

FACILITY #159270

Groundwater Monitoring Report – Fourth Quarter 2011

High Plains Disposal Weld Site #2a

Waste Water Disposal Facility

17754 Weld County Road 32

Platteville, Colorado

December 7, 2011

Terracon Project No. 20087043

Prepared for:

High Plains Disposal
3770 Puritan Way, Suite #J
Frederick, CO 80516

Prepared by:

Terracon Consultants, Inc.
Fort Collins, Colorado

Offices Nationwide
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Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

December 7, 2011

Mr. Bob Ballard
High Plains Disposal
3770 Puritan Way, Suite #J
Frederick, CO 80516

Telephone: (281) 372-2333

Re: Groundwater Monitoring Report for 4th Quarter 2011
High Plains Disposal Weld Site #2a
Waste Water Disposal Facility
17754 Weld County Road 32
Platteville, Colorado
Terracon Project No. 20117002

Dear Mr. Ballard:

Terracon Consultants, Inc., (Terracon) is pleased to submit one copy of the Groundwater Monitoring Report for 4th Quarter 2011 for the above referenced site. This project was performed in general accordance with Terracon's Proposal No. 20090034a dated November 18, 2009.

We appreciate the opportunity to perform these services for High Plains Disposal. Please contact either of the undersigned at (970) 484-0359 if you have questions regarding the information provided in the report.

Sincerely,

Terracon

Prepared by:



Craig L. Nelson
Environmental Specialist

Reviewed by:



Dana L. Harris
Department Manager
Environmental Services

Enclosures

CC:

Troy Swain, Weld County Department Public Health & Environment: 1555 N. 17th Avenue, Greeley, CO 80631

Robert H. Chesson, C.P.G. State of Colorado Oil and Gas Conservation Commission 1120 Lincoln Street, Suite 801, Denver, CO 80203

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GROUNDWATER MONITORING REPORT ■ FOURTH QUARTER 2011

WASTE WATER DISPOSAL FACILITY 17754 WELD COUNTY ROAD 32 PLATTEVILLE ■ COLORADO

Terracon Project No. 20117002
December 7, 2011

1.0 INTRODUCTION

1.1 Background

High Plains Disposal (High Plains) has obtained a Use by Special Request (USR) permit from the Weld County Department of Planning (Weld County) for the High Plains Disposal Weld Site #2a Class II Waste Water Disposal Facility located at 17754 Weld County Road 32 in Platteville, Weld County, Colorado. A topographic map is included as Figure 1, and a site plan is included as Figure 2, Appendix A. The facility is geographically located in the northeast ¼ of the northeast ¼ of Section 24, Township 3 North, Range 66 West of the 6th Principle Meridian, Weld County, Colorado. Terracon's revised Groundwater Monitoring Plan (GMP) Addendum for the site dated October 19, 2009, was approved by the Weld County Department of Health and Environment on November 2, 2009. The GMP called for the installation of six groundwater monitoring wells to be used for leak detection and/or groundwater monitoring. The GMP called for monthly leak detection monitoring of the two wells to be installed at the facility's processing vault. The GMP also called for quarterly monitoring of all six wells and reporting of quarterly monitoring results to Weld County.

1.2 Scope of Work

Terracon completed the following tasks:

- Collection of groundwater samples from each well (6); and,
- Laboratory analysis of collected groundwater samples.

1.3 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either express or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal

and were not restricted by ASTM E1903-97.

1.4 Additional Scope Limitations

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this project. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

1.5 Reliance

This report has been prepared for the exclusive use of High Plains Disposal, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of High Plains Disposal and Terracon. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the proposal, this report, and Terracon's Terms and Conditions. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to the client and all relying parties unless otherwise agreed in writing.

2.0 FIELD ACTIVITIES

2.1 Groundwater Sampling

Terracon mobilized to the site for groundwater sampling on October 31, 2011. Terracon measured water levels in each well prior to sampling. Water level measurements and groundwater elevations are shown on Table 1, Appendix B, and groundwater contours are shown on Figure 3, Appendix A. Prior to sample collection, each monitoring well was purged of a minimum of three well casing volumes of groundwater, until the monitoring well formation failed to recharge (i.e., well ran dry) or consistent values (i.e., less than 10% variance between consecutive readings) were obtained for pH, temperature and conductivity. Subsequent to sufficient recharge, one groundwater sample was collected from each monitoring well utilizing a new, disposable, polypropylene bailer.

In addition to groundwater monitoring well sampling activities, ambient and equipment rinse

blanks were collected during groundwater sampling during the monthly leak testing events. These samples were obtained for quality control purposes. Ambient and Equipment Rinse blank results are presented in the executed chain-of-custody form and laboratory data sheets provided in Appendix C.

All samples were collected and placed in laboratory prepared glassware, sealed with custody tape and placed on ice in a cooler which was secured with a custody seal. The sample coolers and completed chain-of-custody forms were relinquished to Pace Analytical Laboratories in Lenexa, Kansas for analysis.

2.2 Leak Detection Sampling

During this quarterly monitoring period, Terracon representatives conducted monthly leak testing at the site in August and September 2011. Monthly leak testing consisted of sampling monitoring wells MW-2 and MW-4. Groundwater samples were relinquished to Pace Analytical Laboratories in Lenexa, Kansas for analysis. Upon receipt, leak detection sampling results were reviewed by Terracon and forwarded to High Plains representatives. Leak testing analytical results are summarized in this periodic monitoring report.

Laboratory results are summarized in Table 2, Appendix B. The executed chain-of-custody form and laboratory data sheets are provided in Appendix C.

3.0 LABORATORY ANALYTICAL METHODS

The groundwater samples were analyzed for:

- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by EPA method 8260;
- Total Dissolved Solids (TDS) by EPA Method 160.1; and
- Chloride and Sulfate by EPA Method 300.1.

Laboratory results are summarized in Table 2, Appendix B. The executed chain-of-custody form and laboratory data sheets are provided in Appendix C.

4.0 DATA EVALUATION

4.1 Groundwater Analytical Results

Benzene was detected in samples from MW-2 at concentrations of 0.53 micrograms per liter ($\mu\text{g/L}$) during the October 2011 quarterly monitoring event conducted by Terracon; however, benzene was not present above laboratory detection limits in samples collected in August or September 2011. Toluene was detected at concentrations of 0.97 $\mu\text{g/L}$ in MW-2 and 0.69 $\mu\text{g/L}$ in MW-4 during the October 2011 quarterly monitoring event. Toluene was detected in samples from MW-4 at concentrations of 0.52 and 0.70 micrograms per liter ($\mu\text{g/L}$) during

the August and September 2011 leak testing events conducted by Terracon, respectively. Toluene was detected in samples from MW-2 at concentrations of 0.65 µg/L during the August 2011 leak testing event. Xylenes and benzene was not present above the laboratory detection limits for MW-4 and MW-2 in the August and September 2011 leak testing event.

TDS concentrations ranged from 798 milligrams per liter (mg/L) to 1,790 mg/L. Chloride concentrations ranged from 81.6 mg/L to 171 mg/L. Sulfate concentrations ranged from 200 mg/L to 954 mg/L.

4.2 Assessment of Groundwater Analytical Results

In accordance with the GMP, groundwater analytical results are assessed using statistical methods. Trend analyses will be performed using the Mann-Kendall test and Sen's slope estimator. Using the Mann-Kendall test, a trend is significant at a 95% confidence level (two-tailed) if the absolute value of the Mann-Kendall statistic is greater than or equal to the absolute value of the critical value. A minimum of 7 rounds of data will be required to accurately assess trends; therefore, statistical trend analysis is not being performed at this time.

Descriptive statistical analyses (number of data points, number of non-detectable data points, mean, maximum, minimum, standard deviation, and description of outliers) are presented in Appendix D.

Based on current groundwater elevations', monitoring well MW-1 is up gradient of the site processes and would represent background conditions for groundwater entering the site from up gradient sources.

5.0 STATISTICAL ANALYSIS

5.1 Descriptive Analysis

A descriptive analysis was performed for each well sampled in October 2011 at the site.

Descriptive analysis includes calculation of: the number of data points; number of non-detectable data points; mean; maximum; minimum, and standard deviation. Results of the descriptive analysis are presented in Table 4. When a result was reported as less than the method detection limit (MDL), a value that is one half of the detection limit was used in the descriptive analysis.

As part of the descriptive analysis, an outlier test was performed on the data from each well. Results for the outlier analysis are presented in Appendix D and a summary table is presented in Table 5. A statistical outlier is a value that is significantly different from other values in the data set. Once a value is identified as an outlier, it becomes suspect and

should be checked for possible laboratory, field collection, or data entry errors. However, statistical outliers may exist naturally and should not necessarily be removed from the data set unless the value can be observed to be erroneous. .

Based on a review of the outliers listed in Appendix D, the following outliers were identified:

- Benzene was reported as an outlier in wells MW-2 in March 2011 at 1.4 µg/L and MW-4 in July 2011 at 11.7 µg/L
- Toluene was reported as an outlier in well MW-4 in February and July 2011 at 2.9 and 18.5 µg/L, respectively
- Xylenes was reported as an outlier in well MW-4 in July 2011 at 5.5 mg/L
- Chloride was reported as an outlier in well MW-4 in April 2011 at 4.9 mg/L
- Sulfate was reported as an outlier in the following wells
 - MW-2 in October 2011 at 490 mg/L
 - MW-3 in July 2010 at 337 mg/L.
 - MW-4 in April 2011 at 20.1 mg/L.
- TDS was reported as an outlier in well MW-3 in April 2010 at 1,160

Outlier may be naturally occurring in nature and no changes to the analyses and conclusions in subsequent sections of this report are recommended to accommodate the outliers at this time.

5.2 Trend Analysis

A trend analysis was performed for parameter at each well using the Mann-Kendall test and Sen's slope estimator to evaluate statistically significant trends. Results for the Sen's Slope Estimator are presented in Appendix D and a summary table is presented in Table 6.

Using the Mann-Kendall test, a trend is significant at a 98% confidence level if the absolute value of the Mann-Kendall statistic is greater than or equal to the absolute value of the critical value.

Using this criteria, two wells and two constituents observed statistically significant trends for constituents analyzed during this sampling event. The statistically significant trends are discussed below. Plots of the trend analyses are enclosed as Appendix D.

The following trends were apparent with the addition of the October 2011 data:

- Statistically significant decreasing trend was reported at MW-2 for ethylbenzene with a slope of -0.1581
- Statistically significant decreasing trend was reported at MW-4 for ethylbenzene with a slope of -0.1979

- Statistically significant increasing trend was reported at MW-2 for TDS with a slope of 173.4
- Statistically significant decreasing trend was reported at MW-4 for TDS with a slope of -186.1

Monitoring wells MW-2 and MW-4 are located approximately adjacent to the east of the settling vault and approximately down gradient from the injection well.

Ethylbenzene has been reported less than laboratory detection limits since sampling began in 2010.

TDS has a reported mean of 668.9 in groundwater samples collected from MW-2, significantly less than the mean for TDS in other monitoring wells, that range from 823.3 at MW-3 to 2,278 at MW-6.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Toluene was detected in concentrations above the laboratory method reporting limits in MW-4; and benzene and toluene were detected in concentrations above laboratory method reporting limits in MW-2 during the October 2011 quarterly monitoring event. Toluene was detected in concentrations above the laboratory method reporting limits in MW-2 in the August 2011 leak testing event. Toluene was detected in concentrations above the laboratory method reporting limits in MW-4 in the August and September 2011 leak testing events.

Terracon has begun using selected quality control sampling and analysis to assess whether ambient conditions may have interfered with the ability to obtain representative groundwater samples. Terracon will continue to assess this potential interference and will include additional assessment information in the next quarterly monitoring report.

Statistical analysis shows statistically significant increasing trends at MW-2 for TDS, however, average concentrations of TDS at MW-2 are less than other wells in October 2011.

Terracon recommends to continue to monitor MW-2 and if concentrations of TDS continue to increase.

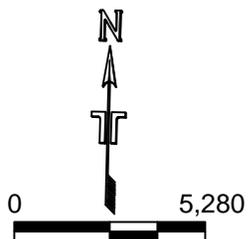
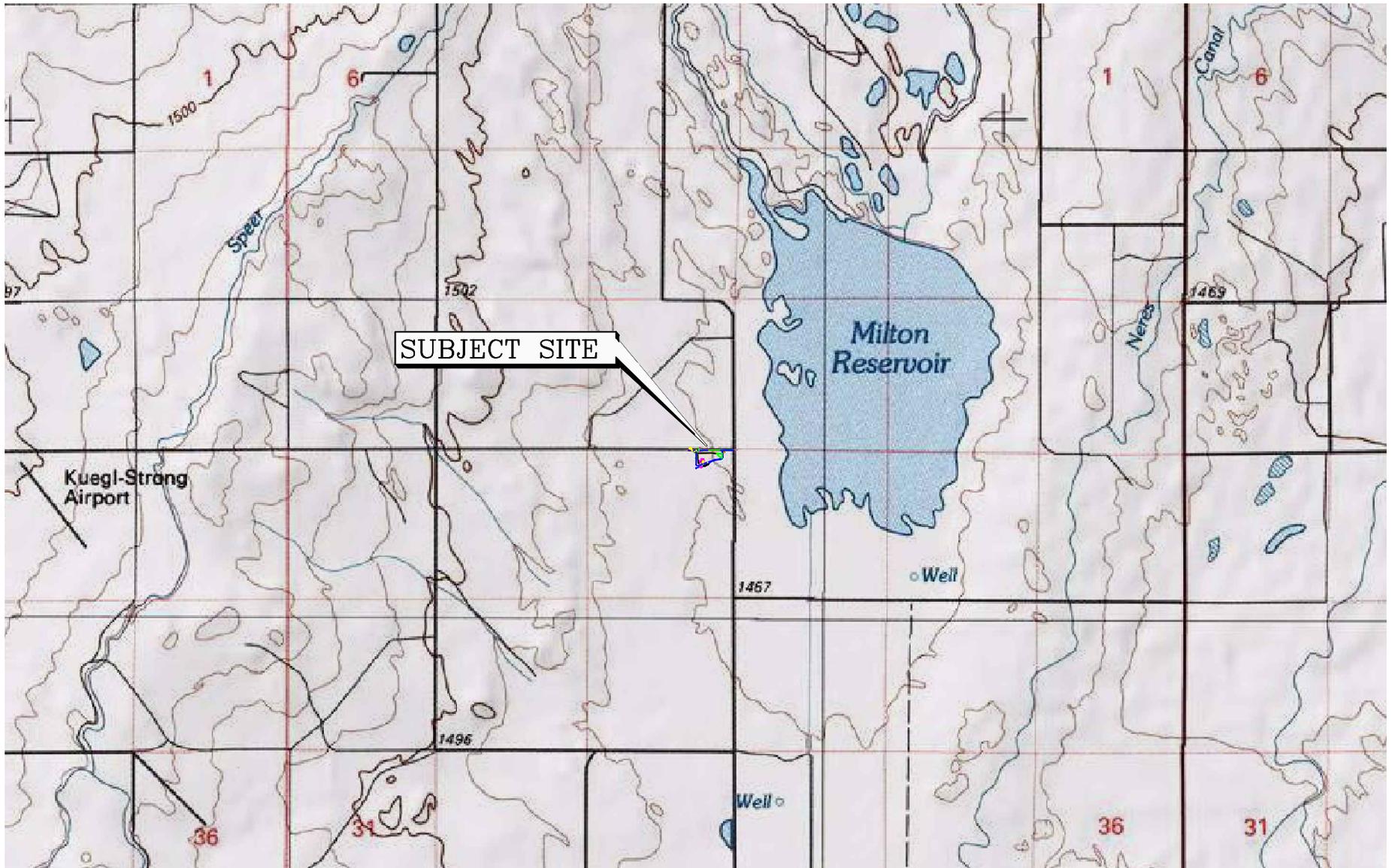
Groundwater monitoring and leak testing will continue, as discussed with the Weld County Department of Public Health and Environment (WCDPHE) and the Colorado Oil and Gas Conservation Commission (COGCC) representatives. Terracon has already conducted November 2011 leak testing during the preparation of this report and is currently scheduled to conduct the next leak testing sampling event in December 2011. The next periodic monitoring event is scheduled for 1st Quarter 2012 (January 2012).

APPENDIX A

Figure 1 – Topographic Map

Figure 2 – Site Plan

Figure 3 – Piezometric Site Diagram



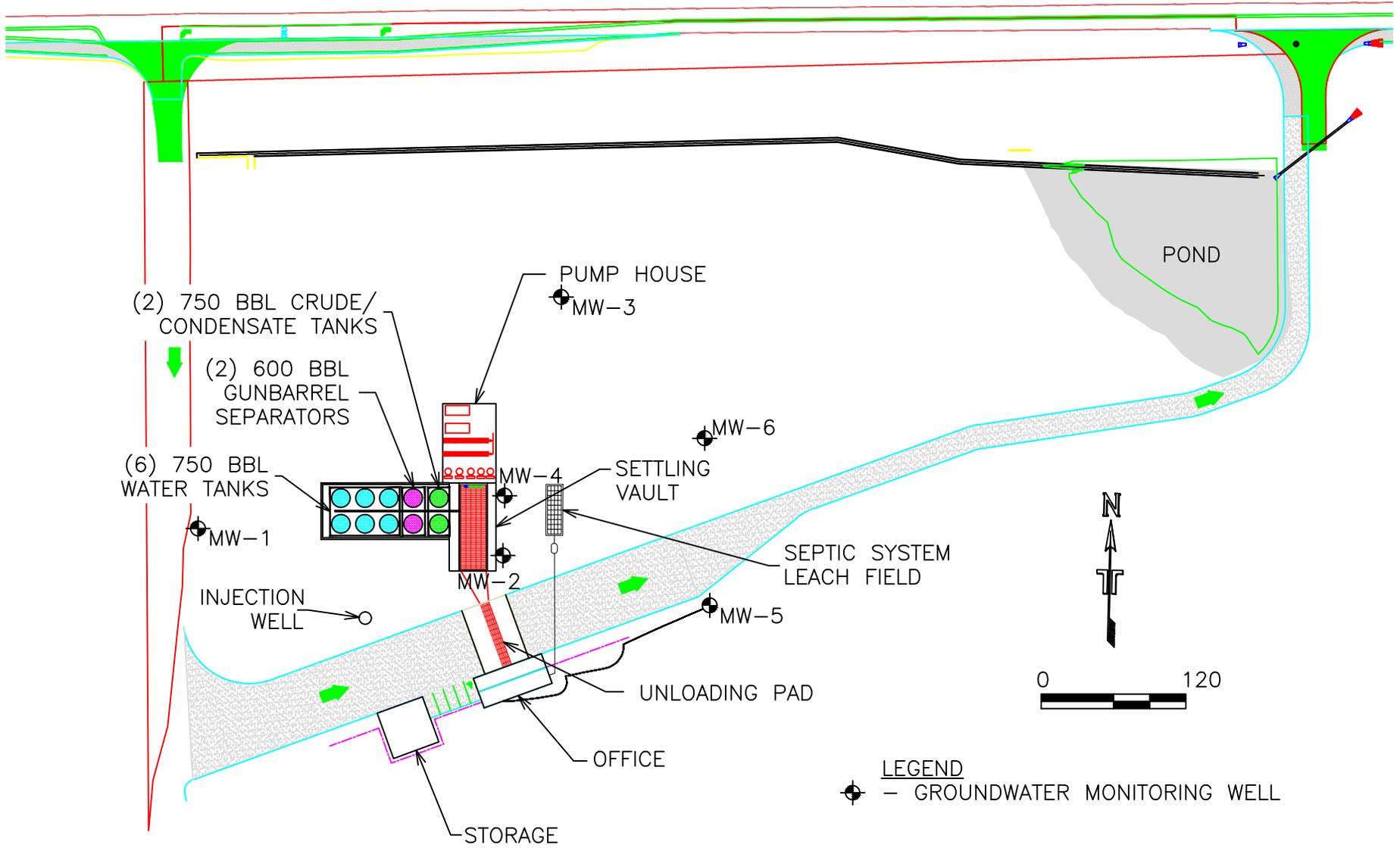
Project Mngr:	DLH	Project No.	20017002
Drawn By:	DJS	Scale:	1 : 5,280
Checked By:	DLH	Date:	11/18/11
Approved By:	DRP		

Terracon
 Consulting Engineers and Scientists

301 N. HOWES FORT COLLINS, CO 80521
 PH. (970) 484-0359 FAX. (970) 484-0454

<p>FIGURE 1: SITE LOCATION MAP</p> <p>4th QTR. 2011 GROUNDWATER MONITORING REPORT</p> <p>HIGH PLAINS DISPOSAL, WELD SITE #2A</p> <p>PLATTEVILLE, COLORADO</p> <p>File No. N:\Projects\2009\20097022\Quarterly Reports\11Q4\CADD\20097022-1.dwg</p>
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FIG. No.
1



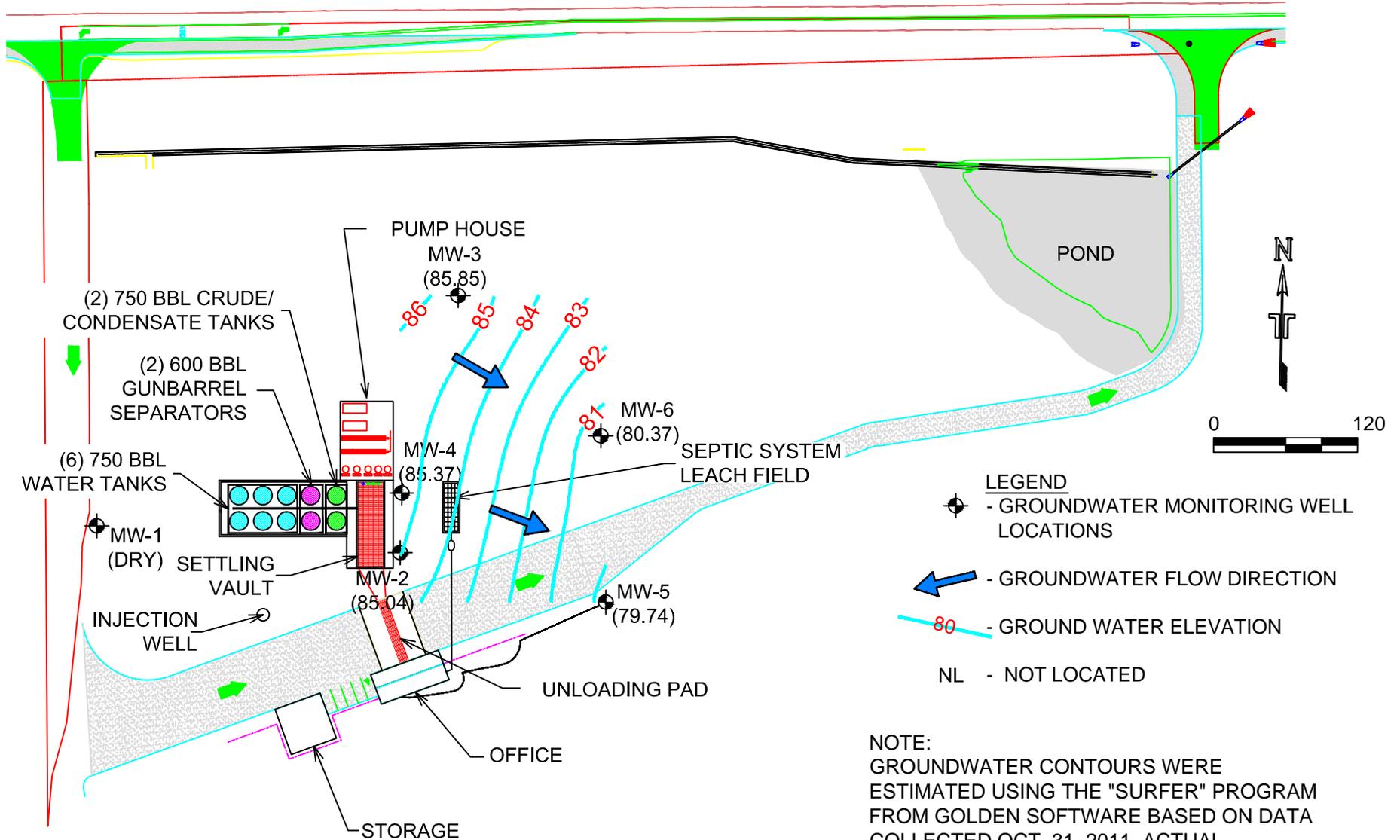
LEGEND
 ● - GROUNDWATER MONITORING WELL

Project Mngnr:	DLH	Project No.	20117002
Drawn By:	DJS	Scale:	1:120
Checked By:	DLH	Date:	11/18/11
Approved By:	DRP		

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FIGURE 2: SITE DIAGRAM AND WELL LOCATIONS
 4th QTR. 2011 GROUNDWATER MONITORING REPORT
 HIGH PLAINS DISPOSAL, WELD SITE #2A
 PLATTEVILLE, COLORADO
 File No. N:\Projects\2009\20097022\Quarterly Reports\11Q4\CADD

FIG. No.
2



Project Mngr:	DLH	Project No.	20117002
Drawn By:	DJS	Scale:	1:120
Checked By:	DLH	Date:	11/18/11
Approved By:	DRP		

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FIGURE 3: PIEZOMETRIC SURFACE DIAGRAM
3rd QTR 2011 GROUNDWATER MONITORING REPORT
HIGH PLAINS DISPOSAL, WELD SITE #2A PLATTEVILLE, COLORADO
File No. N:\Projects\2009\20097022\Quarterly Reports\11Q4\CADD

FIG. No.
3

APPENDIX B

Table 1 – Groundwater Elevations

Table 2 – Summary of Groundwater Analytical Results

Table 3 – Quality Control Analytical Results

Table 4 – Descriptive Analysis

Table 5 – Outlier Analysis

Table 6 – Sen's Slope Estimator Summary

**TABLE 1
GROUNDWATER ELEVATIONS**

**High Plains Disposal Weld Site #2a Waste Water Disposal Facility
17754 Weld County Road 32, Platteville, CO
Terracon Project No. 20117002**

Well Number	Date Measured	TOC	DTW	Groundwater Elevation
		(Feet)	(Feet)	(Feet)
MW-1	1/28/2010	90.73	Dry	Dry
	4/16/2010	90.73	Dry	Dry
	7/27/2010	90.73	NL	NL
	10/12/2010	90.73	NL	NL
	1/25/2011	90.73	Dry	Dry
	4/21/2011	90.73	Dry	Dry
	7/21/2011	90.73	Dry	Dry
MW-2	10/31/2011	90.73	Dry	Dry
	1/28/2010	98.06	11.48	86.58
	4/16/2010	98.06	13.17	84.89
	7/27/2010	98.06	12.10	85.96
	10/12/2010	98.06	12.31	85.75
	1/25/2011	98.06	12.75	85.31
	4/21/2011	98.06	13.00	85.06
MW-3	7/21/2011	98.06	12.50	85.56
	10/31/2011	98.06	13.02	85.04
	1/26/2010	94.03	8.29	85.74
	4/16/2010	94.03	8.27	85.76
	7/27/2010	94.03	7.10	86.93
	10/12/2010	94.03	7.40	86.63
	1/25/2011	94.03	7.78	86.25
MW-4	4/21/2011	94.03	8.11	85.92
	7/21/2011	94.03	7.42	86.61
	10/31/2011	94.03	8.18	85.85
	1/26/2010	98.24	Dry	Dry
	4/16/2010	98.24	19.65	78.59
	7/27/2010	98.24	11.97	86.27
	10/12/2010	98.24	12.20	86.04
MW-5	1/25/2011	98.24	12.62	85.62
	4/21/2011	98.24	12.84	85.40
	7/21/2011	98.24	12.35	85.89
	10/31/2011	98.24	12.87	85.37
	1/28/2010	89.75	8.85	80.90
	4/16/2010	89.75	7.71	82.04
	7/27/2010	89.75	7.09	82.66
MW-6	10/12/2010	89.75	7.78	81.97
	1/25/2011	89.75	8.60	81.15
	4/21/2011	89.75	9.55	80.20
	7/21/2011	89.75	8.05	81.70
	10/31/2011	89.75	10.01	79.74
	1/28/2010	90.73	13.52	77.21
	4/16/2010	90.73	13.03	77.70
MW-6	7/27/2010	90.73	8.10	82.63
	10/12/2010	90.73	9.66	81.07
	1/25/2011	90.73	10.63	80.10
	4/21/2011	90.73	11.41	79.32
	7/21/2011	90.73	8.53	82.2
	10/31/2011	90.73	10.36	80.37

Notes:
1) TOC = Top of well casing elevation, surveyed relative to arbitrary 100' benchmark.
2) Groundwater elevation relative to arbitrary 100' benchmark.
3) NL = Not Located

**TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS**

**High Plains Disposal Weld Site #2a Waste Water Disposal Facility
17754 Weld County Road 32, Platteville, CO
Terracon Project No. 20117002**

Monitoring Well Number	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylenes	TDS	Chloride	Sulfate
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)
MW-1	1/28/2010	NS	NS	NS	NS	NS	NS	NS
	4/16/2010	NS	NS	NS	NS	NS	NS	NS
	7/27/2010	NS	NS	NS	NS	NS	NS	NS
	10/12/2010	NS	NS	NS	NS	NS	NS	NS
	1/25/2011	NS	NS	NS	NS	NS	NS	NS
	4/21/2011	NS	NS	NS	NS	NS	NS	NS
	7/21/2011	NS	NS	NS	NS	NS	NS	NS
	10/31/2011	NS	NS	NS	NS	NS	NS	NS
MW-2	1/28/2010	ND	ND	ND	ND	550	56.6	174
	3/17/2010Ⓞ	ND	ND	ND	ND	NA	38.4	88
	4/16/2010	ND	ND	ND	ND	455	36.2	98
	5/6/2010Ⓞ	ND	ND	ND	ND	NA	31.2	86
	6/7/2010 Ⓞ	ND	ND	ND	ND	NA	36.3	129
	7/27/2010	ND	ND	ND	ND	576	30.5	99
	8/16/2010 Ⓞ	ND	ND	ND	ND	NA	NA	136
	9/17/2010 Ⓞ	ND	ND	ND	ND	NA	NA	71
	10/12/2010	ND	ND	ND	ND	568	20.1	63
	11/16/2010 Ⓞ	ND	ND	ND	ND	500	30.6	90
	12/27/2010 Ⓞ	ND	1.1	ND	ND	552	35.3	127
	1/25/2011	ND	ND	ND	ND	543	36.1	90.9
	2/14/2011Ⓞ	ND	1.7	ND	1.8	601	32.0	94.6
	3/23/2011Ⓞ	1.4	2.5	ND	1.6	644	35.0	76.2
	4/21/2011	ND	ND	ND	ND	566	35.5	65.9
	5/16/2011Ⓞ	ND	ND	ND	ND	588	40.6	90.8
	6/9/2011Ⓞ	ND	ND	ND	ND	1,170	89.1	307.0
	7/21/2011	0.75	1.5	ND	ND	619	57.1	101.0
8/8/2011Ⓞ	ND	0.65	ND	ND	656	60.4	123.0	
9/12/2011Ⓞ	ND	ND	ND	ND	945	77.3	323.0	
10/31/2011	0.53	0.97	ND	ND	1,170	93.1	490.0	
11/15/2011Ⓞ	ND	ND	ND	ND	1,130	88.1	441.0	
MW-3	1/26/2010	ND	ND	ND	ND	670	58.3	162
	4/16/2010	ND	ND	ND	ND	1,160	99.4	236
	7/27/2010	ND	ND	ND	ND	756	101	337
	10/12/2010	ND	ND	ND	ND	852	69.7	166
	1/25/2011	ND	ND	ND	ND	722	69.8	151
	4/21/2011	ND	ND	ND	ND	803	100	197
	7/21/2011	ND	ND	ND	ND	825	77.5	186
	10/31/2011	ND	ND	ND	ND	798	81.6	200
MW-4	1/26/2010	NS	ND	ND	ND	NS	NS	NS
	4/16/2010	ND	ND	ND	ND	1,670	78.0	828
	7/27/2010	ND	ND	ND	ND	1,390	107	493
	8/16/2010 Ⓞ	ND	ND	ND	ND	NA	NA	391
	9/17/2010 Ⓞ	ND	ND	ND	ND	NA	NA	510
	10/12/2010	ND	ND	ND	ND	1,560	125	488
	11/16/2010 Ⓞ	ND	ND	ND	ND	1,520	130	637
	12/27/2010 Ⓞ	ND	ND	ND	ND	1,540	119	662
	1/25/2011	ND	ND	ND	ND	1,370	111	552
	2/14/2011Ⓞ	0.6	2.9	ND	2.6	1,330	146	327
	3/23/2011Ⓞ	ND	0.64	ND	ND	1,390	108	447
	4/21/2011	ND	ND	ND	ND	1,270	4.9	20.1
	5/16/2011Ⓞ	ND	ND	ND	ND	1,330	101	428.0
	6/9/2011Ⓞ	ND	ND	ND	ND	1,110	86.8	302.0
	7/21/2011	11.7	18.5	ND	5.5	1,310	113	458.0
8/8/2011Ⓞ	ND	0.52	ND	ND	1,390	115	465	
9/12/2011Ⓞ	ND	0.70	ND	ND	1,350	108	439	
10/31/2011	ND	0.69	ND	ND	1,420	105	570	
11/15/2011Ⓞ	1.8	1.90	ND	ND	1,390	108	513	
MW-5	1/28/2010	ND	ND	ND	ND	1,420	85.8	710
	4/16/2010	ND	ND	ND	ND	1,860	106	865
	7/27/2010	ND	ND	ND	ND	1,070	83.3	362
	10/12/2010	ND	ND	ND	ND	2,020	132	846
	1/25/2011	ND	ND	ND	ND	2,010	126	990
	4/21/2011	ND	ND	ND	ND	2,580	158	1,340
	7/21/2011	ND	ND	ND	ND	992	60.9	195
	10/31/2011	ND	ND	ND	ND	1,680	126	883
MW-6	1/26/2010	ND	ND	ND	ND	2,950	255	1,321
	4/16/2010	ND	ND	ND	ND	3,060	297	1,480
	7/27/2010	ND	ND	ND	ND	1,410	125	518
	10/12/2010	ND	ND	ND	ND	1,890	154	683
	1/25/2011	ND	ND	ND	ND	2,490	216	1,160
	4/21/2011	ND	ND	ND	ND	2,750	219	1,230
	7/21/2011	ND	ND	ND	ND	1,880	181	718
	10/31/2011	ND	ND	ND	ND	1,790	171	954

Notes:

- 1) BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
- 2) µg/L = micrograms per liter; mg/l - milligrams per liter
- 3) TDS = Total Dissolved Solids
- 4) ND = None Detected
- 5) NS = None Sampled
- 6) NA = Not Analyzed
- 7) Ⓞ = Monthly leak testing program
- 8) Shading - Above Laboratory Detection Limits

**TABLE 3
SUMMARY OF QUALITY CONTROL ANALYTICAL RESULTS**

**High Plains Disposal Weld Site #2a Waste Water Disposal Facility
17754 Weld County Road 32, Platteville, CO
Terracon Project No. 20117002**

Monitoring Well Number	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylenes	TDS	Chloride	Sulfate
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)
Equipment Rinse Blank	2/14/2011©	1.70	9.10	0.76	8.6	NS	NS	NS
	3/23/2011©	0.61	1.60	ND	ND	NS	NS	NS
	4/21/2011	ND	ND	ND	ND	NS	NS	NS
	5/16/2011©	ND	ND	ND	ND	NS	NS	NS
	6/9/2011©	ND	ND	ND	ND	NS	NS	NS
	8/8/2011©	1.50	2.80	ND	ND	ND	ND	ND
	9/12/2011©	ND	0.53	ND	ND	5.0	ND	ND
	10/31/2011	ND	ND	ND	ND	NS	NS	NS
Ambient Blank	11/15/2011©	2.30	2.00	ND	ND	NS	NS	NS
	3/23/2011©	5.60	8.50	0.56	3	NS	NS	NS
	4/21/2011	ND	ND	ND	ND	NS	NS	NS
	5/16/2011©	ND	ND	ND	ND	NS	NS	NS
	6/9/2011©	ND	ND	ND	ND	NS	NS	NS
	8/8/2011©	ND	0.73	ND	ND	ND	ND	ND
	9/12/2011©	ND	ND	ND	ND	ND	ND	ND
	10/31/2011	ND	ND	ND	ND	NS	NS	NS
11/15/2011©	0.90	1.10	ND	ND	NS	NS	NS	

Notes:

- 1) BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
- 2) µg/L = micrograms per liter; mg/l - milligrams per liter
- 3) TDS = Total Dissolved Solids
- 4) ND = None Detected
- 5) NS = None Sampled
- 6) NA = Not Analyzed
- 7) © = Monthly leak testing program
- 9) Ambient Blank = Deionized/distilled water left open during individual well sampling procedures.
- 10) Equipment Rinse Blank = Deionized/distilled water poured over/through sampling equipment.

**TABLE 4
DESCRIPTIVE ANALYSIS**

**High Plains Disposal Weld Site #2a Waste Water Disposal Facility
17754 Weld County Road 32, Platteville, CO
Terracon Project No. 20117002**

Constituent Name	Well ID	Number of Observations	Mean	Standard Deviation	Minimum	Maximum	Number of NDs	% NDs
Benzene (ug/L)	MW-2	21	0.4848	0.2	0.25	1.4	18	86
Benzene (ug/L)	MW-3	8	0.4063	0.1	0.25	0.5	8	100
Benzene (ug/L)	MW-4	17	1.062	2.7	0.25	11.7	15	88
Benzene (ug/L)	MW-5	8	0.4063	0.1	0.25	0.5	8	100
Benzene (ug/L)	MW-6	8	0.4063	0.1	0.25	0.5	8	100
Constituent Totals		62	0.6	1.2	0.3	12		
Toluene (ug/L)	MW-2	21	0.7105	0.6	0.25	2.5	15	71
Toluene (ug/L)	MW-3	8	0.4063	0.1	0.25	0.5	8	100
Toluene (ug/L)	MW-4	17	1.688	4.4	0.25	18.5	11	65
Toluene (ug/L)	MW-5	8	0.4063	0.1	0.25	0.5	8	100
Toluene (ug/L)	MW-6	8	0.4063	0.1	0.25	0.5	8	100
Constituent Totals		62	0.7	1.9	0.3	19		
Ethylbenzene (ug/L)	MW-2	21	0.3929	0.1	0.25	0.5	21	100
Ethylbenzene (ug/L)	MW-3	8	0.4063	0.1	0.25	0.5	8	100
Ethylbenzene (ug/L)	MW-4	17	0.3676	0.1	0.25	0.5	17	100
Ethylbenzene (ug/L)	MW-5	8	0.4063	0.1	0.25	0.5	8	100
Ethylbenzene (ug/L)	MW-6	8	0.4063	0.1	0.25	0.5	8	100
Constituent Totals		62	0.4	0.0	0.3	1		
Xylenes (ug/L)	MW-2	21	0.9357	0.5	0.5	1.8	19	90
Xylenes (ug/L)	MW-3	8	1.094	0.4	0.5	1.5	8	100
Xylenes (ug/L)	MW-4	17	1.315	1.2	0.5	5.5	15	88
Xylenes (ug/L)	MW-5	8	1.094	0.4	0.5	1.5	8	100
Xylenes (ug/L)	MW-6	8	1.094	0.4	0.5	1.5	8	100
Constituent Totals		62	1.1	0.3	0.5	6		
Chloride (mg/L)	MW-2	19	45.86	20.8	20.1	93.1	0	0
Chloride (mg/L)	MW-3	8	82.16	16.3	58.3	101	0	0
Chloride (mg/L)	MW-4	15	103.8	31.9	4.9	146	0	0
Chloride (mg/L)	MW-5	8	109.8	31.7	60.9	158	0	0
Chloride (mg/L)	MW-6	8	202.3	56.0	125	297	0	0
Constituent Totals		58	108.8	15.4	4.9	297		

**TABLE 4
DESCRIPTIVE ANALYSIS**

**High Plains Disposal Weld Site #2a Waste Water Disposal Facility
17754 Weld County Road 32, Platteville, CO
Terracon Project No. 20117002**

Constituent Name	Well ID	Number of Observations	Mean	Standard Deviation	Minimum	Maximum	Number of NDs	% NDs
Sulfate (mg/L)	MW-2	21	139.2	106.3	62.5	490	0	0
Sulfate (mg/L)	MW-3	8	204.4	59.9	151	337	0	0
Sulfate (mg/L)	MW-4	17	471.6	171.9	20.1	828	0	0
Sulfate (mg/L)	MW-5	8	773.9	358.9	195	1340	0	0
Sulfate (mg/L)	MW-6	8	1008	343.5	518	1480	0	0
Constituent Totals		62	519.4	136.7	20.1	1480		
TDS (mg/L)	MW-2	16	668.9	222.1	455	1170	0	0
TDS (mg/L)	MW-3	8	823.3	148.1	670	1160	0	0
TDS (mg/L)	MW-4	15	1397	135.0	1110	1670	0	0
TDS (mg/L)	MW-5	8	1704	531.2	992	2580	0	0
TDS (mg/L)	MW-6	8	2278	613.1	1410	3060	0	0

**TABLE 5
OUTLIER ANALYSIS**

**High Plains Disposal Weld Site #2a Waste Water Disposal Facility
17754 Weld County Road 32, Platteville, CO
Terracon Project No. 20117002**

Constituent Name	Well ID	Outlier	Outlier Value	Date	Number	Mean	Standard Deviation
Benzene (ug/L)	MW-2	Yes	1.4	3/23/2011	21	0.4848	0
Benzene (ug/L)	MW-3	No	n/a	n/a	8	0.4063	0
Benzene (ug/L)	MW-4	Yes	11.7	7/21/2011	17	1.062	3
Benzene (ug/L)	MW-5	No	n/a	n/a	8	0.4063	0
Benzene (ug/L)	MW-6	No	n/a	n/a	8	0.4063	0
Toluene (ug/L)	MW-2	No	n/a	n/a	21	0.7105	1
Toluene (ug/L)	MW-3	No	n/a	n/a	8	0.4063	0
Toluene (ug/L)	MW-4	Yes	18.5,2.9	7/21/2011,2/14/2011	17	1.688	4
Toluene (ug/L)	MW-5	No	n/a	n/a	8	0.4063	0
Toluene (ug/L)	MW-6	No	n/a	n/a	8	0.4063	0
Ethylbenzene (ug/L)	MW-2	No	n/a	n/a	21	0.3929	0
Ethylbenzene (ug/L)	MW-3	No	n/a	n/a	8	0.4063	0
Ethylbenzene (ug/L)	MW-4	No	n/a	n/a	17	0.3676	0
Ethylbenzene (ug/L)	MW-5	No	n/a	n/a	8	0.4063	0
Ethylbenzene (ug/L)	MW-6	No	n/a	n/a	8	0.4063	0
Xylenes (ug/L)	MW-2	No	n/a	n/a	21	0.9357	0
Xylenes (ug/L)	MW-3	No	n/a	n/a	8	1.094	0
Xylenes (ug/L)	MW-4	Yes	5.5	7/21/2011	17	1.315	1
Xylenes (ug/L)	MW-5	No	n/a	n/a	8	1.094	0
Xylenes (ug/L)	MW-6	No	n/a	n/a	8	1.094	0
Chloride (mg/L)	MW-2	No	n/a	n/a	19	45.86	21
Chloride (mg/L)	MW-3	No	n/a	n/a	8	82.16	16
Chloride (mg/L)	MW-4	Yes	4.9	4/21/2011	15	103.8	32
Chloride (mg/L)	MW-5	No	n/a	n/a	8	109.8	32
Chloride (mg/L)	MW-6	No	n/a	n/a	8	202.3	56
Sulfate (mg/L)	MW-2	Yes	490	10/31/2011	21	139.2	106
Sulfate (mg/L)	MW-3	Yes	337	7/27/2010	8	204.4	60
Sulfate (mg/L)	MW-4	Yes	20.1	4/21/2011	17	471.6	172
Sulfate (mg/L)	MW-5	No	n/a	n/a	8	773.9	359
Sulfate (mg/L)	MW-6	No	n/a	n/a	8	1008	344
TDS (mg/L)	MW-2	No	n/a	n/a	16	668.9	222
TDS (mg/L)	MW-3	Yes	1160	4/16/2010	8	823.3	148
TDS (mg/L)	MW-4	No	n/a	n/a	15	1397	135
TDS (mg/L)	MW-5	No	n/a	n/a	8	1704	531
TDS (mg/L)	MW-6	No	n/a	n/a	8	2278	613

**TABLE 6
SEN'S SLOPE ESTIMATOR SUMMARY**

**High Plains Disposal Weld Site #2a Waste Water Disposal Facility
17754 Weld County Road 32, Platteville, CO
Terracon Project No. 20117002**

Constituent Name	Well ID	Slope	Mann-Kendal	Critical Value	Trend
Benzene (ug/L)	MW-2	0	-35	-78	No
Benzene (ug/L)	MW-3	-0.152	-15	-20	No
Benzene (ug/L)	MW-4	0	-45	-58	No
Benzene (ug/L)	MW-5	-0.1522	-15	-20	No
Benzene (ug/L)	MW-6	-0.152	-15	-20	No
Toluene (ug/L)	MW-2	0	11	78	No
Toluene (ug/L)	MW-3	-0.152	-15	-20	No
Toluene (ug/L)	MW-4	0	27	58	No
Toluene (ug/L)	MW-5	-0.1522	-15	-20	No
Toluene (ug/L)	MW-6	-0.152	-15	-20	No
Ethylbenzene (ug/L)	MW-2	-0.1581	-108	-78	Decreasing
Ethylbenzene (ug/L)	MW-3	-0.152	-15	-20	No
Ethylbenzene (ug/L)	MW-4	-0.1979	-72	-58	Decreasing
Ethylbenzene (ug/L)	MW-5	-0.1522	-15	-20	No
Ethylbenzene (ug/L)	MW-6	-0.152	-15	-20	No
Xylenes (ug/L)	MW-2	0	40	78	No
Xylenes (ug/L)	MW-3	0	-5	-20	No
Xylenes (ug/L)	MW-4	0	-2	-58	No
Xylenes (ug/L)	MW-5	0	-5	-20	No
Xylenes (ug/L)	MW-6	0	-5	-20	No
Chloride (mg/L)	MW-2	18.44	65	68	No
Chloride (mg/L)	MW-3	7.911	6	20	No
Chloride (mg/L)	MW-4	-7.849	-12	-48	No
Chloride (mg/L)	MW-5	24.3	5	20	No
Chloride (mg/L)	MW-6	-43.39	-6	-20	No
Sulfate (mg/L)	MW-2	16.9	38	78	No
Sulfate (mg/L)	MW-3	5.655	2	20	No
Sulfate (mg/L)	MW-4	-86.67	-30	-58	No
Sulfate (mg/L)	MW-5	129.6	6	20	No
Sulfate (mg/L)	MW-6	-184.9	-4	-20	No
TDS (mg/L)	MW-2	173.4	77	53	Increasing
TDS (mg/L)	MW-3	42.7	2	20	No
TDS (mg/L)	MW-4	-186.1	-41	-48	Decreasing
TDS (mg/L)	MW-5	170.4	2	20	No
TDS (mg/L)	MW-6	-391.7	-10	-20	No

APPENDIX C

Laboratory Data Sheets

November 08, 2011

Craig Nelson
Terracon Ft. Collins Colorado
301 N. Howes
Fort Collins, CO 80521

RE: Project: High Plains Platteville
Pace Project No.: 60109252

Dear Craig Nelson:

Enclosed are the analytical results for sample(s) received by the laboratory on November 01, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Colleen Kaporc for
Mary Jane Walls
maryjane.walls@pacelabs.com
Laboratory Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: High Plains Platteville

Pace Project No.: 60109252

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

A2LA Certification #: 2456.01

Arkansas Certification #: 05-008-0

Illinois Certification #: 001191

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407-08-TX

Utah Certification #: 9135995665

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: High Plains Platteville

Pace Project No.: 60109252

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60109252001	MW-2	Water	10/31/11 12:20	11/01/11 09:20
60109252002	MW-3	Water	10/31/11 13:00	11/01/11 09:20
60109252003	MW-4	Water	10/31/11 12:40	11/01/11 09:20
60109252004	MW-5	Water	10/31/11 13:25	11/01/11 09:20
60109252005	MW-6	Water	10/31/11 13:38	11/01/11 09:20
60109252006	EQUIP RINSE BLANK	Water	10/31/11 13:09	11/01/11 09:20
60109252007	AMBIENT BLANK	Water	10/31/11 13:13	11/01/11 09:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: High Plains Platteville

Pace Project No.: 60109252

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60109252001	MW-2	EPA 8260	PRG	8
		SM 2540C	KLB	1
		EPA 300.0	JPF	2
60109252002	MW-3	EPA 8260	PRG	8
		SM 2540C	KLB	1
		EPA 300.0	JPF	2
60109252003	MW-4	EPA 8260	PRG	8
		SM 2540C	KLB	1
		EPA 300.0	JPF	2
60109252004	MW-5	EPA 8260	PRG	8
		SM 2540C	KLB	1
		EPA 300.0	JPF	2
60109252005	MW-6	EPA 8260	PRG	8
		SM 2540C	KLB	1
		EPA 300.0	JPF	2
60109252006	EQUIP RINSE BLANK	EPA 8260	PRG	8
60109252007	AMBIENT BLANK	EPA 8260	PRG	8

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS

Project: High Plains Platteville

Pace Project No.: 60109252

Sample: MW-2		Lab ID: 60109252001	Collected: 10/31/11 12:20	Received: 11/01/11 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates		Analytical Method: EPA 8260						
Benzene	0.53	ug/L	0.50	1		11/05/11 18:54	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		11/05/11 18:54	100-41-4	
Toluene	0.97	ug/L	0.50	1		11/05/11 18:54	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		11/05/11 18:54	1330-20-7	
Toluene-d8 (S)	101	%	90-110	1		11/05/11 18:54	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		11/05/11 18:54	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	82-119	1		11/05/11 18:54	17060-07-0	
Preservation pH	1.0		0.10	1		11/05/11 18:54		
2540C Total Dissolved Solids		Analytical Method: SM 2540C						
Total Dissolved Solids	1170	mg/L	5.0	1		11/03/11 14:49		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Chloride	93.1	mg/L	20.0	20		11/03/11 03:56	16887-00-6	
Sulfate	490	mg/L	100	100		11/03/11 04:46	14808-79-8	

ANALYTICAL RESULTS

Project: High Plains Platteville

Pace Project No.: 60109252

Sample: MW-3		Lab ID: 60109252002	Collected: 10/31/11 13:00	Received: 11/01/11 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates		Analytical Method: EPA 8260						
Benzene	ND	ug/L	0.50	1		11/05/11 19:10	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		11/05/11 19:10	100-41-4	
Toluene	ND	ug/L	0.50	1		11/05/11 19:10	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		11/05/11 19:10	1330-20-7	
Toluene-d8 (S)	101	%	90-110	1		11/05/11 19:10	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		11/05/11 19:10	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	82-119	1		11/05/11 19:10	17060-07-0	
Preservation pH	1.0		0.10	1		11/05/11 19:10		
2540C Total Dissolved Solids		Analytical Method: SM 2540C						
Total Dissolved Solids	798	mg/L	5.0	1		11/03/11 14:50		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Chloride	81.6	mg/L	20.0	20		11/03/11 05:02	16887-00-6	
Sulfate	200	mg/L	20.0	20		11/03/11 05:02	14808-79-8	

ANALYTICAL RESULTS

Project: High Plains Platteville

Pace Project No.: 60109252

Sample: MW-4		Lab ID: 60109252003	Collected: 10/31/11 12:40	Received: 11/01/11 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates		Analytical Method: EPA 8260						
Benzene	ND	ug/L	0.50	1		11/05/11 19:26	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		11/05/11 19:26	100-41-4	
Toluene	0.69	ug/L	0.50	1		11/05/11 19:26	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		11/05/11 19:26	1330-20-7	
Toluene-d8 (S)	102	%	90-110	1		11/05/11 19:26	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		11/05/11 19:26	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	1		11/05/11 19:26	17060-07-0	
Preservation pH	1.0		0.10	1		11/05/11 19:26		
2540C Total Dissolved Solids		Analytical Method: SM 2540C						
Total Dissolved Solids	1420	mg/L	5.0	1		11/03/11 14:50		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Chloride	105	mg/L	20.0	20		11/03/11 05:35	16887-00-6	
Sulfate	570	mg/L	100	100		11/03/11 05:52	14808-79-8	

ANALYTICAL RESULTS

Project: High Plains Platteville

Pace Project No.: 60109252

Sample: MW-5		Lab ID: 60109252004	Collected: 10/31/11 13:25	Received: 11/01/11 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates		Analytical Method: EPA 8260						
Benzene	ND	ug/L	0.50	1		11/05/11 19:42	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		11/05/11 19:42	100-41-4	
Toluene	ND	ug/L	0.50	1		11/05/11 19:42	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		11/05/11 19:42	1330-20-7	
Toluene-d8 (S)	102	%	90-110	1		11/05/11 19:42	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		11/05/11 19:42	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	82-119	1		11/05/11 19:42	17060-07-0	
Preservation pH	1.0		0.10	1		11/05/11 19:42		
2540C Total Dissolved Solids		Analytical Method: SM 2540C						
Total Dissolved Solids	1680	mg/L	5.0	1		11/03/11 14:50		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Chloride	126	mg/L	20.0	20		11/03/11 06:08	16887-00-6	
Sulfate	883	mg/L	100	100		11/03/11 06:25	14808-79-8	

ANALYTICAL RESULTS

Project: High Plains Platteville

Pace Project No.: 60109252

Sample: MW-6		Lab ID: 60109252005	Collected: 10/31/11 13:38	Received: 11/01/11 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates		Analytical Method: EPA 8260						
Benzene	ND	ug/L	0.50	1		11/05/11 19:58	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		11/05/11 19:58	100-41-4	
Toluene	ND	ug/L	0.50	1		11/05/11 19:58	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		11/05/11 19:58	1330-20-7	
Toluene-d8 (S)	103	%	90-110	1		11/05/11 19:58	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		11/05/11 19:58	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	1		11/05/11 19:58	17060-07-0	
Preservation pH	1.0		0.10	1		11/05/11 19:58		
2540C Total Dissolved Solids		Analytical Method: SM 2540C						
Total Dissolved Solids	1790	mg/L	5.0	1		11/03/11 14:50		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Chloride	171	mg/L	20.0	20		11/03/11 06:41	16887-00-6	
Sulfate	954	mg/L	100	100		11/03/11 06:58	14808-79-8	

ANALYTICAL RESULTS

Project: High Plains Platteville

Pace Project No.: 60109252

Sample: EQUIP RINSE BLANK		Lab ID: 60109252006	Collected: 10/31/11 13:09	Received: 11/01/11 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates		Analytical Method: EPA 8260						
Benzene	ND	ug/L	0.50	1		11/05/11 20:14	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		11/05/11 20:14	100-41-4	
Toluene	ND	ug/L	0.50	1		11/05/11 20:14	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		11/05/11 20:14	1330-20-7	
Toluene-d8 (S)	102	%	90-110	1		11/05/11 20:14	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		11/05/11 20:14	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	82-119	1		11/05/11 20:14	17060-07-0	
Preservation pH	1.0		0.10	1		11/05/11 20:14		

ANALYTICAL RESULTS

Project: High Plains Platteville

Pace Project No.: 60109252

Sample: AMBIENT BLANK		Lab ID: 60109252007	Collected: 10/31/11 13:13	Received: 11/01/11 09:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates		Analytical Method: EPA 8260						
Benzene	ND	ug/L	0.50	1		11/07/11 12:02	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		11/07/11 12:02	100-41-4	
Toluene	ND	ug/L	0.50	1		11/07/11 12:02	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		11/07/11 12:02	1330-20-7	
Toluene-d8 (S)	101	%	90-110	1		11/07/11 12:02	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		11/07/11 12:02	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	82-119	1		11/07/11 12:02	17060-07-0	
Preservation pH	1.0		0.10	1		11/07/11 12:02		

QUALITY CONTROL DATA

Project: High Plains Platteville

Pace Project No.: 60109252

QC Batch: MSV/41435

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV MO GRO Oxygenates

Associated Lab Samples: 60109252001, 60109252002, 60109252003, 60109252004, 60109252005, 60109252006

METHOD BLANK: 905311

Matrix: Water

Associated Lab Samples: 60109252001, 60109252002, 60109252003, 60109252004, 60109252005, 60109252006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	0.50	11/05/11 14:52	
Ethylbenzene	ug/L	ND	0.50	11/05/11 14:52	
Toluene	ug/L	ND	0.50	11/05/11 14:52	
Xylene (Total)	ug/L	ND	1.5	11/05/11 14:52	
1,2-Dichloroethane-d4 (S)	%	99	82-119	11/05/11 14:52	
4-Bromofluorobenzene (S)	%	101	87-113	11/05/11 14:52	
Toluene-d8 (S)	%	100	90-110	11/05/11 14:52	

LABORATORY CONTROL SAMPLE: 905312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.0	100	82-117	
Ethylbenzene	ug/L	20	19.3	96	79-121	
Toluene	ug/L	20	20.1	101	80-120	
Xylene (Total)	ug/L	60	60.8	101	79-120	
1,2-Dichloroethane-d4 (S)	%			97	82-119	
4-Bromofluorobenzene (S)	%			101	87-113	
Toluene-d8 (S)	%			102	90-110	

QUALITY CONTROL DATA

Project: High Plains Platteville

Pace Project No.: 60109252

QC Batch: MSV/41439

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV MO GRO Oxygenates

Associated Lab Samples: 60109252007

METHOD BLANK: 905332

Matrix: Water

Associated Lab Samples: 60109252007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	0.50	11/07/11 09:04	
Ethylbenzene	ug/L	ND	0.50	11/07/11 09:04	
Toluene	ug/L	ND	0.50	11/07/11 09:04	
Xylene (Total)	ug/L	ND	1.5	11/07/11 09:04	
1,2-Dichloroethane-d4 (S)	%	100	82-119	11/07/11 09:04	
4-Bromofluorobenzene (S)	%	99	87-113	11/07/11 09:04	
Toluene-d8 (S)	%	101	90-110	11/07/11 09:04	

LABORATORY CONTROL SAMPLE: 905333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.5	102	82-117	
Ethylbenzene	ug/L	20	19.4	97	79-121	
Toluene	ug/L	20	19.7	99	80-120	
Xylene (Total)	ug/L	60	60.9	101	79-120	
1,2-Dichloroethane-d4 (S)	%			103	82-119	
4-Bromofluorobenzene (S)	%			102	87-113	
Toluene-d8 (S)	%			99	90-110	

QUALITY CONTROL DATA

Project: High Plains Platteville

Pace Project No.: 60109252

QC Batch: WET/31849

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60109252001, 60109252002, 60109252003, 60109252004, 60109252005

METHOD BLANK: 904375

Matrix: Water

Associated Lab Samples: 60109252001, 60109252002, 60109252003, 60109252004, 60109252005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	11/03/11 14:46	

SAMPLE DUPLICATE: 904376

Parameter	Units	60109008009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1150	1140	1	17	

SAMPLE DUPLICATE: 904377

Parameter	Units	60109139005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	310	238	26	17	R1

QUALITY CONTROL DATA

Project: High Plains Platteville

Pace Project No.: 60109252

QC Batch: WETA/18142 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 60109252001, 60109252002, 60109252003, 60109252004, 60109252005

METHOD BLANK: 903517 Matrix: Water
 Associated Lab Samples: 60109252001, 60109252002, 60109252003, 60109252004, 60109252005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	11/03/11 00:05	
Sulfate	mg/L	ND	1.0	11/03/11 00:05	

LABORATORY CONTROL SAMPLE: 903518

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	99	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 903519 903520

Parameter	Units	60109219001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Chloride	mg/L	15.4	5	20.0	5	20.4	93	100	64-118	2	12	
Sulfate	mg/L	224	100	320	100	320	96	96	61-119	0	10	

QUALIFIERS

Project: High Plains Platteville

Pace Project No.: 60109252

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/41435

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

R1 RPD value was outside control limits.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: High Plains Platteville

Pace Project No.: 60109252

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60109252001	MW-2	EPA 8260	MSV/41435		
60109252002	MW-3	EPA 8260	MSV/41435		
60109252003	MW-4	EPA 8260	MSV/41435		
60109252004	MW-5	EPA 8260	MSV/41435		
60109252005	MW-6	EPA 8260	MSV/41435		
60109252006	EQUIP RINSE BLANK	EPA 8260	MSV/41435		
60109252007	AMBIENT BLANK	EPA 8260	MSV/41439		
60109252001	MW-2	SM 2540C	WET/31849		
60109252002	MW-3	SM 2540C	WET/31849		
60109252003	MW-4	SM 2540C	WET/31849		
60109252004	MW-5	SM 2540C	WET/31849		
60109252005	MW-6	SM 2540C	WET/31849		
60109252001	MW-2	EPA 300.0	WETA/18142		
60109252002	MW-3	EPA 300.0	WETA/18142		
60109252003	MW-4	EPA 300.0	WETA/18142		
60109252004	MW-5	EPA 300.0	WETA/18142		
60109252005	MW-6	EPA 300.0	WETA/18142		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



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Page: / of /

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: Terracon	Report To: Scott Gruenbenben	Attention:	Company Name:	Company Name:	REGULATORY AGENCY
Address: 301 North Howes	Copy To: CRAIG NELSON	Address:	Address:	Address:	<input type="checkbox"/> NPDES <input checked="" type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER
Fort Collins, CO 80521					<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER
Email To: <i>Sam Gruenbenben@Terracon.com</i>	Purchase Order No.:	Pace Quote Reference:	Pace Project Manager:	Site Location	STATE: CO.
Phone: 970-474-0359 Fax: 970-484-0454	Project Name: High Plains Platteville	Colleen Koporc			
Requested Due Date/TAT:	Project Number:				

ITEM #	Section D Required Client Information	Valid Matrix Codes	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test ↑	Y/N ↑	Requested Analysis Filtered (Y/N)		Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB													DATE	TIME		
1	MW-1		G	G	10/31	1220	10/31	4	1								X	X	X			60109252
2	MW-2		G	G	10/31	1300	10/31	4	1								X	X	X			001
3	MW-3		G	G	10/31	1240	10/31	4	1								X	X	X			002
4	MW-4		G	G	10/31	1325	10/31	4	1								X	X	X			003
5	MW-5		G	G	10/31	1338	10/31	4	1								X	X	X			004
6	MW-6		G	G	10/31	1309	10/31	3	1								X	X	X			005
7	EQUIP RINSE BULK		G	G	10/31	1313	10/31	3	1								X	X	X			006
8	AMBIENT BULK		G	G				3	1								X	X	X			007

#	ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		SAMPLE CONDITIONS			
		DATE	TIME	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
		10/31/11	1600	11-1-11	0920	2.4	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Scott M. Gruenbenben

SIGNATURE of SAMPLER: *Scott M. Gruenbenben*

DATE Signed (MM/DD/YYYY): 10/31/11



Sample Condition Upon Receipt

Client Name: Terracon

Project # 62109252

Courier: [X] Fed Ex [] UPS [] USPS [] Client [] Commercial [] Pace [] Other
Tracking #: 89808915500
Custody Seal on Cooler/Box Present: [X] Yes [] No
Packing Material: [] Bubble Wrap [] Bubble Bags [X] Foam [] None [X] Other ZPIC
Thermometer Used: T-191 / T-194
Type of Ice: Wet

Optional
Proj. Due Date: 1/10
Proj. Name: High Plains

Cooler Temperature: 2.4
Temperature should be above freezing to 6°C

Date and Initials of person examining contents: [Signature]

Comments:

Table with 17 rows of checklist items including Chain of Custody, Short Hold Time analyses, Containers intact, etc.

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N
Person Contacted: Date/Time:
Comments/ Resolution:

Project Manager Review: [Signature] Date: 11/2/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

APPENDIX D

Statistical Analysis

**STATISTICAL SUMMARY
GROUNDWATER ANALYTICAL RESULTS**

**High Plains Disposal Weld Site #2a Waste Water Disposal Facility
17754 Weld County Road 32, Platteville, CO
Terracon Project No. 20117002**

Monitoring Well Number	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylenes	TDS	Chloride	Sulfate
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)
MW-1	1/28/2010	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	4/16/2010	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	7/27/2010	N/L	N/L	N/L	N/L	N/L	N/L	N/L
	10/12/2010	N/L	N/L	N/L	N/L	N/L	N/L	N/L
	1/25/2011	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	4/21/2011	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	7/21/2011	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	10/31/2011	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	1/28/2010	<0.5	<0.5	<0.5	<1.5	550	56.6	174
3/17/2010©	<0.5	<0.5	<0.5	<1.5	N/A	38.4	88	
4/16/2010	<0.5	<0.5	<0.5	<1.5	455	36.2	98	
5/6/2010©	<0.5	<0.5	<0.5	<1.5	N/A	31.2	86	
6/7/2010 ©	<0.5	<0.5	<0.5	<1.5	N/A	36.3	129	
7/27/2010	<0.5	<0.5	<0.5	<1.5	576	30.5	99	
8/16/2010 ©	<0.5	<0.5	<0.5	<1.5	N/A	N/A	136	
9/17/2010 ©	<0.5	<0.5	<0.5	<1.5	N/A	N/A	71	
10/12/2010	<0.5	<0.5	<0.5	<1.5	568	20.1	63	
11/16/2010 ©	<0.5	<0.5	<0.5	<1.5	500	30.6	90	
12/27/2010 ©	<0.5	1.1	<0.5	<1.5	552	35.3	127	
1/25/2011	<0.5	<0.5	<0.5	<1.5	543	36.1	90.9	
2/14/2011©	<0.5	1.7	<0.5	1.8	601	32.0	94.6	
3/23/2011©	1.4	2.5	<0.5	1.6	644	35.0	76.2	
4/21/2011	<0.5	<0.5	<0.5	<1.5	566	35.5	65.9	
5/16/2011©	<0.5	<0.5	<0.5	<1.5	588	40.6	90.8	
6/9/2011©	<0.5	<0.5	<0.5	<1.5	1,170	89.1	307.0	
7/21/2011	0.75	1.5	<0.5	<1.5	619	57.1	101.0	
8/8/2011©	<0.5	0.65	<0.5	<1.5	656	60.4	123.0	
9/12/2011©	<0.5	<0.5	<0.5	<1.5	945	77.3	323.0	
10/31/2011	0.53	0.97	<0.5	<1.5	1,170	93.1	490.0	
11/15/2011©	<0.5	<0.5	<0.5	<1.5	1,130	88.1	441.0	
MW-3	1/26/2010	<0.5	<0.5	<0.5	<1.5	670	58.3	162
	4/16/2010	<0.5	<0.5	<0.5	<1.5	1,160	99.4	236
	7/27/2010	<0.5	<0.5	<0.5	<1.5	756	101	337
	10/12/2010	<0.5	<0.5	<0.5	<1.5	852	69.7	166
	1/25/2011	<0.5	<0.5	<0.5	<1.5	722	69.8	151
	4/21/2011	<0.5	<0.5	<0.5	<1.5	803	100	197
	7/21/2011	<0.5	<0.5	<0.5	<1.5	825	77.5	186
	10/31/2011	<0.5	<0.5	<0.5	<1.5	798	81.6	200
	1/26/2010	Dry	Dry	Dry	Dry	Dry	Dry	Dry
4/16/2010	<0.5	<0.5	<0.5	<1.5	1,670	78.0	828	
7/27/2010	<0.5	<0.5	<0.5	<1.5	1,390	107	493	
8/16/2010 ©	<0.5	<0.5	<0.5	<1.5	N/A	N/A	391	
9/17/2010 ©	<0.5	<0.5	<0.5	<1.5	N/A	N/A	510	
10/12/2010	<0.5	<0.5	<0.5	<1.5	1,560	125	488	
11/16/2010 ©	<0.5	<0.5	<0.5	<1.5	1,520	130	637	
12/27/2010 ©	<0.5	<0.5	<0.5	<1.5	1,540	119	662	
1/25/2011	<0.5	<0.5	<0.5	<1.5	1,370	111	552	
2/14/2011©	0.6	2.9	<0.5	2.6	1,330	146	327	
3/23/2011©	<0.5	0.64	<0.5	<1.5	1,390	108	447	
4/21/2011	<0.5	<0.5	<0.5	<1.5	1,270	4.9	20.1	
5/16/2011©	<0.5	<0.5	<0.5	<1.5	1,330	101	428	
6/9/2011©	<0.5	<0.5	<0.5	<1.5	1,110	86.8	302	
7/21/2011	11.7	18.5	<0.5	5.5	1,310	113	458	
8/8/2011©	<0.5	0.52	<0.5	<1.5	1,390	115	465	
9/12/2011©	<0.5	0.70	<0.5	<1.5	1,350	108	439	
10/31/2011	<0.5	0.69	<0.5	<1.5	1,420	105	570	
11/15/2011©	1.8	1.90	<0.5	<1.5	1,390	108	513	
MW-5	1/28/2010	<0.5	<0.5	<0.5	<1.5	1,420	85.8	710
	4/16/2010	<0.5	<0.5	<0.5	<1.5	1,860	106	865
	7/27/2010	<0.5	<0.5	<0.5	<1.5	1,070	83.3	362
	10/12/2010	<0.5	<0.5	<0.5	<1.5	2,020	132	846
	1/25/2011	<0.5	<0.5	<0.5	<1.5	2,010	126	990
	4/21/2011	<0.5	<0.5	<0.5	<1.5	2,580	158	1,340
	7/21/2011	<0.5	<0.5	<0.5	<1.5	992	60.9	195
	10/31/2011	<0.5	<0.5	<0.5	<1.5	1,680	126	883
	1/26/2010	<0.5	<0.5	<0.5	<1.5	2,950	255	1,321
4/16/2010	<0.5	<0.5	<0.5	<1.5	3,060	297	1,480	
7/27/2010	<0.5	<0.5	<0.5	<1.5	1,410	125	518	
10/12/2010	<0.5	<0.5	<0.5	<1.5	1,890	154	683	
1/25/2011	<0.5	<0.5	<0.5	<1.5	2,490	216	1,160	
4/21/2011	<0.5	<0.5	<0.5	<1.5	2,750	219	1,230	
7/21/2011	<0.5	<0.5	<0.5	<1.5	1,880	181	718	
10/31/2011	<0.5	<0.5	<0.5	<1.5	1,790	171	954	
Number of Data Points		44	44	44	44	38	38	44
Number of Non-Detects		42	39	44	41	0	0	0
Mean		2.8	2.6	#DIV/0!	2.9	1,253.5	93.6	421.2
Maximum		11.7	18.5	0	5.5	3,060.0	297.0	1,480.0
Minimum		0.5	0.5	0.0	1.6	455.0	4.9	20.1
Standard Deviation		4.4	4.8	#DIV/0!	1.8	643.7	56.5	360.5

NOTES:

- 1) BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
- 2) µg/L = micrograms per liter; mg/l - milligrams per liter
- 3) TDS = Total Dissolved Solids
- 4) N/D = None Detected
- 5) N/S = None Sampled
- 6) N/A = Not Analyzed
- 7) © = Monthly leak testing program
- 8) Shading = Above Laboratory Detection Limits
- 9) BTEX results presented as the laboratory reporting limited, except where shaded.
- 10) Xylenes results presented as the laboratory reporting limit for single xylene isomer, except where shaded.