Alkalinity, Hydroxide (As CaCO3)		0	20.0	0	0				0	20	
Alkalinity, Total (As CaCO3)		199	20.0	0	199.4				0.402	20	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_090303B

Sample ID:	ICV-090303	Batch ID:	R42153	TestNo:		M2320 B		Units:	mg/L
SampType:	ICV	Run ID:	TITRATOR_090303B	Analysis Date:		03/03/09 11:03 AM		Prep Date:	03/03/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Alkalinity, Bicarbonate (As CaCO3)		8.56	20.0	0							
Alkalinity, Carbonate (As CaCO3)		93.8	20.0	0							
Alkalinity, Hydroxide (As CaCO3)		0	20.0	0							
Alkalinity, Total (As CaCO3)		102	20.0	100.0	0	102	98	102			

Sample ID:	CCV-090303	Batch ID:	R42153	TestNo:		M2320 B		Units:	mg/L
SampType:	CCV	Run ID:	TITRATOR_090303B	Analysis Date:		03/03/09 11:36 AM		Prep Date:	03/03/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Alkalinity, Bicarbonate (As CaCO3)		13.3	20.0	0							
Alkalinity, Carbonate (As CaCO3)		89.4	20.0	0							
Alkalinity, Hydroxide (As CaCO3)		0	20.0	0							
Alkalinity, Total (As CaCO3)		103	20.0	100.0	0	103	90	110			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 0903005
Project: North 10"

ANALYTICAL QC SUMMARY REPORT

RunID: WC_090304A

Sample ID:	MB-33803	**Batch ID:**	33803		**TestNo:**	M2540C			**Units:**		mg/L
SampType:	MBLK	**Run ID:**	WC_090304A		**Analysis Date:**	03/04/09 10:15 AM			**Prep Date:**		03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Total Dissolved Solids (Residue, Fi		ND	10.0								

Sample ID:	LCS-33803	**Batch ID:**	33803		**TestNo:**	M2540C			**Units:**		mg/L
SampType:	LCS	**Run ID:**	WC_090304A		**Analysis Date:**	03/04/09 10:15 AM			**Prep Date:**		03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Total Dissolved Solids (Residue, Fi		795	10.0	745.6	0	107	90	113			

Sample ID:	0903005-02C-DUP	**Batch ID:**	33803		**TestNo:**	M2540C			**Units:**		mg/L
SampType:	DUP	**Run ID:**	WC_090304A		**Analysis Date:**	03/04/09 10:15 AM			**Prep Date:**		03/04/09
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Total Dissolved Solids (Residue, Fi		4350	10.0	0	4440				2.05	5	

Qualifiers:	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified