

March 21, 2011  
Ref. No. 31129-086

Mr. Jaspal Walia  
Project Manager  
New York State Department of Environmental Conservation, Region 9  
270 Michigan Avenue  
Buffalo, NY 14203-2999

Subject: Status Report Annual Reporting 2010  
Leica, Inc. Site; Erie County, Cheektowaga, New York  
Inactive Hazardous Waste Disposal Site No. 915156

Dear Mr. Walia:

As required by Section VII of the Order of Consent (the "Order") for the subject site, EnergySolutions, LLC will prepare progress reports during the performance phase of the remedial action. This letter shall serve as the written progress report and its format is consistent with the items specified in Section VII (i)-(vii) of this Order. Attached, please also find the signed "Institutional and Engineering Controls Certification Form."

## **1. Actions Taken During the Previous Months (January 2010 – December 2010)**

### General Maintenance

Operations, maintenance and monitoring of the overburden and bedrock remediation systems was conducted in accordance with Section 6, System Operations, Maintenance, and Monitoring Plan included within the "Construction and Operation of Remedial System Project Design, Final Submittal" prepared by Scientech NES, Inc. (now EnergySolutions) dated March 1999 and submitted to the New York State Department of Environmental Conservation (NYSDEC), Region 9.

The EnergySolutions field crew continued to conduct routine scheduled maintenance of the groundwater pump and treatment system from January 2010 through December 2010. During the routine maintenance visits, the EnergySolutions field crew also inspected the site remediation system trailers, and other site items. All site equipment was in satisfactory working condition throughout 2010 and normal maintenance was performed during the period.

### Groundwater Sampling

Groundwater elevation measurements were collected on March 23, 2010, July 2, 2010, September 29, 2010, and December 15, 2010. Groundwater samples were collected for all four quarters from shallow wells MW-5, MW-6, MW-10, MW-14, MW-16R, MW-18, MW-22, MW-24, MW-25, and MW-26 and bedrock wells MW-5A, MW-6A, MW-14A, MW-18A, MW-22A, MW-24A, MW-25A, and MW-26A, with the exception of the March sample for MW-10 and the September sample for MW-10, MW-14 and MW-22 when the wells were dry. The annual groundwater samples were collected during the December sampling event from shallow wells MW-3 and MW-23, and bedrock well MW-1A. Samples of groundwater from MW-11A and MW-16A were collected in the discharge piping at the treatment facility. These samples were collected in each of the four quarterly sampling events, and were intended to provide information regarding the effects of the HRC injection on the groundwater at the site.

Two new shallow wells, MW-27 and MW-28, and three new bedrock wells, MW-27A, MW-28A and MW-29A, were installed downgradient of the facility at offsite locations on Rowan Road and Preston Road in May 2010. These wells were installed in response to a NYSDEC request for additional delineation of the groundwater plume to the south of the facility. These five new wells were sampled during the July, September, and December sampling events. Additional details are provided below in Section 1 in the subsection entitled “Rowan Road Groundwater Investigation.”

Groundwater depth measurements were collected from most of the available wells at the site during the March, July, September, and December sampling rounds. A listing of groundwater elevation information is included in Table 1 through Table 4 in Appendix A.

All samples collected were submitted under chain of custody to Columbia Analytical Services, Inc., located in Rochester, New York, for volatile organic compound (VOC) analysis using EPA Method 8260. Selected samples were also analyzed for additional parameters designed to assess biological activity as proposed in the HRC injection plan.

The four rounds of groundwater sampling were performed in March, July, September and December 2010, in accordance with the sampling program established during the August 2006 meeting between representatives from the NYSDEC, the New York State Department of Health (NYSDOH), Leica and EnergySolutions.

#### Soil Vapor Intrusion in SamSon Building

Chlorinated VOCs were detected in subslab and indoor air samples collected from within the northeast portion of the facility in March 2010. Samples were collected using methods specified in the September 2006 “Supplemental Area B Indoor Air and Sub-Slab Soil Gas Sampling Plan” and in compliance with NYSDOH guidance. Data was compared to NYSDEC Soil Vapor/Indoor Air Matrices 1 and 2 as published in the NYSDOH “Guidance for Evaluating Soil Vapor Intrusion in the State of New York.” The Matrix guidelines indicated that mitigation is required in several portions of the building. The results were transmitted to the NYSDEC in a letter dated September 3, 2010. In response to these results, EnergySolutions initiated preparation of a Vapor Mitigation Work Plan as described below in Section 1 in the subsection entitled “Vapor Mitigation Work Plan.”

#### Soil Vapor Intrusion on Preston Road

Based upon the 2009 indoor air results for the Rowan Road residences, and the groundwater sample results for the two well pairs installed on Rowan Road (MW-25/25A and MW-26/26A), the NYSDEC, via a letter dated December 9, 2009, requested additional indoor air sampling of residences on Preston Road. A Groundwater Monitoring Well Installation and Vapor Intrusion Investigation Work Plan was submitted to the NYSDEC on December 28, 2009. After modification, the Work Plan was approved by the NYSDEC on January 12, 2010. The vapor intrusion sampling was conducted in March 2010 and the results reported to the NYSDEC on June 17, 2010.

#### Rowan Road Groundwater Investigation

As part of the vapor intrusion study near Rowan Road, the NYSDEC also requested, via a letter dated December 9, 2009, the installation of additional groundwater monitoring wells south of the site along Rowan Road for the purpose of delineating the downgradient extent of chlorinated VOCs in groundwater. EnergySolutions prepared a plan for well installation and submitted it to the NYSDEC on December 28, 2009. The NYSDEC approved the plan via letter on January 12, 2010. One overburden/bedrock well pair, MW-27/27A was installed on the south side of Rowan Road near the corner of Marne Road. A second overburden/bedrock well pair, MW-28/28A, was installed on the west side of Preston Road, approximately 150 feet south of Rowan Road. A single bedrock well,

MW-29A was installed on the west side of Preston Road approximately 100 feet south of the MW-28/28A well pair. These five new monitoring wells were added to the quarterly groundwater sampling events and were sampled during the July, September and December 2010 sampling events. A summary report of the well installations, including well logs and well completion details, was submitted to the NYSDEC on October 13, 2010.

#### Vapor Mitigation Work Plan

Based on the results of the March subslab and indoor air sampling within the facility, a Vapor Mitigation Work Plan was required. A Vapor Mitigation Work Plan was prepared and submitted to the NYSDEC for approval on November 23, 2010.

NYSDEC responded with comments to the Vapor Mitigation Work Plan in a letter dated December 20, 2010. A response to the comments was sent to the NYSDEC, with final revisions and approval of the Work Plan pending in 2011.

#### Discharge Permit Monitoring/Modification

Effluent samples were collected from the groundwater treatment system discharge on March 3, April 29, August 2, and October 10 of 2010. Sample analysis indicated that there were no exceedances of permitted discharge concentrations during the year.

A request for a discharge permit modification was made to the Town of Cheektowaga and the Buffalo Sewer Authority (BSA) on December 15, 2010. Current VOC concentrations are much lower than the concentrations present when the application was first submitted. Based on these reduced concentrations, a request was made to revise the permit and eliminate the operation of the treatment system. If the proposed revision is accepted, the groundwater would be recovered and pumped to the BSA system directly without treatment. The permit modification request is pending BSA review and final authorization in 2011.

## **2. Results of Data Generated**

#### Groundwater Sampling

The results of data collected during the March, July, September and December 2010 rounds of groundwater sampling are included in this report. Samples collected in March, July, September, and December were intended to serve as the annual and semi-Annual groundwater sampling and also as post HRC injection sampling for the site.

During the March, July, September and December sampling events, all wells scheduled for sampling provided sufficient water for sample collection, with the exception of MW-10 and MW-14 for the September sampling event when they were dry. During all four sampling events, three well volumes were purged from monitoring wells with sufficient water volume using a dedicated bailer or pump prior to sample collection.

Groundwater quality frequently varies at the site from season to season. In order to compare data quality during the same successive season, concentrations of total VOCs in the spring of 2009 (April 15) were compared to concentrations in the spring of 2010 (March 23). When comparing the VOC concentrations in individual wells in Area B during these two seasons, they ranged as follows: MW-16A from 2010 to 2240 micrograms per liter (ug/l), MW-16R from 690 to 736 ug/l, and MW-18, non-detect for both sampling dates. These changes in concentrations are thought to be associated with continued degradation of chlorinated solvents following the injection of HRC in this area, as well as seasonal fluctuations and the natural movement of the contaminants in the local groundwater.

---

Results from the spring sampling round indicated that concentrations of TCE remained at decreased to non-detectable concentrations from 2009 to 2010. For monitoring well MW-16R, the TCE concentration remained at a non-detectable concentration for all four quarters. These concentration reductions were significant enough to suggest that they were likely attributable to the 2008 HRC injection program. Concentrations of DCE and vinyl chloride in MW-16R, which are byproducts of the natural/biological degradation of TCE, remained non-detectable in 2010. Chloroethane, a degradation product of DCE, continues to be detected in the groundwater samples collected from MW-16R. In addition, associated concentrations of the chlorinated solvent 1,1,1-trichloroethane (TCA) at MW-16A showed a significant decrease in concentrations from 2009, coupled with a decrease in the degradation product 1,1-dichloroethane (DCA). A similar response was also noted in MW-16R, with continued non-detectable concentrations of TCA and a slight decrease in DCA concentrations.

The July 2010 results show no detectable concentrations of TCE in groundwater samples collected from the three overburden monitoring wells in Area B (MW-16R, MW-18 and MW-24). DCE and vinyl chloride concentrations were non-detect in monitoring wells MW-16R and MW-18. The DCE concentration in MW-24 dropped to a non-detectable concentration, but the vinyl chloride concentrations remained the same for this sampling event. TCE concentrations slightly increased in bedrock monitoring well MW-18A and vinyl chloride concentrations slightly decreased. DCE concentrations decreased at MW-16A and MW-24A, and increased in MW-18A.

The September 2010 results continue to show no detectable concentrations of TCE in groundwater samples collected from the three overburden monitoring wells in Area B. DCE and vinyl chloride concentrations remain non-detect in monitoring well MW-16R and MW-18. The DCE concentration reported for MW-24 is non-detect, while the vinyl chloride concentration is an order of magnitude less than the October 2009 sample. The DCA concentration showed a decrease while the chloroethane concentration showed an increase in the groundwater sample collected from MW-16R when compared to the October 2009 sample, while the TCA concentrations remained non-detect. TCE concentrations increased in the groundwater sample collected from bedrock monitoring well MW-18A, and were not detected at MW-24A. DCE concentrations increased at both MW-18A and MW-24A, along with increased concentration of vinyl chloride for MW-24A. Vinyl chloride decreased for MW-18A.

The December 2010 results continue to show no detectable concentrations of TCE in groundwater samples collected from the three overburden monitoring wells in Area B. DCE and vinyl chloride concentrations remain non-detect in monitoring wells MW-16R and MW-18. The DCE and vinyl chloride concentrations reported for MW-24 are both less than the December 2009 sample. Both DCA and chloroethane concentrations were similar in the groundwater sample collected from MW-16R when compared to the January 2010 sample, while the TCA concentrations remained non-detect. TCE concentrations increased in the groundwater sample collected from bedrock monitoring well MW-18A, and were not detected at MW-24A. The DCE concentration increased at MW-18A, but decreased at MW-24A. Vinyl chloride concentrations decreased at both wells.

These results indicate continued biological degradation of the chlorinated solvents present in Area B as a result of the HRC injection. Future rounds of groundwater samples will provide additional evidence to aid in confirming that the HRC program has contributed to these reductions.

In order to assess potential trends in the contaminant concentrations in Area C, we have compared concentrations of total VOCs in the spring of 2009 with concentrations in the spring of 2010. When comparing the concentrations in individual wells in Area C during these two seasons, they ranged as follows: MW-3, MW-5 and MW-22 from 0 to 0, MW-5A from 71 to 59 ug/l, MW-6 from 141 to 175 ug/l, MW-6A from 720 to 690 ug/l, MW-14, from 235 to 234 ug/l, MW-14A, from 157 to 149 ug/l, and MW-22A from 46 to 14 ug/l. These slight variations in concentrations are thought to be



associated with seasonal fluctuations and the natural movement of the contaminants in the local groundwater and do not appear to be representative of any significant trends. Future rounds of groundwater samples will provide additional evidence to assess the success of the HRC injection in this area.

Low levels of TCE remain in Area C only in groundwater collected from monitoring well MW-6, screened in the overburden. TCE was not detected in any groundwater sample collected from any other overburden or bedrock wells in Area C. Concentrations of DCE and vinyl chloride remained relatively constant or increased in some cases. Slight increases in DCE and vinyl chloride were noted in the 2010 samples for MW-10, however neither DCE nor vinyl chloride was detected in the spring 2010 groundwater samples collected from MW-22, and only 14 ug/l of vinyl chloride was detected in MW-22A. Acetone, a byproduct of the degradation of chlorinated solvents, was detected in groundwater samples collected from monitoring well MW-5A.

Concentrations in Area C have remained relatively consistent with previous rounds of sampling. Available data shows some decrease in concentrations, but does not provide conclusive evidence that the HRC injection program significantly affected contaminant concentrations.

Results show effective chlorinated VOC reduction has been observed in Area B over time with the elimination of TCE, DCE and vinyl chloride in MW-16R, and the elimination of TCE and a reduction in DCE and vinyl chloride concentrations in MW-24. In Tables 5A through 5E we have compared the total concentration of TCE, DCE and vinyl chloride to the total VOC concentration in each well providing a percentage of the total VOC concentration for each constituent. The percentage of vinyl chloride (in relation to the total VOC concentration) ranges from a minimum of 0 percent to a maximum of 31 percent (MW-24) in Area B wells. The percentage of DCE ranges from 0 percent to a maximum of 66 percent (MW-16A) indicating that there is still more DCE in the area. Relative percentages of vinyl chloride in Area C wells range from a minimum of 8 percent to a maximum of 100 (MW-10) percent with the vinyl chloride component in most wells in the 20 to 50 percent range suggesting higher percentages of vinyl chloride and thus more attenuation.

The four offsite groundwater monitoring wells installed in 2009 on Rowan Road were sampled for all four quarters in 2010. Shallow monitoring well MW-25 continues to have no detections for any constituents and MW-26 had no detections for the last three quarters after slight detections of DCE (12 ug/l) and vinyl chloride (8 ug/l) in the first quarter of 2010. Bedrock well MW-25A had only detections of vinyl chloride at concentrations ranging from 5.6 to 15 ug/l. Bedrock monitoring well MW-26A continues to have the highest concentrations of chlorinated solvents in offsite wells with concentrations of DCE ranging from 410 to 680 ug/l and vinyl chloride ranging from 350 to 630 ug/l. These concentrations are similar to concentrations observed in the 2009 sample results.

The five new offsite monitoring wells were each sampled three times in 2010. Monitoring wells MW-27 and MW-27A did not have any detections of chlorinated solvents in any sample, with only chloroform detected at very low concentrations (7.7 ug/l) in MW-27A in the July sample. As indicated in previous reports, the presence of chloroform is expected to result from the use of chlorinated water during well installation. Shallow monitoring well MW-28 had DCE concentrations ranging from 27 to 39 ug/l and no detections of vinyl chloride. Bedrock monitoring well MW-28A had two detections of DCE at 8.9 and 11 ug/l and vinyl chloride at 13 and 14 ug/l. DCE and vinyl chloride were not detected in the July 2010 samples. No chlorinated solvents were detected in bedrock monitoring well MW-29A. Low levels of the aromatic VOCs ethylbenzene and xylenes were detected in all three sampling events. However, these VOCs have been attributed to naturally occurring hydrocarbons contained in a minor petroleum reservoir encountered during the installation of this well.

---

Groundwater data (Tables 5A, 5B, 5C, 5D, & 5E) and groundwater elevation tables (Tables 1 through 4) for March, July, September, and December 2010 are included in Appendix A. Groundwater contour maps and contaminant concentration isopleth figures are included in Appendix B. Groundwater contours and contaminant concentration isopleths are shown on Figures 1 through 6 (March 2010), 7 through 12 (July 2010), 13 through 18 (September 2010) and 19 through 24 (January 2010). Laboratory data is included in Appendix C.

#### Soil Vapor Intrusion in SamSon Building

A discussion of the results of the indoor air and subslab vapor samples collected on March 23, 2010 were included in the letter report dated September 3, 2010 and submitted to the NYSDEC and NYSDOH. Indoor air and subslab vapor samples were collected adjacent to previous sample locations. Though some of the VOC concentrations remained elevated, most VOC concentrations have decreased since the December 2008 sampling event. All indoor air concentrations are below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs) in every case.

As required by NYSDOH guidance, a mitigation plan for the detected VOCs was prepared for the SamSon facility and submitted to the NYSDEC for approval. The Vapor Mitigation Work Plan is pending final approval.

#### Soil Vapor Intrusion on Preston Road

Department of Health guidance requires that the detected concentrations of various vapors be compared to the concentrations included in the NYSDOH decision matrices. This comparison was performed in order to determine what actions must be taken to ensure the safety of residents. Based on a comparison of the collected data to the NYSDOH decision matrices, no further action was required at the 130 and 134 Preston Road properties. A final report discussing the sampling procedures and the results of the lab analysis was submitted to the NYSDEC on June 17, 2010.

#### Monitoring Well Installation

A total of five monitoring wells were installed in 2010. Two shallow overburden wells, MW-27 and MW-28, and three bedrock wells, MW-27A, MW-28A, and MW-29A were installed offsite and downgradient from the Leica facility. A discussion of the well installation procedures, materials encountered and initial groundwater quality data are included in the letter report submitted to the NYSDEC in October 2010. Boring logs and completion diagrams for the five monitoring wells are included in Appendix D. Groundwater data is discussed above in Section 2 in the subsection entitled "Groundwater Sampling."

### **3. Required Deliverables Submitted to NYSDEC**

The following deliverables were submitted during the period:

- Groundwater Monitoring Well Installation and Vapor Intrusion Investigation Work Plan, December 28, 2009, and
- Vapor Mitigation Work Plan, November 23, 2010.

### **4. Actions Scheduled for the Upcoming Months (January 2011 – December 2011)**

#### System Maintenance

The EnergySolutions field crew will continue with routine scheduled maintenance to the groundwater pumping system. As discussed in Section 1 under the subsection entitled “Discharge Permit Monitoring/Modification,” we anticipate revisions to the current Discharge Permit in the first or second quarter of 2011. The revised permit will allow discontinuation of the treatment system operation and direct discharge of recovered groundwater to the Town of Cheektowaga/BSA system. The revision will be allowed based on the fact that recent concentrations of the VOCs in the recovered groundwater are now below the BSA system standards and may therefore enter the system without treatment.

#### Groundwater Monitoring

Future groundwater monitoring will be performed on an annual and semi-annual basis in accordance with the latest monitoring program schedule attached in Appendix A. Two additional rounds of groundwater sampling will be conducted to monitor the effectiveness of the HRC injections. The next scheduled quarterly groundwater sampling event will be conducted during the spring, scheduled for March 2011, as indicated in the current monitoring program.

#### Remediation

Additional remediation activities using HRC injections is under consideration at this time as presented in the Vapor Mitigation Work Plan. Additional sampling proposed in the work plan will include the collection of groundwater grab samples within the SamSon building footprint. Sampling associated with the HRC plan also will continue during 2011. Following review of this supplemental groundwater data and potential soil data, EnergySolutions will assess the success of the HRC injection program on VOC concentrations in the groundwater, soils, sub-slab vapors and indoor air, and determine whether additional rounds of injection would be appropriate.

#### Vapor Mitigation

Vapor mitigation of portions of the SamSon building is proposed for 2011. Final comments on the Vapor Mitigation Work Plan are pending.

### **5. Schedule Information**

No scheduling conflicts are anticipated at this time.

### **6. Modifications to the Work Plan**

Additional work plans submitted, approved and/or implemented in 2010 are noted in Section 3 above.

---

## 7. Actions Taken in Support of the Citizen Participation Plan

No private residents visited the site in 2010.

A new Fact Sheet was issued in May 2010 for the Leica site following modifications and approval from NYSDEC.

In November 2010, the NYSDEC requested a "Listserv Mailing" of notification postcards to the community following a prescribed format. Post Card #1 was mailed to 176 addresses on December 2, 2010 and Post Card #2 was mailed to the same 176 addresses on December 30, 2010. A signed Mailing Certification form attesting to the mailing was forwarded to the NYSDEC on January 4, 2011.

If you have any questions regarding this report, please feel free to call me at 801.303.1092.

Sincerely,



Robert E. McPeak, Jr., P.E., LEP  
Project Manager, Environmental Services

REM/lhc  
Enclosures

cc: J. Egan (electronic copy only)  
M. Forcucci (NYSDOH)  
C. Grabinski

Enclosures: **Appendix A Groundwater Monitoring Tables and Revised Monitoring Program Letter**

Table 1	Groundwater Elevation Data (March, 2010)
Table 2	Groundwater Elevation Data (June, 2010)
Table 3	Groundwater Elevation Data (September, 2010)
Table 4	Groundwater Elevation Data (December, 2010)
Table 5	Quarterly Groundwater Data (A (Wells 1-10), B (Wells 11-14A), C (Wells 15-16R), D (Wells 18-22A) & E (Wells 23-29A))

**Appendix B Groundwater Monitoring Figures**

Figure 1	Groundwater Contours, March 2010, Overburden Wells
Figure 2	Groundwater Contours, March 2010, Bedrock Wells
Figure 3	Vinyl Chloride Contaminant Concentration Isopleths, March 2010, Overburden Wells
Figure 4	Vinyl Chloride Contaminant Concentration Isopleths, March 2010, Bedrock Wells
Figure 5	CIS 1,2 DCE Contaminant Concentration Isopleths, March 2010, Overburden Wells
Figure 6	CIS 1,2 DCE Contaminant Concentration Isopleths, March 2010, Bedrock Wells
Figure 7	Groundwater Contours, July 2010, Overburden Wells
Figure 8	Groundwater Contours, July 2010, Bedrock Wells
Figure 9	Vinyl Chloride Contaminant Concentration Isopleths, July 2010, Overburden Wells
Figure 10	Vinyl Chloride Contaminant Concentration Isopleths, July 2010, Bedrock Wells
Figure 11	CIS 1,2 DCE Contaminant Concentration Isopleths, July 2010, Overburden Wells
Figure 12	CIS 1,2 DCE Contaminant Concentration Isopleths, July 2010, Bedrock Wells
Figure 13	Groundwater Contours, September 2010, Overburden Wells
Figure 14	Groundwater Contours, September 2010, Bedrock Wells
Figure 15	Vinyl Chloride Contaminant Concentration Isopleths, September 2010, Overburden Wells
Figure 16	Vinyl Chloride Contaminant Concentration Isopleths, September 2010, Bedrock Wells
Figure 17	CIS 1,2 DCE Contaminant Concentration Isopleths, September 2010, Overburden Wells
Figure 18	CIS 1,2 DCE Contaminant Concentration Isopleths, September 2010, Bedrock Wells
Figure 19	Groundwater Contours, December 2010, Overburden Wells
Figure 20	Groundwater Contours, December 2010, Bedrock Wells
Figure 21	Vinyl Chloride Contaminant Concentration Isopleths, December 2010, Overburden Wells



- 
- Figure 22 Vinyl Chloride Contaminant Concentration Isopleths, December 2010, Bedrock Wells
- Figure 23 CIS 1,2 DCE Contaminant Concentration Isopleths, December 2010, Overburden Wells
- Figure 24 CIS 1,2 DCE Contaminant Concentration Isopleths, December 2010, Bedrock Wells

**Appendix C Analytical Data**

Analytical Data March, June, September, and December 2010  
Groundwater Analytical Data

**Appendix D Boring Logs & Well Completion Details**

## APPENDIX A

### Groundwater Monitoring Tables and Revised Monitoring Program Letter

Table 1	Groundwater Elevation Data (March, 2010)
Table 2	Groundwater Elevation Data (June, 2010)
Table 3	Groundwater Elevation Data (September, 2010)
Table 4	Groundwater Elevation Data (December, 21010)
Table 5	Quarterly Groundwater Data (A, (Wells 1-10), B, (Wells 11-14A), C, Wells 15-16R), D (Wells 18-22A), & E (Wells 23-29A)

---

Prepared by: DRS  
 Date: 1/19/2011  
 Checked by: MT  
 Date: 1/31/2011

**Table 1**  
**Groundwater Elevation Data**  
**March 2010**

Well Number	Depth to Water (ft.)	Depth to Bottom (ft.)	Top of PVC Elevation	Water Column (ft.)	Well ID (inches)	One Well Volume (gal.)	Water Elevation (ft.)	Notes
MW-1	6.20	NM	662.38	NM	2	NA	656.18	NM
MW-1A	12.3	25.80	663.48	13.50	4	2.20	651.18	
MW-2	7.36	NM	657.01	NM	2	NA	649.65	NM
MW-2A	7.32	NM	657.02	NM	4	NA	649.70	NM
MW-3	5.62	NM	655.94	NM	2	NA	650.32	NM
MW-4	4.58	NM	655.57	NM	2	NA	650.99	NM
MW-5	3.78	11.06	654.80	7.28	2	1.19	651.02	
MW-5A	4.14	38.94	654.84	34.80	4	5.67	650.70	
MW-6	7.86	14.80	660.84	6.94	2	1.13	652.98	
MW-6A	8.42	20.62	659.38	12.20	4	1.99	650.96	
MW-7	5.24	NM	658.21	NM	2	NA	652.97	NM
MW-8 <sup>1</sup>	Removed during excavation							
MW-9	3.34	NM	654.99	NM	2	NA	651.65	NM
MW-9A	4.76	NM	654.67	NM	4	NA	649.91	NM
MW-10	3.52	NM	655.48	NM	2	NA	651.96	NM
MW-11 <sup>1</sup>	Removed during excavation							
MW-11A	6.52	NM	656.6	NM	6	NA	650.08	Pumping Well
MW-12	Damaged							
MW-13	2.46	NM	654.66	NM	2	NA	652.20	NM
MW-13A	4.02	NM	655.13	NM	4	NA	651.11	NM
MW-14	2.40	10.50	653.38	8.10	2	1.32	650.98	
MW-14A	4.52	33.92	653.70	29.40	4	4.79	649.18	
MW-15	Filled with Gravel							
MW-15A <sup>1</sup>	Filled with Gravel							
MW-16R <sup>2</sup>	5.76	11.98	660.04	6.22	2	1.01	654.28	
MW-16A	12.34	NA	659.95	NA	6	NA	647.61	Pumping Well
MW-17A	2.42	NM	659.18	NM	4	NA	656.76	NM
MW-18	7.8	12.70	662.51	4.90	2	0.80	654.71	
MW-18A	12.24	34.52	662.72	22.28	4	3.63	650.48	
MW-19	6.66	NM	660.84	NM	2	NA	654.18	NM
MW-20	3.38	NM	659.12	NM	2	NA	655.74	NM
MW-22	2.22	10.04	652.51	7.82	2	1.27	650.29	
MW-22A	4.56	45.96	654.45	41.40	6	6.75	649.89	
MW-23	2.90	NM	655.99	NM	2	NA	653.09	NM
MW-24	6.72	13.34	662.74	6.62	2	1.08	656.02	
MW-24A	10.76	10.76	662.85	0.00	4	0.00	652.09	
MW-25	4.96	10.52	653.20	5.56	2	0.91	648.24	
MW-25A	3.20	34.34	653.28	31.14	4	5.08	650.08	
MW-26	6.24	10.94	653.60	4.70	2	0.77	647.36	
MW-26A	4.18	34.40	653.70	30.22	4	4.93	649.52	

**Notes**

- 1 Monitoring well accidentally damaged or removed during excavation activities in Area C
- 2 Monitoring well MW-16R installed to replace MW-16
- 3 NL = Not Located
- 4 NM = Not Measured
- 5 NA = Not Available

Prepared by: DRS  
 Date: 1/19/2011  
 Checked by: MT  
 Date: 1/31/2011

**Table 2**  
**Groundwater Elevation Data**  
**July 2010**

Well Number	Depth to Water (ft.)	Depth to Bottom (ft.)	Top of PVC Elevation	Water Column (ft.)	Well ID (inches)	One Well Volume (gal.)	Water Elevation (ft.)	Notes
MW-1	6.72	NM	662.38	NM	2	NA	655.66	
MW-1A	16.28	25.80	663.48	9.52	4	1.55	647.20	
MW-2	7.42	NM	657.01	NM	2	NA	649.59	
MW-2A	7.44	NM	657.02	NM	4	NA	649.58	
MW-3	7.46	NM	655.94	NM	2	NA	648.48	
MW-4	11.04	NM	655.57	NM	2	NA	644.53	
MW-5	7.42	11.06	654.80	3.64	2	0.59	647.38	
MW-5A	7.34	38.94	654.84	31.60	4	5.15	647.50	Slow recovery
MW-6	12.08	14.80	660.84	2.72	2	0.44	648.76	
MW-6A	13.72	20.62	659.38	6.90	4	1.12	645.66	
MW-7	9.68	NM	658.21	NM	2	NA	648.53	
MW-9		NM	654.99	NM	2	NA	NA	DRY
MW-9A	7.84	NM	654.67	NM	4	NA	646.83	
MW-10	7.84	10.04	655.48	2.20	2	0.36	647.64	
MW-11A	19.8	35.14	656.6	15.34	6	NA	636.8	Pumping Well
MW-13	5.56	NM	654.66	NM	2	NA	649.10	
MW-13A	6.76	NM	655.13	NM	4	NA	648.37	
MW-14	2.96	10.50	653.38	7.54	2	1.23	650.42	
MW-14A	7.56	33.92	653.70	26.36	4	4.30	646.14	
MW-16R <sup>2</sup>	6.52	11.98	660.04	5.46	2	0.89	653.52	
MW-16A	22.66	26.8	659.95	NA	6	NA	637.29	Pumping Well
MW-17A	3.96	NM	659.18	NM	4	NA	655.22	
MW-18	9.16	12.70	662.51	3.54	2	0.58	653.35	
MW-18A	16.02	34.52	662.72	18.50	4	3.02	646.70	
MW-19	8.84	NM	660.84	NM	2	NA	652.00	
MW-20	6.86	NM	659.12	NM	2	NA	652.26	
MW-22	3.70	10.04	652.51	6.34	2	1.03	648.81	
MW-22A	7.60	45.96	654.45	38.36	6	6.25	646.85	
MW-23	5.42	NM	655.99	NM	2	NA	650.57	
MW-24	10.44	13.34	662.74	2.90	2	0.47	652.30	
MW-24A	16.56	34.18	662.85	17.62	4	2.87	646.29	
MW-25	5.16	10.52	653.20	5.36	2	0.87	648.04	
MW-25A	7.32	34.34	653.28	27.02	4	4.40	645.96	
MW-26	6.78	10.94	653.60	4.16	2	0.68	646.82	
MW-26A	7.30	34.40	653.70	27.10	4	4.42	646.40	Very slow recovery
MW-27	7.86	10.88	654.68	10.88	2	1.77	646.82	
MW-27A	7.46	34.30	654.81	34.30	4	5.59	647.35	Very slow recovery
MW-28	7.74	12.20	653.21	12.20	2	1.99	645.47	
MW-28A	6.62	34.46	652.97	34.46	4	5.62	646.35	Very slow recovery
MW-29A	6.54	39.58	652.99	39.58	4	6.45	646.45	Very slow recovery

**Notes**

- 1 Monitoring well accidentally damaged or removed during excavation activities in Area C
- 2 Monitoring well MW-16R installed to replace MW-16
- 3 NL = Not Located
- 4 NM = Not Measured
- 5 NA = Not Available

Prepared by: DRS  
 Date: 1/19/2011  
 Checked by: MT  
 Date: 1/31/2011

**Table 3**  
**Groundwater Elevation Data**  
**September 2010**

Well Number	Depth to Water (ft.)	Depth to Bottom (ft.)	Top of PVC Elevation	Water Column (ft.)	Well ID (inches)	One Well Volume (gal.)	Water Elevation (ft.)	Notes
MW-1	7.22	NM	662.38	NM	2	NA	655.16	
MW-1A	16.7	25.80	663.48	9.10	4	1.48	646.78	
MW-2		7.70	657.01	7.70	2	1.26	NA	DRY
MW-2A	10.48	NM	657.02	NM	4	NA	646.54	
MW-3	8.80	NM	655.94	NM	2	NA	647.14	
MW-4	11.80	NM	655.57	NM	2	NA	643.77	
MW-5	8.64	11.06	654.80	2.42	2	0.39	646.16	
MW-5A	8.55	38.94	654.84	30.39	4	4.95	646.29	
MW-6	13.84	14.80	660.84	0.96	2	0.16	647.00	
MW-6A	13.15	20.60	659.38	7.45	4	1.21	646.23	
MW-7	11.40	NM	658.21	NM	2	NA	646.81	
MW-9		10.45	654.99	10.45	2	1.70	NA	DRY
MW-9A	9.14	NM	654.67	NM	4	NA	645.53	
MW-10	9.72	10.04	655.48	0.32	2	0.05	645.76	No Sample
MW-11A	21.70	35.14	656.60	13.44	6	NA	634.90	Pumping Well
MW-13	10.18	NM	654.66	NM	2	NA	644.48	
MW-13A	9.50	NM	655.13	NM	4	NA	645.63	
MW-14	9.72	10.50	653.38	0.78	2	0.13	643.66	No Sample
MW-14A	9.06	33.92	653.70	24.86	4	4.05	644.64	
MW-16R <sup>2</sup>	7.60	11.98	660.04	4.38	2	0.71	652.44	
MW-16A	21.50	26.8	659.95	NA	6	NA	638.45	Pumping Well
MW-17A	5.54	NM	659.18	NM	4	NA	653.64	
MW-18	10.68	12.70	662.51	2.02	2	0.33	651.83	
MW-18A	17	34.52	662.72	17.52	4	2.86	645.72	
MW-19	10.96	NM	660.84	NM	2	NA	649.88	
MW-20		NM	659.12	NM	2	NA	NA	DRY
MW-22	9.40	10.04	652.51	0.64	2	0.10	643.11	No Sample
MW-22A	9.16	45.96	654.45	36.80	6	6.00	645.29	
MW-23	12.82	NM	655.99	NM	2	NA	643.17	
MW-24	10.84	13.34	662.74	2.50	2	0.41	651.90	
MW-24A	17.20	34.18	662.85	16.98	4	2.77	645.65	
MW-25	7.88	10.52	653.20	2.64	2	0.43	645.32	
MW-25A	8.50	34.34	653.28	25.84	4	4.21	644.78	
MW-26	8.72	10.94	653.60	2.22	2	0.36	644.88	
MW-26A	8.78	34.40	653.70	25.62	4	4.18	644.92	
MW-27	8.70	10.88	654.68	10.88	2	1.77	645.98	
MW-27A	8.92	34.30	654.81	34.30	4	5.59	645.89	
MW-28	7.98	12.20	653.21	12.20	2	1.99	645.23	
MW-28A	7.52	34.46	652.97	34.46	4	5.62	645.45	
MW-29A	7.75	39.58	652.99	39.58	4	6.45	645.24	

**Notes**

- 1 Monitoring well accidentally damaged or removed during excavation activities in Area C
- 2 Monitoring well MW-16R installed to replace MW-16
- 3 NL = Not Located
- 4 NM = Not Measured
- 5 NA = Not Available



Prepared by: DRS  
 Date: 1/19/2011  
 Checked by: MT  
 Date: 1/31/2011

**Table 4**  
**Groundwater Elevation Data**  
**December 2010**

Well Number	Depth to Water (ft.)	Depth to Bottom (ft.)	Top of PVC Elevation	Water Column (ft.)	Well ID (inches)	One Well Volume (gal.)	Water Elevation (ft.)	Notes
MW-1	5.50	NM	662.38	NM	2	NA	656.88	
MW-1A	12.42	25.80	663.48	13.38	4	2.18	651.06	
MW-2	7.22	7.70	657.01	0.48	2	0.08	649.79	
MW-2A	7.14	NM	657.02	NM	4	NA	649.88	
MW-3	6.16	10.24	655.94	4.08	2	0.67	649.78	
MW-4	9.60	NM	655.57	NM	2	NA	645.97	
MW-5	4.70	11.00	654.80	6.30	2	1.03	650.10	
MW-5A	6.12	38.94	654.84	32.82	4	5.35	648.72	Very Slow Recovery
MW-6	9.32	14.80	660.84	5.48	2	0.89	651.52	
MW-6A	11.56	20.60	659.38	9.04	4	1.47	647.82	
MW-7	7.32	NM	658.21	NM	2	NA	650.89	
MW-9	9.90	10.45	654.99	0.55	2	0.09	645.09	
MW-9A	5.80	NM	654.67	NM	4	NA	648.87	
MW-10	8.80	10.04	655.48	1.24	2	0.20	646.68	
MW-11A	18.80	35.14	656.60	16.34	6	NA	637.80	Pumping Well
MW-13	4.10	NM	654.66	NM	2	NA	650.56	
MW-13A	5.12	NM	655.13	NM	4	NA	650.01	
MW-14	5.32	10.50	653.38	5.18	2	0.84	648.06	
MW-14A	5.02	33.92	653.70	28.90	4	4.71	648.68	
MW-16R <sup>2</sup>	6.22	11.98	660.04	5.76	2	0.94	653.82	
MW-16A	21.08	26.8	659.95	NA	6	NA	638.87	Pumping Well
MW-17A	2.22	NM	659.18	NM	4	NA	656.96	
MW-18	8.26	12.70	662.51	4.44	2	0.72	654.25	
MW-18A	12.28	34.52	662.72	22.24	4	3.63	650.44	
MW-19	7.34	NM	660.84	NM	2	NA	653.50	
MW-20	5.82	NM	659.12	NM	2	NA	653.30	
MW-22	4.50	11.04	652.51	6.54	2	1.07	648.01	
MW-22A	5.64	45.96	654.45	40.32	6	6.57	648.81	
MW-23	5.80	13.18	655.99	NM	2	NA	650.19	
MW-24	9.30	13.34	662.74	4.04	2	0.66	653.44	
MW-24A	13.46	34.18	662.85	20.72	4	3.38	649.39	
MW-25	6.20	10.52	653.20	4.32	2	0.70	647.00	
MW-25A	4.78	34.34	653.28	29.56	4	4.82	648.50	
MW-26	8.20	10.94	653.60	2.74	2	0.45	645.40	
MW-26A	5.52	34.40	653.70	28.88	4	4.71	648.18	Dry, Very Slow Recovery
MW-27	8.44	10.88	654.68	10.88	2	1.77	646.24	
MW-27A	6.62	34.30	654.81	34.30	4	5.59	648.19	Dry, Very Slow Recovery
MW-28	7.08	12.20	653.21	12.20	2	1.99	646.13	
MW-28A	5.64	34.46	652.97	34.46	4	5.62	647.33	Dry, Very Slow Recovery
MW-29A	6.10	39.58	652.99	39.58	4	6.45	646.89	Dry, Very Slow Recovery

**Notes**

- 1 Monitoring well accidentally damaged or removed during excavation activities in Area C
- 2 Monitoring well MW-16R installed to replace MW-16
- 3 NL = Not Located
- 4 NM = Not Measured
- 5 NA = Not Available

Table 5A (Wells 1-10)  
Quarterly Groundwater Data  
Leica Microsystems, Eggert Road  
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	MW-1A														MW-3			
				Mar-25-05	June 26-05	Oct-24-05	Jan-05-06	Mar-17-06	July-13-06	May-02-07	Mar-31-08	May-14-08	Jul-30-08	Apr-15-09	Oct-6-09	Jan-14-10	Dec-17-10	May-02-07	May-14-08	Apr-15-09	Dec-15-10
				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
<b>Volatil Organic Compounds (ug/l)</b>																					
acetone	67641	20	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromoform	75252	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5.0	<b>5</b>	ND	ND	ND	<b>5.3</b>	ND	ND	ND	ND	ND	ND	ND	ND	<b>8.3</b>	<b>7.1</b>	ND	ND	ND	ND
trans-1,2-dichloroethene	156605	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-xylene	95476	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>TOTAL VOCs</b>				0	0	0	5.3	0	0	0	0	0	0	0	0	8.3	7.1	0	0	0	0
<b>Percent TCE</b>				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Percent DCE</b>				0	0	0	100%	0	0	0	0	0	0	0	0	100%	100%	0	0	0	0
<b>Percent VC</b>				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Chemistry (mg/L)</b>																					
				MW-1A														MW-3			
Chloride				NA	NA	NA	NA	NA	NA	NA	69.1	NA	57.3	46.6	99.8	82.1	NA	NA	NA	NA	NA
Ferrous Iron				NA	NA	NA	NA	NA	NA	NA	0.107	NA	<0.100	0.26	0.61	0.41	NA	NA	NA	NA	NA
Nitrate Nitrogen				NA	NA	NA	NA	NA	NA	NA	<0.500	NA	<0.500	0.50	U 0.74	0.50	U	NA	NA	NA	NA
Sulfate				NA	NA	NA	NA	NA	NA	NA	36.3	NA	39.1	39.70	41.4	46.7	NA	NA	NA	NA	NA
Total Organic Carbon				NA	NA	NA	NA	NA	NA	NA	3.11	NA	3.00	4.90	5.4	8.1	NA	NA	NA	NA	NA
Ferrous Iron Dissolved				NA	NA	NA	NA	NA	NA	NA	0.1	NA	0.288	0.28	0.35	0.29	NA	NA	NA	NA	NA
Manganese				NA	NA	NA	NA	NA	NA	NA	0.058	NA	0.0408	66	278	61	NA	NA	NA	NA	NA
Manganese Dissolved				NA	NA	NA	NA	NA	NA	NA	0.066	NA	0.0396	56	201	63	NA	NA	NA	NA	NA
Dissolved Oxygen (DO)				NA	NA	NA	NA	NA	NA	NA	NA	NA	11.32	NA	7.2	17.6	NA	NA	NA	NA	NA
pH				NA	NA	NA	NA	NA	NA	NA	NA	NA	7.29	NA	7.3	7.02	NA	NA	NA	NA	NA
Oxygen Reduction Potential				NA	NA	NA	NA	NA	NA	NA	NA	NA	-53.00	NA	-336.2	5.1	NA	NA	NA	NA	NA

**NOTES:**  
 RAOs GW = Remedial Action Objectives for Groundwater  
 CAS = Chemical Abstract Service registry number  
 Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)  
 ND = Not Detected  
 E = Exceeds Calibration Range  
 D = Sample reanalyzed and quantified at higher dilution  
 Well MW-11 was removed during excavation and is no longer sampled.  
 Well MW-15A was filled with gravel and is no longer sampled.

Table 5A (Wells 1-10)  
Quarterly Groundwater Data  
Leica Microsystems, Eggert Road  
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	MW-4						MW-5														
				March-24-05	June-26-05	Oct-24-05	Jan-4-06	Mar-17-06	Mar-17-06	May-02-07	May-14-08	Jul-30-08	Apr-15-09	Oct-6-09	Jan-14-10	Mar-24-10	Jul-6-10	Sept-29-10	Dec-16-10					
				2.50	1.00	2.00	2.00	2.00	2.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00					
<b>Volatil Organic Compounds (ug/l)</b>																								
acetone	67641	20	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
benzene	71432	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
bromodichloromethane	75274	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
bromoform	75252	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
bromomethane	74839	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2-butanone (MEK)	78933	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
carbon disulfide	75150	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
carbon tetrachloride	56235	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chlorobenzene	108907	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chloroethane	75003	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chloroform	67663	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chloromethane	74873	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
dibromochloromethane	124481	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1-dichloroethane	75343	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,2-dichloroethane	107062	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1-dichloroethene	75354	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
cis-1,2-dichloroethene	156592	5.0	<b>5</b>	<b>320</b>	<b>79</b>	<b>180</b>	<b>320</b>	<b>420</b>	<b>E</b>	<b>420</b>	<b>D</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
trans-1,2-dichloroethene	156605	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,2-dichloropropane	78875	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
cis-1,3-dichloropropene	542756	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
trans-1,3-dichloropropene	542756	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
ethylbenzene	100414	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2-hexanone	591786	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
methylene chloride	75092	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
4-methyl-2-pentanone (MIBK)	108101	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
styrene	100425	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1,2,2-tetrachloroethane	79345	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
tetrachloroethene	127184	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
toluene	108883	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1,1-trichloroethane	71556	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1,2-trichloroethane	79005	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
trichloroethene	79016	5.0	<b>5</b>	ND	<b>6.8</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
vinyl chloride	75014	5.0	<b>5</b>	<b>200</b>	<b>93</b>	<b>190</b>	<b>220</b>	<b>180</b>	<b>170</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
o-xylene	95476	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
m+p xylene	108383/106423	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
<b>TOTAL VOCs</b>				520	178.8	370	540	600	590	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>Percent TCE</b>				0	4%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>Percent DCE</b>				62%	44%	49%	59%	70%	71%	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>Percent VC</b>				38%	52%	51%	41%	30%	29%	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>Chemistry (mg/L)</b>				<b>MW-4</b>						<b>MW-5</b>														
Chloride				NA	NA	NA	NA	NA	NA	NA	18.1	23.8	3.7	2	U	4	5.5	2	41.5	6.4				
Ferrous Iron				NA	NA	NA	NA	NA	NA	NA	0.174	<0.100	0.1	U	0.1	U	0.1	NA	NA	NA	NA			
Nitrate Nitrogen				NA	NA	NA	NA	NA	NA	NA	<0.500	<0.500	0.5	U	0.88	0.91	0.58	0.5	U	0.5	U	1.0	U	
Sulfate				NA	NA	NA	NA	NA	NA	NA	38.8	52.9	19.9	15	13	17.2	9.8	12.9	16.3					
Total Organic Carbon				NA	NA	NA	NA	NA	NA	NA	2.11	2.71	2.7	2.3	2.6	1.9	3.8	11.6	4.5					
Ferrous Iron Dissolved				NA	NA	NA	NA	NA	NA	NA	<0.100	<0.100	0.1	U	0.5	U	0.1	U	100	U	160	1180	100	U
Manganese				NA	NA	NA	NA	NA	NA	NA	0.0476	0.0217	65	39	22	NA	NA	NA	NA					
Manganese Dissolved				NA	NA	NA	NA	NA	NA	NA	<0.0100	<0.0100	10	U	10	10	10	U	33	277	55			
Dissolved Oxygen (DO)				NA	NA	NA	NA	NA	NA	NA	0.70	NA	NA	28.5	15.5	NA	33.6	NA	NA	45.4				
pH				NA	NA	NA	NA	NA	NA	NA	8.53	8.53	8.29	8.73	NA	8.43	NA	NA	8.70					
Oxygen Reduction Potential				NA	NA	NA	NA	NA	NA	NA	NA	NA	-131.00	-99.00	-207.4	-157.8	NA	-109.7	NA	NA	-106.5			

**NOTES:**  
RAOs GW = Remedial Action Objectives for Groundwater  
CAS = Chemical Abstract Service registry number  
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)  
ND = Not Detected  
E = Exceeds Calibration Range  
D = Sample reanalyzed and quantified at higher dilution  
Well MW-11 was removed during excavation and is no longer sampled.  
Well MW-15A was filled with gravel and is no longer sampled.







Table 5A (Wells 1-10)  
Quarterly Groundwater Data  
Leica Microsystems, Eggert Road  
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	MW-7						MW-10													
				Mar-24-05	Jan-4-06	Mar-17-06	Mar-24-05	June-26-05	Oct-23-05	Jan-04-06	Jan-04-06	Mar-17-06	Mar-17-06	Dec-18-06	May-02-07	Nov-14-07	May-14-08	Apr-15-09	Oct-6-09	Jul-6-10	Dec-15-10		
				1.00	1.00	1.00	2.50	5.00	2.50	1.00	2.00	2.00	2.50	2.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	
<b>Volatil Organic Compounds (ug/l)</b>																							
acetone	67641	20	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	150	160	46	ND		
benzene	71432	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
bromodichloromethane	75274	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
bromoform	75252	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
bromomethane	74839	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2-butanone (MEK)	78933	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	180	270	110	ND		
carbon disulfide	75150	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
carbon tetrachloride	56235	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chlorobenzene	108907	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chloroethane	75003	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chloroform	67663	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chloromethane	74873	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
dibromochloromethane	124481	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1-dichloroethane	75343	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,2-dichloroethane	107062	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1-dichloroethene	75354	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
cis-1,2-dichloroethene	156592	5.0	<b>5</b>	<b>64</b>	<b>110</b>	<b>100</b>	<b>270</b>	<b>760</b>	<b>320</b>	<b>210</b>	<b>E</b>	<b>200</b>	<b>270</b>	<b>260</b>	<b>220</b>	<b>160</b>	<b>110</b>	<b>190</b>	<b>120</b>	<b>ND</b>	<b>9.5</b>	<b>ND</b>	
trans-1,2-dichloroethene	156605	5.0	<b>5</b>	<b>ND</b>	<b>5.4</b>	<b>5.9</b>	<b>14</b>	<b>ND</b>	<b>ND</b>	<b>7.8</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	
1,2-dichloropropane	78875	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
cis-1,3-dichloropropene	542756	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
trans-1,3-dichloropropene	542756	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
ethylbenzene	100414	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2-hexanone	591786	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
methylene chloride	75092	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
4-methyl-2-pentanone (MIBK)	108101	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
styrene	100425	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1,2,2-tetrachloroethane	79345	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
tetrachloroethene	127184	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
toluene	108883	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1,1-trichloroethane	71556	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1,2-trichloroethane	79005	5.0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
trichloroethene	79016	5.0	<b>5</b>	<b>6.5</b>	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
vinyl chloride	75014	5.0	<b>5</b>	<b>11</b>	<b>17</b>	<b>13</b>	<b>360</b>	<b>750</b>	<b>150</b>	<b>140</b>	<b>140</b>	<b>430</b>	<b>E</b>	<b>430</b>	<b>D</b>	<b>72</b>	<b>71</b>	<b>38</b>	<b>73</b>	<b>38</b>	<b>ND</b>	<b>24</b>	<b>23</b>
o-xylene	95476	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
m+p xylene	108383/106423	5.0	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
<b>TOTAL VOCs</b>				81.5	137.4	118.9	644	1510	470	357.8	340	700	690	292	231	148	263	488	430	189.5	23		
<b>Percent TCE</b>				8%	4%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>Percent DCE</b>				79%	80%	84%	42%	50%	68%	59%	59%	39%	38%	75%	69%	74%	72%	25%	0	5%	0		
<b>Percent VC</b>				13%	12%	11%	56%	50%	32%	39%	41%	61%	62%	25%	31%	26%	28%	8%	0	13%	100%		
<b>Chemistry (mg/L)</b>				<b>MW-7</b>						<b>MW-10</b>													
Chloride				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.5	24.4	
Ferrous Iron				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nitrate Nitrogen				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5	1.0	U
Sulfate				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.1	7.7	
Total Organic Carbon				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	152	24.7	
Ferrous Iron Dissolved				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2510	6830	
Manganese				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Manganese Dissolved				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30	55	
Dissolved Oxygen (DO)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pH				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxygen Reduction Potential				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

**NOTES:**  
RAOs GW = Remedial Action Objectives for Groundwater  
CAS = Chemical Abstract Service registry number  
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)  
ND = Not Detected  
E = Exceeds Calibration Range  
D = Sample reanalyzed and quantified at higher dilution  
Well MW-11 was removed during excavation and is no longer sampled.  
Well MW-15A was filled with gravel and is no longer sampled.







Prepared by:DRS  
 Date:2/10/2011  
 Checked by:MT  
 Date:2/10/2011

**Table 5B (Wells 11-14A)**  
**Quarterly Groundwater Data**  
**Leica Microsystems, Eggert Road**  
**Cheektowaga, NY**

ANALYTE	CAS	Method Detection Limit	RAOs GW	MW-14A (Deep Well) Cont.				
				Jan-14-10	Mar-23-10	Jul-6-10	Sept-30-10	Dec-16-10
Sample Collection Date:				1.00	1.00	1.00	1.00	1.00
Dilution:								
<b>Volatile Organic Compounds (ug/l)</b>								
acetone	67641	20	-	ND	ND	ND	ND	ND
benzene	71432	5	-	ND	ND	ND	ND	ND
bromodichloromethane	75274	5	-	ND	ND	ND	ND	ND
bromofom	75252	5	-	ND	ND	ND	ND	ND
bromomethane	74839	5	-	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5	-	ND	ND	ND	ND	ND
chlorobenzene	108907	5	-	ND	ND	ND	ND	ND
chloroethane	75003	5	-	ND	ND	ND	ND	ND
chloroform	67663	5	-	ND	ND	ND	ND	ND
chloromethane	74873	5	-	ND	ND	ND	ND	ND
dibromochloromethane	124481	5	-	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5	-	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5	-	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5	-	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5	<b>5</b>	<b>38</b>	<b>96</b>	<b>31</b>	<b>5.9</b>	<b>16</b>
trans-1,2-dichloroethene	156605	5	<b>5</b>	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5	-	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND
ethylbenzene	100414	5	<b>5</b>	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	ND	ND	ND	ND	ND
methylene chloride	75092	5	-	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	ND	ND	ND	ND	ND
styrene	100425	5	-	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5	-	ND	ND	ND	ND	ND
tetrachloroethene	127184	5	-	ND	ND	ND	ND	ND
toluene	108883	5	<b>5</b>	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5	<b>5</b>	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5	-	ND	ND	ND	ND	ND
trichloroethene	79016	5	<b>5</b>	ND	ND	ND	ND	ND
vinyl chloride	75014	5	<b>5</b>	ND	<b>53</b>	<b>24</b>	<b>6.8</b>	<b>19</b>
o-xylene	95476	5	<b>5</b>	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5	<b>5</b>	ND	ND	ND	ND	ND
<b>TOTAL VOCs</b>				38	149	55	12.7	35
<b>Percent TCE</b>				0	0	0	0	0
<b>Percent DCE</b>				100%	64%	56%	46%	46%
<b>Percent VC</b>				0	36%	44%	54%	54%
<b>Chemistry (mg/L)</b>				<b>MW-14A (Deep Well) Cont.</b>				
Chloride				15.9	21.7	15	17.3	15.2
Ferrous Iron				0.1	U	NA	NA	NA
Nitrate Nitrogen				0.5	U	0.5	U	1.0
Sulfate				82.5	146	115	34.9	28.8
Total Organic Carbon				3.4	4.5	3.9	2.9	2.8
Ferrous Iron Dissolved				0.1	U	1250	830	1120
Manganese				39	NA	NA	NA	NA
Manganese Dissolved				37	97	83	65	52
Dissolved Oxygen (DO)				17.3	NA	15.2	NA	27.2
pH				7.58	NA	7.17	NA	7.1
Oxygen Reduction Potential				26.4	NA	-104.7	NA	-70.9

**NOTES:**

RAOs GW = Remedial Action Objectives for Groundwater  
 CAS = Chemical Abstract Service registry number  
 Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)  
 ND = Not Detected  
 E = Exceeds Calibration Range  
 D = Sample reanalyzed and quantified at higher dilution  
 Well MW-11 was removed during excavation and is no longer sampled.  
 Well MW-15A was filled with gravel and is no longer sampled.



Table 5C (Wells 15-16R)  
Quarterly Groundwater Data  
Leica Microsystems, Eggert Road  
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	MW-15					MW-16A (Deep Well)																	
				Mar-25-05	June-27-05	Oct-23-05	Jan-04-06	Mar-17-06	Mar-25-05	June-27-05	June 27-05	Oct-23-05	Jan-04-06	Mar-17-06	July-11-06	Dec-21-06	May-02-07	Nov-14-07	Nov-14-07	Mar-31-2008	Mar-31-2008	July-01-08				
				1.00	1.00	1.00	1.00	1.00	20.00	20.00	100.00	10.00	10.00	10.00	10.00	10.00	5.00	1.00	10.00	5.00	10.00	5.00	10.00			
<b>Volatile Organic Compounds (ug/l)</b>																										
acetone	67641	20	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
benzene	71432	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
bromodichloromethane	75274	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
bromofom	75252	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
bromomethane	74839	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2-butanone (MEK)	78933	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
carbon disulfide	75150	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
carbon tetrachloride	56235	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chlorobenzene	108907	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chloroethane	75003	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chloroform	67663	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
chloromethane	74873	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
dibromochloromethane	124481	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1-dichloroethane	75343	5	-	9.3	10	12	8.2	6.2	200	410	ND	120	150	120	100	180	74	88	87	150	150	D	140			
1,2-dichloroethane	107062	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1-dichloroethene	75354	5	-	ND	ND	ND	ND	ND	ND	ND	160	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND		
cis-1,2-dichloroethene	156592	5	<b>5</b>	<b>6.4</b>	ND	ND	ND	ND	<b>2100</b>	<b>2300</b>	<b>2300</b>	<b>1200</b>	<b>1200</b>	<b>1100</b>	<b>1200</b>	<b>1500</b>	<b>860</b>	<b>980</b>	E	<b>960</b>	D	<b>1100</b>	E	<b>1100</b>	D	<b>1400</b>
trans-1,2-dichloroethene	156605	5	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND		
1,2-dichloropropane	78875	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
cis-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
trans-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
ethylbenzene	100414	5	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2-hexanone	591786	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
methylene chloride	75092	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
4-methyl-2-pentanone (MIBK)	108101	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
styrene	100425	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1,2,2-tetrachloroethane	79345	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
tetrachloroethene	127184	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
toluene	108883	5	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,1,1-trichloroethane	71556	5	<b>5</b>	ND	ND	ND	ND	ND	<b>2000</b>	<b>16,000E</b>	<b>17000</b>	<b>230</b>	<b>530</b>	<b>630</b>	<b>210</b>	<b>840</b>	<b>190</b>	<b>210</b>	E	<b>200</b>	D	<b>730</b>	<b>750</b>	D	<b>580</b>	
1,1,2-trichloroethane	79005	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
trichloroethene	79016	5	<b>5</b>	ND	ND	ND	ND	ND	<b>1100</b>	<b>3000</b>	<b>3000</b>	<b>630</b>	<b>800</b>	<b>590</b>	<b>460</b>	<b>930</b>	<b>160</b>	<b>370</b>	E	<b>330</b>	D	<b>920</b>	<b>930</b>	D	<b>260</b>	
vinyl chloride	75014	5	<b>5</b>	ND	ND	ND	ND	ND	<b>300</b>	<b>390</b>	ND	<b>330</b>	<b>320</b>	<b>260</b>	<b>430</b>	<b>170</b>	<b>240</b>	E	<b>210</b>	D	<b>250</b>	<b>260</b>	D	<b>290</b>		
o-xylene	95476	5	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
m+p xylene	108383/106423	5	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
<b>TOTAL VOCs</b>				15.7	10	12	8.2	6.2	5700	6260	22300	2510	3000	2700	2250	3880	1454	1910	1787	3150	3190	2670				
<b>Percent TCE</b>				0	0	0	0	0	19%	48%	13%	25%	27%	22%	20%	24%	11%	19%	18%	29%	29%	10%				
<b>Percent DCE</b>				41%	0	0	0	0	37%	37%	10%	48%	40%	41%	53%	39%	59%	51%	54%	35%	34%	52%				
<b>Percent VC</b>				0	0	0	0	0	5%	6%	0	13%	11%	10%	12%	11%	12%	13%	12%	8%	8%	11%				
<b>Chemistry (mg/L)</b>				<b>MW-15</b>					<b>MW-16A (Deep Well)</b>																	
Chloride				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	306	NA			
Ferrous Iron				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.100	NA			
Nitrate Nitrogen				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.500	NA			
Sulfate				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	83.1	NA			
Total Organic Carbon				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3	NA			
Ferrous Iron Dissolved				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.100	NA			
Manganese				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.102	NA			
Manganese Dissolved				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.098	NA			
Dissolved Oxygen (DO)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
pH				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Oxygen Reduction Potential				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			

**NOTES:**  
 RAOs GW = Remedial Action Objectives for Groundwater  
 CAS = Chemical Abstract Service registry number  
 Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)  
 ND = Not Detected  
 E = Exceeds Calibration Range  
 D = Sample reanalyzed and quantified at higher dilution  
 Well MW-11 was removed during excavation and is no longer sampled.  
 Well MW-15A was filled with gravel and is no longer sampled.



Table 5C (Wells 15-16R)  
 Quarterly Groundwater Data  
 Leica Microsystems, Eggert Road  
 Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	MW-16R Cont.												
				May-14-08	May-14-08	Jul-30-08	Jul-30-08	Apr-15-09	Oct-6-09	Jan-14-10	Mar-23-10	Jul-6-10	Jul-6-10	Sept-29-10	Dec-17-10	
Sample Collection Date:	Dilution:			10.00	20.00	10.00	20.00	1.00	1.00	1.00	5.00	2.00	1.00	2.00	2.50	
<b>Volatile Organic Compounds (ug/l)</b>																
acetone	67641	20	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromofom	75252	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	ND	ND	280	230	D	ND	ND	ND	ND	ND	14	ND	ND
carbon disulfide	75150	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5	-	ND	ND	ND	ND	520	280	290	500	320	D	340	E	330
chloroform	67663	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5	-	1800	1800	D	1700	1700	D	170	130	140	110	110	D	130
1,2-dichloroethane	107062	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5	5	2000	E	2000	D	2000	E	2100	D	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	156605	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5	5	ND	ND	ND	ND	ND	26	31	34	47	D	52	70	42
2-hexanone	591786	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5	5	130	130	D	100	100	D	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5	5	280	290	D	85	ND	ND	ND	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	5	5	ND	ND	240	240	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-xylene	95476	5	5	ND	ND	ND	ND	ND	12	35	37	47	52	100	56	
m+p xylene	108383/106423	5	5	ND	ND	ND	ND	ND	28	45	55	90	110	140	93	
<b>TOTAL VOCs</b>				4210	4220	4405	4370	690	476	541	736	614	698	729	609	
<b>Percent TCE</b>				7%	7%	2%	0	0	0	0	0	0	0	0	0	
<b>Percent DCE</b>				48%	47%	45%	48%	0	0	0	0	0	0	0	0	
<b>Percent VC</b>				0	0	5%	5%	0	0	0	0	0	0	0	0	
<b>Chemistry (mg/L)</b>				<b>MW-16R Cont.</b>												
Chloride				NA	NA	NA	745	652	983	503	339	511	511	835	399	
Ferrous Iron				NA	NA	NA	31.7	0.28	2.85	1.49	NA	NA	NA	NA	NA	
Nitrate Nitrogen				NA	NA	NA	<0.500	0.5	U	0.5	U	0.5	U	0.5	U	
Sulfate				NA	NA	NA	9.1	2.7	7.8	6.3	11.7	8.9	8.9	7.3	7.1	
Total Organic Carbon				NA	NA	NA	1080	65.7	39.8	71.9	43	22.5	22.5	12.6	14.4	
Ferrous Iron Dissolved				NA	NA	NA	30.1	0.38	2.35	1.52	280	940	940	870	400	
Manganese				NA	NA	NA	1.05	184	175	156	NA	NA	NA	NA	NA	
Manganese Dissolved				NA	NA	NA	0.854	123	167	73	64	82	82	129	58	
Dissolved Oxygen (DO)				NA	NA	NA	3.97	NA	7.9	21.1	NA	35.2	35.2	NA	42.8	
pH				NA	NA	NA	6.43	NA	7.09	7.36	NA	7.18	7.18	NA	7.23	
Oxygen Reduction Potential				NA	NA	NA	-101	NA	-297	-77.8	NA	-103.2	-103.2	NA	-87.8	

**NOTES:**  
 RAOs GW = Remedial Action Objectives for Groundwater  
 CAS = Chemical Abstract Service registry number  
 Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)  
 ND = Not Detected  
 E = Exceeds Calibration Range  
 D = Sample reanalyzed and quantified at higher dilution  
 Well MW-11 was removed during excavation and is no longer sampled.  
 Well MW-15A was filled with gravel and is no longer sampled.

Table 5D (Wells 18-22A)  
Quarterly Groundwater Data  
Leica Microsystems, Eggert Road  
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	MW-18														MW-18A									
				Mar-24-05	Oct-24-05	Jan-04-06	Mar-17-06	May-02-07	Mar-31-08	May-14-08	Apr-15-09	Oct-6-09	Jan-14-10	Mar-23-10	July-2-10	Sept-30-10	Dec-17-10	Mar-31-08	May-14-08	Jul-30-08	Jul-30-08	Apr-15-09	Oct-6-09				
Sample Collection Date:	Dilution:			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00					
<b>Volatile Organic Compounds (ug/l)</b>																											
acetone	67641	20	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
benzene	71432	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
bromodichloromethane	75274	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
bromofom	75252	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
bromomethane	74839	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
2-butanone (MEK)	78933	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
carbon disulfide	75150	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
carbon tetrachloride	56235	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
chlorobenzene	108907	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
chloroethane	75003	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
chloroform	67663	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
chloromethane	74873	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
dibromochloromethane	124481	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
1,1-dichloroethane	75343	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
1,2-dichloroethane	107062	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
1,1-dichloroethene	75354	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
cis-1,2-dichloroethene	156592	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18	26	83	76	D	56	33	
trans-1,2-dichloroethene	156605	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-dichloropropane	78875	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
ethylbenzene	100414	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-hexanone	591786	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
methylene chloride	75092	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
4-methyl-2-pentanone (MIBK)	108101	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
styrene	100425	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2,2-tetrachloroethane	79345	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
tetrachloroethene	127184	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
toluene	108883	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,1-trichloroethane	71556	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2-trichloroethane	79005	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trichloroethene	79016	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	30	15	200	E	180	D	140	44
vinyl chloride	75014	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	11	6.2	
o-xylene	95476	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
m+p xylene	108383/106423	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
<b>TOTAL VOCs</b>				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	52	283	256	207	83.2		
<b>Percent TCE</b>				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63%	29%	71%	70%	68%	53%		
<b>Percent DCE</b>				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38%	50%	29%	30%	27%	40%		
<b>Percent VC</b>				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21%	0	0	5%	7%		
<b>Chemistry (mg/L)</b>																											
				MW-18														MW-18A									
Chloride				NA	NA	NA	NA	NA	29.6	NA	25.6	19.1	8.7	NA	NA	NA	NA	134	NA	NA	167	98.6	46.2				
Ferrous Iron				NA	NA	NA	NA	NA	<0.100	NA	0.79	0.64	0.98	NA	NA	NA	NA	<0.100	NA	NA	<0.100	0.7	0.49				
Nitrate Nitrogen				NA	NA	NA	NA	NA	<0.500	NA	0.5	U	0.5	U	0.5	U	NA	<0.500	NA	NA	0.531	0.5	U	0.79			
Sulfate				NA	NA	NA	NA	NA	76.7	NA	74.8	73.9	64.8	NA	NA	NA	NA	98.2	NA	NA	63.3	128	95.5				
Total Organic Carbon				NA	NA	NA	NA	NA	3.98	NA	6.6	4	5.8	NA	NA	NA	NA	3.11	NA	NA	3.08	4	5				
Ferrous Iron Dissolved				NA	NA	NA	NA	NA	<0.100	NA	0.92	0.38	0.78	NA	NA	NA	NA	<0.100	NA	NA	<0.100	0.89	0.25				
Manganese				NA	NA	NA	NA	NA	0.162	NA	274	163	164	NA	NA	NA	NA	0.066	NA	NA	<0.0100	111	273				
Manganese Dissolved				NA	NA	NA	NA	NA	0.165	NA	199	164	169	NA	NA	NA	NA	0.0486	NA	NA	<0.0100	74	235				
Dissolved Oxygen (DO)				NA	NA	NA	NA	NA	NA	NA	NA	7.4	16.7	NA	NA	NA	NA	NA	NA	NA	4.27	NA	7.4				
pH				NA	NA	NA	NA	NA	NA	NA	NA	7.14	7.59	NA	NA	NA	NA	NA	NA	NA	7.48	NA	7.14				
Oxygen Reduction Potential				NA	NA	NA	NA	NA	NA	NA	NA	-296.9	-90.1	NA	NA	NA	NA	NA	NA	NA	-18	NA	-296.9				

NOTES:  
RAOs GW = Remedial Action Objectives for Groundwater  
CAS = Chemical Abstract Service registry number  
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)  
ND = Not Detected  
E = Exceeds Calibration Range  
D = Sample reanalyzed and quantified at higher dilution  
Well MW-11 was removed during excavation and is no longer sampled.  
Well MW-15A was filled with gravel and is no longer sampled.



**Table 5D (Wells 18-22A)**  
**Quarterly Groundwater Data**  
**Leica Microsystems, Eggert Road**  
**Cheektowaga, NY**

ANALYTE	CAS	Method Detection Limit	RAOs GW	MW-22A											
				May-3-07	Nov-22-07	May-14-08	Jul-30-08	Apr-15-09	Oct-6-09	Jan-14-10	Mar-23-10	July-2-10	Sept-30-10	Dec-15-10	
<b>Sample Collection Date:</b>				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
<b>Dilution:</b>				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
<b>Volatiles Organic Compounds (ug/l)</b>															
acetone	67641	20	-	ND	ND	160	110	46	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromofom	75252	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5	5	ND	ND	ND	ND	ND	5.1	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	156605	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-hexanone	591786	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	5	5	5	ND	ND	ND	ND	17	7.7	14	ND	8	22	
o-xylene	95476	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>TOTAL VOCs</b>				5	0	160	110	46	22.1	7.7	14	0	8	22	
<b>Percent TCE</b>				0	0	0	0	0	0	0	0	0	0	0	0
<b>Percent DCE</b>				0	0	0	0	0	23%	0	0	0	0	0	0
<b>Percent VC</b>				100%	0	0	0	0	77%	100%	100%	0	100%	100%	100%
<b>Chemistry (mg/L)</b>				<b>MW-22A</b>											
Chloride				NA	NA	17.7	16.8	10.1	25.4	12.8	NA	NA	NA	NA	NA
Ferrous Iron				NA	NA	1.28	0.737	0.1	U 0.12	0.1	U NA	NA	NA	NA	NA
Nitrate Nitrogen				NA	NA	<0.500	<0.500	0.5	U 0.5	U 0.5	U NA	NA	NA	NA	NA
Sulfate				NA	NA	77.7	79.3	15.2	74	27.8	NA	NA	NA	NA	NA
Total Organic Carbon				NA	NA	7.96	6.18	3.8	3.3	4.1	NA	NA	NA	NA	NA
Ferrous Iron Dissolved				NA	NA	0.126	<0.100	0.13	0.1	U 0.1	U NA	NA	NA	NA	NA
Manganese				NA	NA	0.3	0.139	67	55	70	NA	NA	NA	NA	NA
Manganese Dissolved				NA	NA	0.163	0.131	64	52	66	NA	NA	NA	NA	NA
Dissolved Oxygen (DO)				NA	NA	NA	2.46	NA	30.1	17.7	NA	NA	NA	NA	NA
pH				NA	NA	NA	7.02	7.02	7.06	7.02	NA	NA	NA	NA	NA
Oxygen Reduction Potential				NA	NA	NA	-283	-337	-294.8	-249.7	NA	NA	NA	NA	NA

**NOTES:**  
 RAOs GW = Remedial Action Objectives for Groundwater  
 CAS = Chemical Abstract Service registry number  
 Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)  
 ND = Not Detected  
 E = Exceeds Calibration Range  
 D = Sample reanalyzed and quantified at higher dilution  
 Well MW-11 was removed during excavation and is no longer sampled.  
 Well MW-15A was filled with gravel and is no longer sampled.

Table 5E (Wells 23-29A)  
Quarterly Groundwater Data  
Leica Microsystems, Eggert Road  
Cheektowaga, NY

ANALYTE	CAS	Method Detection Limit	RAOs GW	MW-23						MW-24												
				Apr-15-09	Oct-6-09	Dec-15-10	Mar-31-08	Mar-31-08	May-14-08	Jul-30-08	Apr-15-09	Oct-6-09	Jan-14-10	Mar-23-10	Jul-6-10	Jul-6-10	Sept-30-10	Dec-17-10				
				1.00	1.00	1.00	10.00	50.00	25.00	25.00	1.00	1.00	1.00	25.00	20.00	1.00	20.00	10.00				
<b>Volatil Organic Compounds (ug/l)</b>																						
acetone	67641	20	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	650	750	470	D	500	E	ND	300
benzene	71432	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	120	D	140		120		170	
bromodichloromethane	75274	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromofom	75252	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1100	3700	<b>3700</b>	<b>2600</b>	D	<b>2600</b>	E	<b>2300</b>	<b>930</b>
carbon disulfide	75150	10	-	24	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	27	270	98	
chloroform	67663	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloromethane	74873	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5	-	ND	ND	ND	300	330	D	240	190	350	370	470	<b>680</b>	<b>830</b>	D	<b>860</b>	E	<b>420</b>	<b>840</b>	
1,2-dichloroethane	107062	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	<b>5</b>	<b>5</b>	ND	ND	ND	<b>4600</b>	E	<b>4800</b>	D	<b>3600</b>	<b>2900</b>	<b>3200</b>	<b>2600</b>	<b>200</b>	<b>850</b>	ND	<b>85</b>	<b>ND</b>	<b>67</b>		
trans-1,2-dichloroethene	156605	<b>5</b>	<b>5</b>	ND	ND	ND	<b>72</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	<b>5</b>	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<b>200</b>
2-hexanone	591786	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	<b>5</b>	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<b>900</b>
1,1,1-trichloroethane	71556	<b>5</b>	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	<b>5</b>	<b>5</b>	ND	ND	ND	<b>620</b>	<b>640</b>	D	<b>490</b>	<b>380</b>	<b>370</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	<b>5</b>	<b>5</b>	ND	ND	ND	<b>2200</b>	E	<b>2300</b>	D	<b>2000</b>	<b>1300</b>	<b>1800</b>	<b>2600</b>	<b>1500</b>	<b>2300</b>	<b>1200</b>	D	<b>1200</b>	E	<b>150</b>	<b>1100</b>
o-xylene	95476	<b>5</b>	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p xylene	108383/106423	<b>5</b>	<b>5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	370
<b>TOTAL VOCs</b>				24	14	0	7792	8070	6330	4770	5720	6670	6520	8280	5220	5412	3260	4975				
<b>Percent TCE</b>				0	0	0	8%	8%	8%	8%	6%	0	0	0	0	0	0	0	0	0	0	0
<b>Percent DCE</b>				0	0	0	59%	59%	57%	61%	56%	39%	3%	10%	0	2%	0	1%				
<b>Percent VC</b>				0	0	0	28%	29%	32%	27%	31%	39%	23%	28%	23%	22%	5%	22%				
<b>Chemistry (mg/L)</b>				<b>MW-23</b>						<b>MW-24</b>												
Chloride				NA	NA	NA	90.1	NA	NA	380	194	191	200	239	237	237	286	267				
Ferrous Iron				NA	NA	NA	0.164	NA	NA	1.4	0.1	0.38	1	U	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate Nitrogen				NA	NA	NA	<0.500	NA	NA	<0.500	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Sulfate				NA	NA	NA	46.7	NA	NA	69.1	37.3	12.8	5.7	8.6	5.8	5.8	2	U	2	U	2	U
Total Organic Carbon				NA	NA	NA	6.4	NA	NA	5.46	7	249	1370	1670	1430	1430	1590	881				
Ferrous Iron Dissolved				NA	NA	NA	<0.100	NA	NA	1.22	0.18	0.25	12.9	15400	6000	6000	32000	21200				
Manganese				NA	NA	NA	0.175	NA	NA	0.0814	45	81	213	NA	NA	NA	NA	NA				
Manganese Dissolved				NA	NA	NA	0.16	NA	NA	0.0723	40	78	159	289	167	167	134	117				
Dissolved Oxygen (DO)				NA	NA	NA	NA	NA	NA	4.58	NA	39.4	48	NA	41.3	41.3	NA	52.4				
pH				NA	NA	NA	NA	NA	NA	6.79	NA	6.85	6.59	NA	6.48	6.48	NA	6.37				
Oxygen Reduction Potential				NA	NA	NA	NA	NA	NA	-62	NA	-249.8	-8.2	NA	-10.8	-10.8	NA	-12.4				

**NOTES:**  
 RAOs GW = Remedial Action Objectives for Groundwater  
 CAS = Chemical Abstract Service registry number  
 Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)  
 ND = Not Detected  
 E = Exceeds Calibration Range  
 D = Sample reanalyzed and quantified at higher dilution  
 Well MW-11 was removed during excavation and is no longer sampled.  
 Well MW-15A was filled with gravel and is no longer sampled.







Table 5E (Wells 23-29A)  
Quarterly Groundwater Data  
Leica Microsystems, Eggert Road  
Cheektowaga, NY

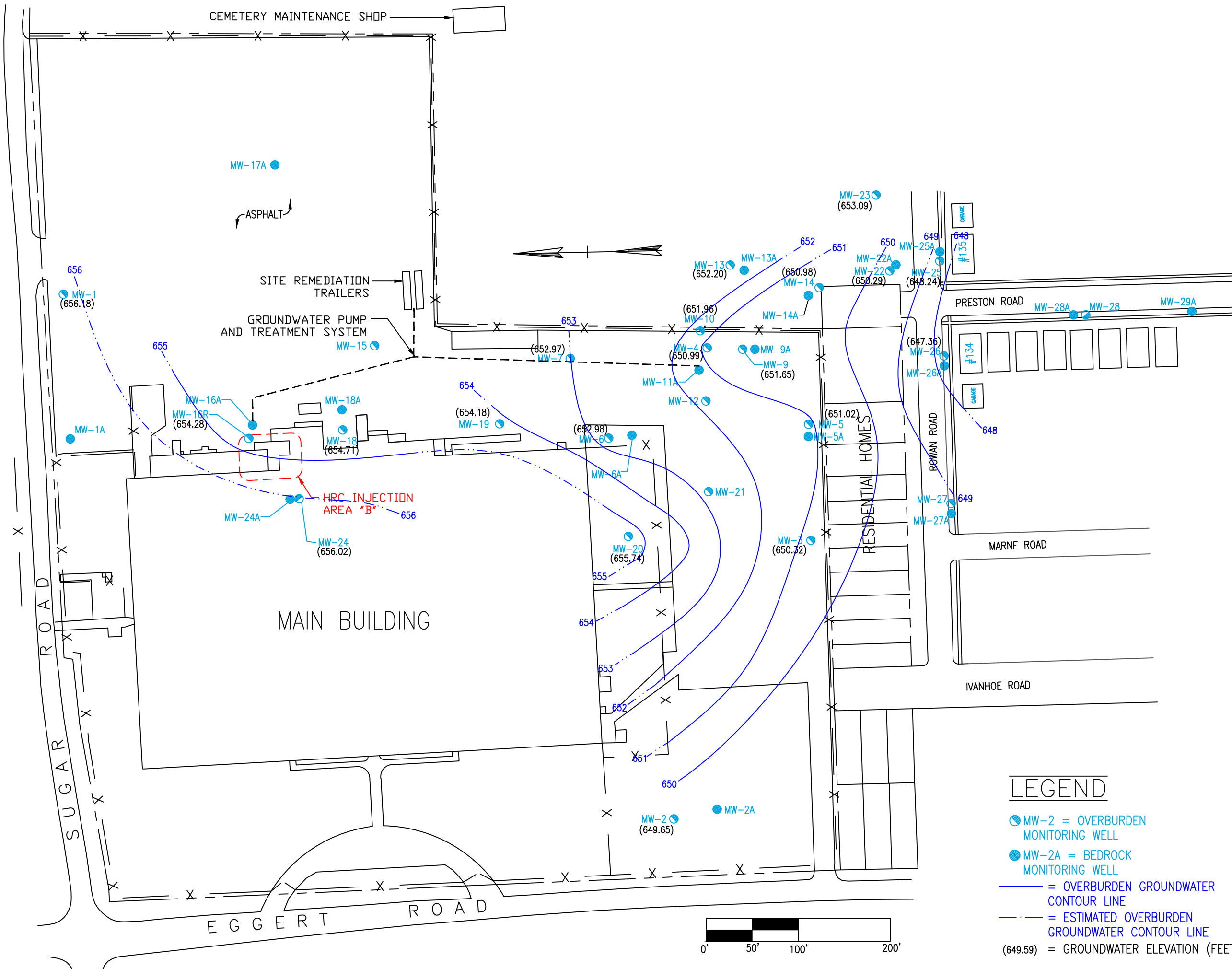
ANALYTE	CAS	Method Detection Limit	RAOs GW	MW-27			MW-27A			MW-28			MW-28A			MW-29A		
				July-2-10	Sept-30-10	Dec-15-10	July-2-10	Sept-30-10	Dec-15-10	July-2-10	Sept-30-10	Dec-15-10	July-2-10	Sept-30-10	Dec-15-10	July-2-10	Sept-30-10	Dec-15-10
Sample Collection Date:				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Dilution:																		
<b>Volatil Organic Compounds (ug/l)</b>																		
acetone	67641	20	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
benzene	71432	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromodichloromethane	75274	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromofom	75252	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bromomethane	74839	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-butanone (MEK)	78933	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon disulfide	75150	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
carbon tetrachloride	56235	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	108907	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroethane	75003	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
chloroform	67663	5	-	ND	ND	ND	7.7	ND	ND	ND	ND	ND	7.6	ND	ND	9.4	ND	ND
chloromethane	74873	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
dibromochloromethane	124481	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	75343	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	75354	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	156592	5	5	ND	ND	ND	ND	ND	ND	27	39	28	ND	11	8.9	ND	ND	ND
trans-1,2-dichloroethene	156605	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	78875	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	542756	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	100414	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	12	6
2-hexanone	591786	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methylene chloride	75092	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methyl-2-pentanone (MIBK)	108101	10	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
styrene	100425	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	79345	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	127184	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
toluene	108883	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	71556	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	79005	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trichloroethene	79016	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
vinyl chloride	75014	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	13	ND	ND	ND	ND
o-xylene	95476	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	23	13	13
m+p xylene	108383/106423	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16	16	7.8	7.8
<b>TOTAL VOCs</b>				0	0	0	7.7	0	0	27	39	28	7.6	25	21.9	54.4	51	26.8
<b>Percent TCE</b>				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Percent DCE</b>				0	0	0	0	0	0	100%	100%	100%	0	44%	41%	0	0	0
<b>Percent VC</b>				0	0	0	0	0	0	0	0	0	0	56%	59%	0	0	0
<b>Chemistry (mg/L)</b>				<b>MW-27</b>			<b>MW-27A</b>			<b>MW-28</b>			<b>MW-28A</b>			<b>MW-29A</b>		
Chloride				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ferrous Iron				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate Nitrogen				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ferrous Iron Dissolved				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese Dissolved				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Oxygen (DO)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxygen Reduction Potential				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**NOTES:**  
RAOs GW = Remedial Action Objectives for Groundwater  
CAS = Chemical Abstract Service registry number  
Bold = Exceeds RAOs for groundwater (Not applicable to Treatment System Effluent)  
ND = Not Detected  
E = Exceeds Calibration Range  
D = Sample reanalyzed and quantified at higher dilution  
Well MW-11 was removed during excavation and is no longer sampled.  
Well MW-15A was filled with gravel and is no longer sampled.

## APPENDIX B

### Groundwater Monitoring Figures

- Figure 1 Groundwater Contours, March 2010, Overburden Wells
  - Figure 2 Groundwater Contours, March 2010, Bedrock Wells
  - Figure 3 Vinyl Chloride Contaminant Concentration Isopleths, March 2010, Overburden Wells
  - Figure 4 Vinyl Chloride Contaminant Concentration Isopleths, March 2010, Bedrock Wells
  - Figure 5 CIS 1,2 DCE Contaminant Concentration Isopleths, March 2010, Overburden Wells
  - Figure 6 CIS 1,2 DCE Contaminant Concentration Isopleths, March 2010, Bedrock Wells
  - Figure 7 Groundwater Contours, July 2010, Overburden Wells
  - Figure 8 Groundwater Contours, July 2010, Bedrock Wells
  - Figure 9 Vinyl Chloride Contaminant Concentration Isopleths, July 2010, Overburden Wells
  - Figure 10 Vinyl Chloride Contaminant Concentration Isopleths, July 2010, Bedrock Wells
  - Figure 11 CIS 1,2 DCE Contaminant Concentration Isopleths, July 2010, Overburden Wells
  - Figure 12 CIS 1,2 DCE Contaminant Concentration Isopleths, July 2010, Bedrock Wells
  - Figure 13 Groundwater Contours, September 2010, Overburden Wells
  - Figure 14 Groundwater Contours, September 2010, Bedrock Wells
  - Figure 15 Vinyl Chloride Contaminant Concentration Isopleths, September 2010, Overburden Wells
  - Figure 16 Vinyl Chloride Contaminant Concentration Isopleths, September 2010, Bedrock Wells
  - Figure 17 CIS 1,2 DCE Contaminant Concentration Isopleths, September 2010, Overburden Wells
  - Figure 18 CIS 1,2 DCE Contaminant Concentration Isopleths, September 2010, Bedrock Wells
  - Figure 19 Groundwater Contours, December 2010, Overburden Wells
  - Figure 20 Groundwater Contours, December 2010, Bedrock Wells
  - Figure 21 Vinyl Chloride Contaminant Concentration Isopleths, December 2010, Overburden Wells
  - Figure 22 Vinyl Chloride Contaminant Concentration Isopleths, December 2010, Bedrock Wells
  - Figure 23 CIS 1,2 DCE Contaminant Concentration Isopleths, December 2010, Overburden Wells
  - Figure 24 CIS 1,2 DCE Contaminant Concentration Isopleths, December 2010, Bedrock Wells
-

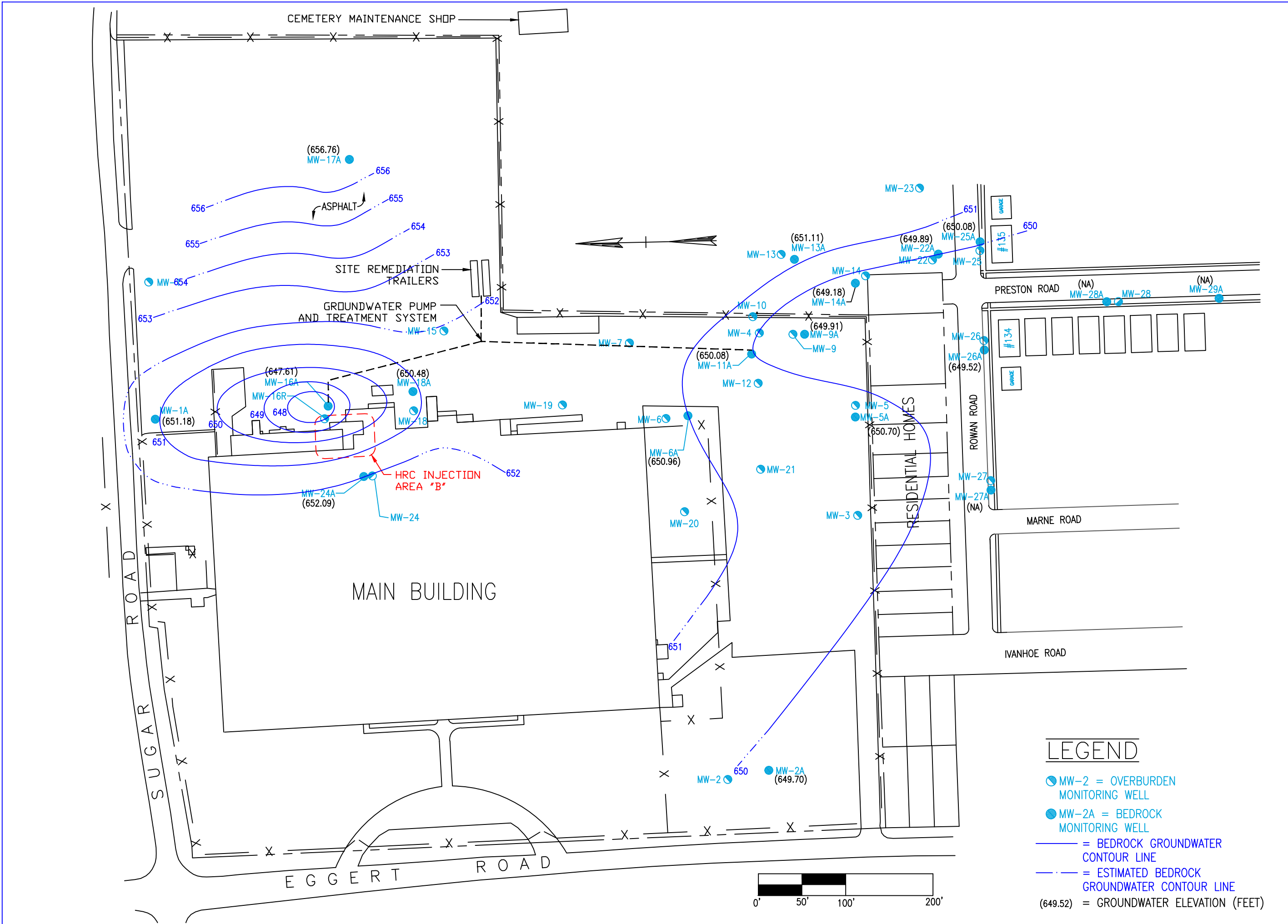


**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = OVERBURDEN GROUNDWATER CONTOUR LINE
- - - = ESTIMATED OVERBURDEN GROUNDWATER CONTOUR LINE
- (649.59) = GROUNDWATER ELEVATION (FEET)

DOCUMENT CONTROL NO.	PROJECT		PROJECT # 137015
	LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY		FILENAME:
REVISION NO.	DRAWING		SCALE: 1" = 100'
	GROUNDWATER CONTOURS, MARCH 2010, OVERBURDEN WELLS		DATE: 9/07/10
			BY: MT
			CK: PM
			FIGURE # 1

**ENERGY SOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301



PROJECT # 137015  
 FILENAME:  
 SCALE: 1" = 100'  
 DATE: 12/09/10  
 BY: MT  
 CK: PM  
 FIGURE # 2

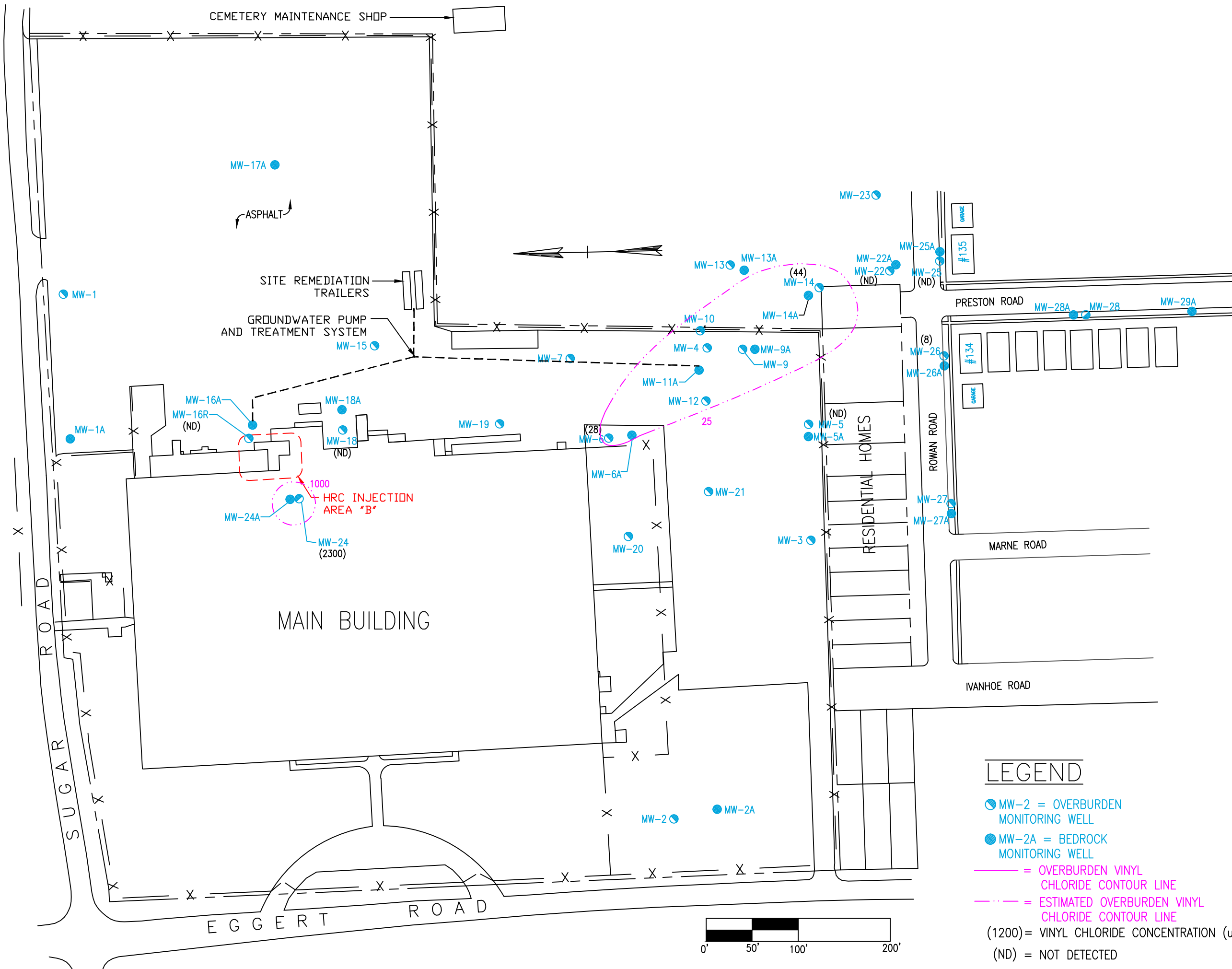


LEICA MICROSYSTEMS INC.  
 203 EGGERT RD  
 CHEEKTOWAGA, NY

GROUNDWATER CONTOURS, MARCH  
 2010, BEDROCK WELLS

DOCUMENT CONTROL NO.  
 REVISION NO.





**ENERGYSOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301

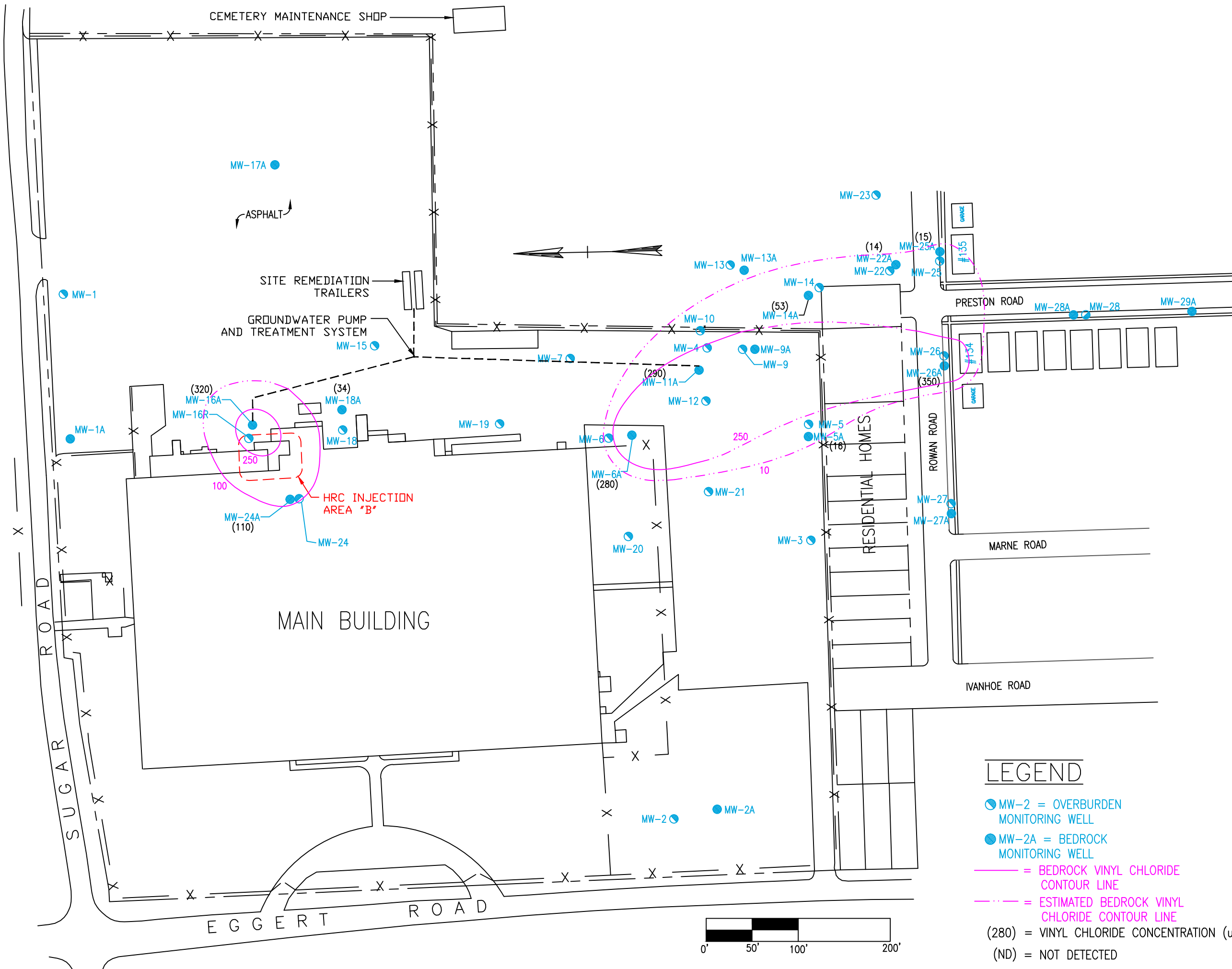
PROJECT # 137015  
 FILENAME:  
 SCALE: 1" = 100'  
 DATE: 9/14/10  
 BY: MT  
 CK: PM  
 FIGURE # 3

LEICA MICROSYSTEMS INC.  
 203 EGGERT RD  
 CHEEKTOWAGA, NY

VINYL CHLORIDE CONTAMINANT  
 CONCENTRATION ISOPLETHS, MARCH  
 2010, OVERBURDEN WELLS

DOCUMENT CONTROL NO.	PROJECT
REVISION NO.	DRAWING



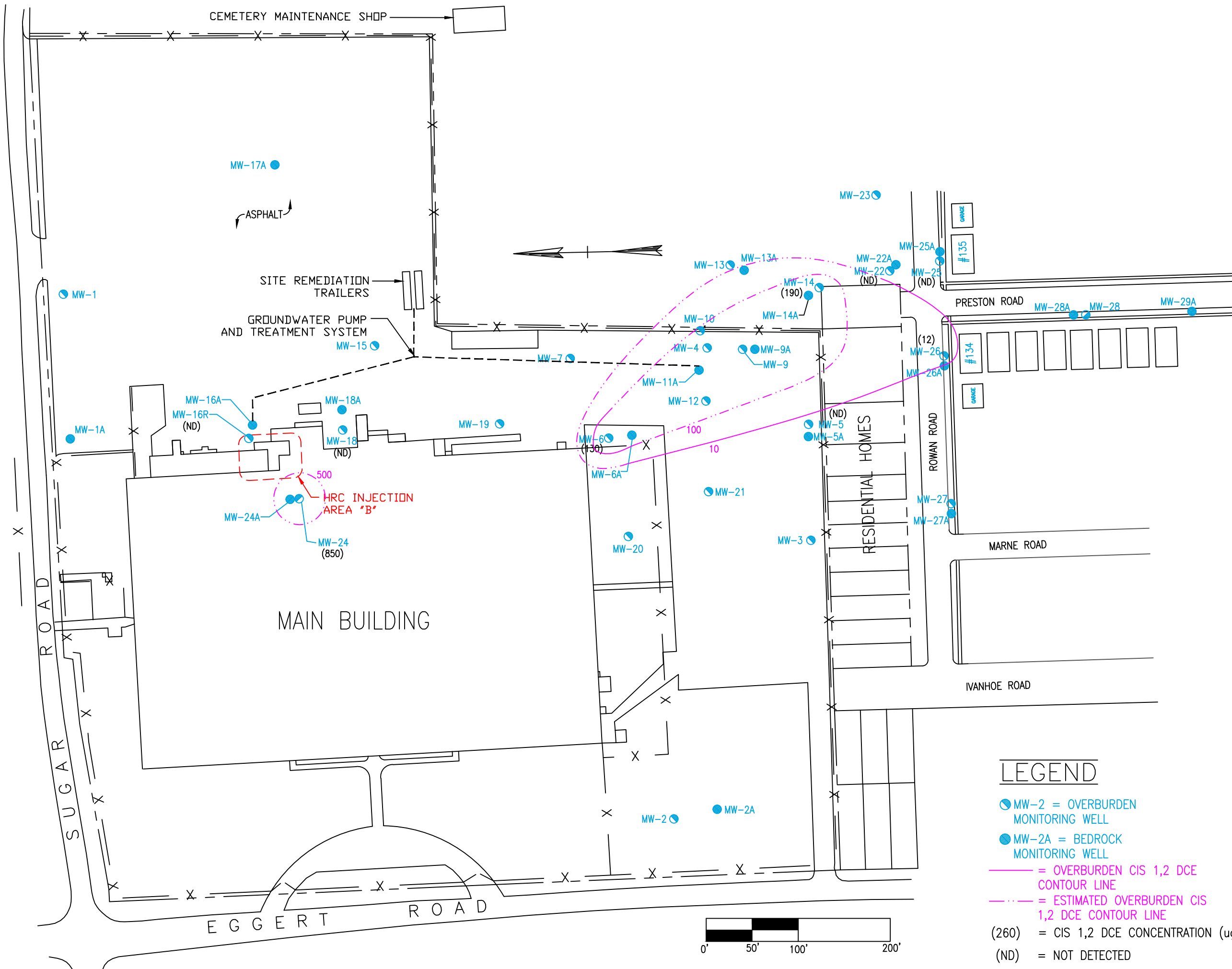


**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = BEDROCK VINYL CHLORIDE CONTOUR LINE
- - - = ESTIMATED BEDROCK VINYL CHLORIDE CONTOUR LINE
- (280) = VINYL CHLORIDE CONCENTRATION (ug/L)
- (ND) = NOT DETECTED

DOCUMENT CONTROL NO.	PROJECT		PROJECT # 137015
	LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY		FILENAME:
REVISION NO.	DRAWING	DATE: 9/9/10	
		BY: MT CK: PM	
		FIGURE # 4	

**ENERGY SOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301

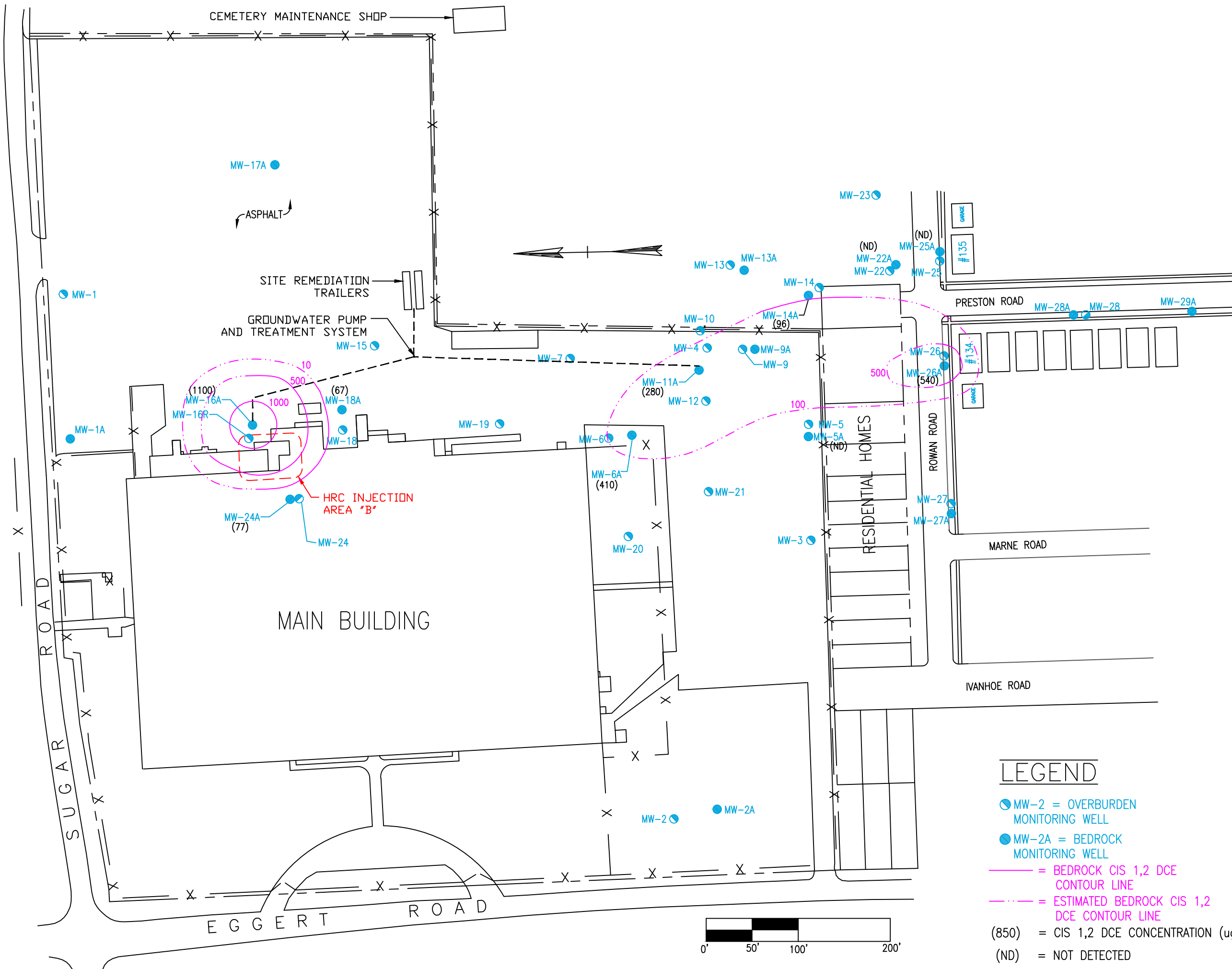


**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = OVERBURDEN CIS 1,2 DCE CONTOUR LINE
- - - = ESTIMATED OVERBURDEN CIS 1,2 DCE CONTOUR LINE
- (260) = CIS 1,2 DCE CONCENTRATION (ug/L)
- (ND) = NOT DETECTED

DOCUMENT CONTROL NO.	PROJECT		PROJECT # 137015
	LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY		FILENAME:
REVISION NO.	DRAWING	DATE: 9/9/10	
		BY: MT	
		CK: PM	
		FIGURE # 5	

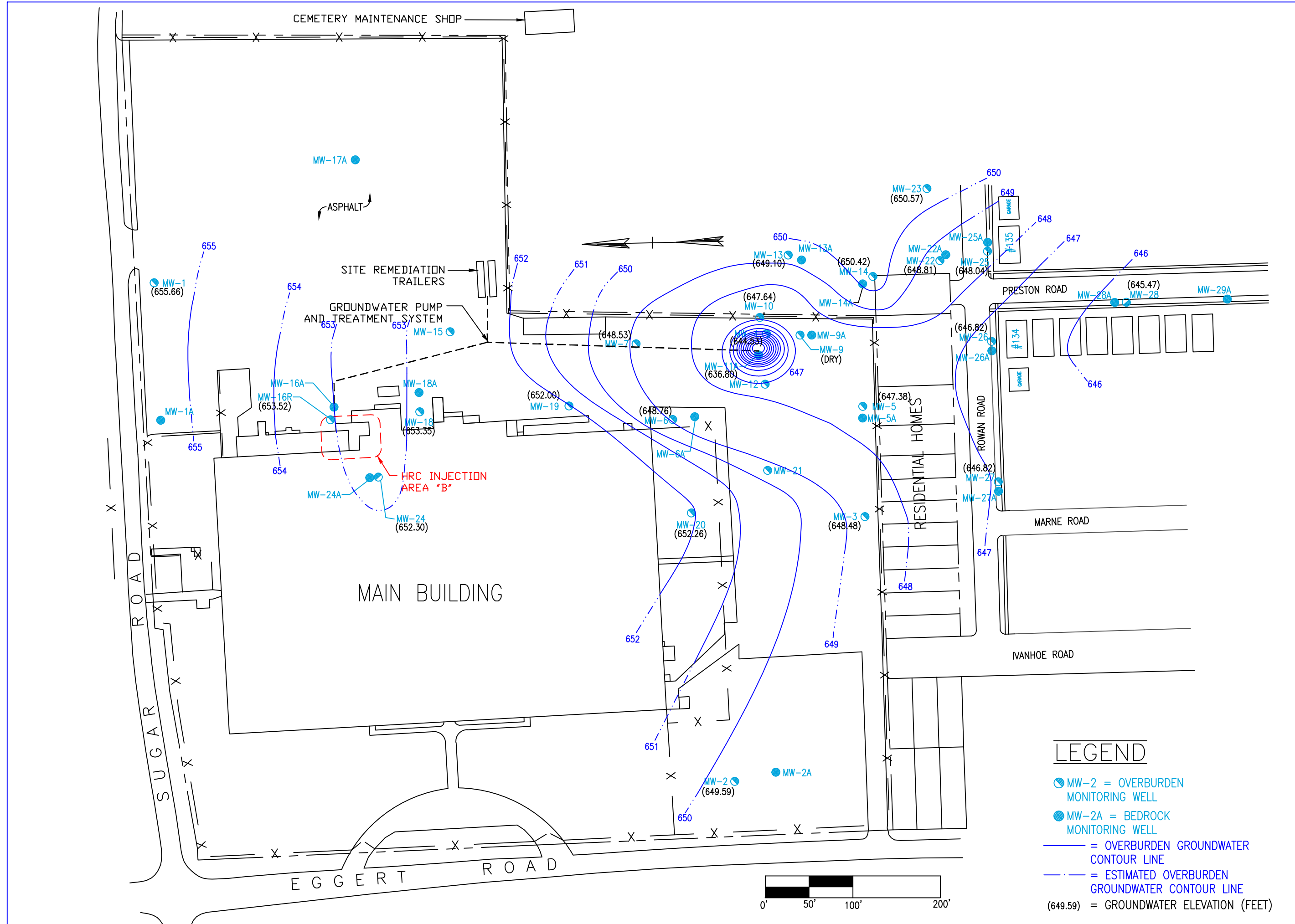
**ENERGY SOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301



**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = BEDROCK CIS 1,2 DCE CONTOUR LINE
- - - = ESTIMATED BEDROCK CIS 1,2 DCE CONTOUR LINE
- (850) = CIS 1,2 DCE CONCENTRATION (ug/L)
- (ND) = NOT DETECTED

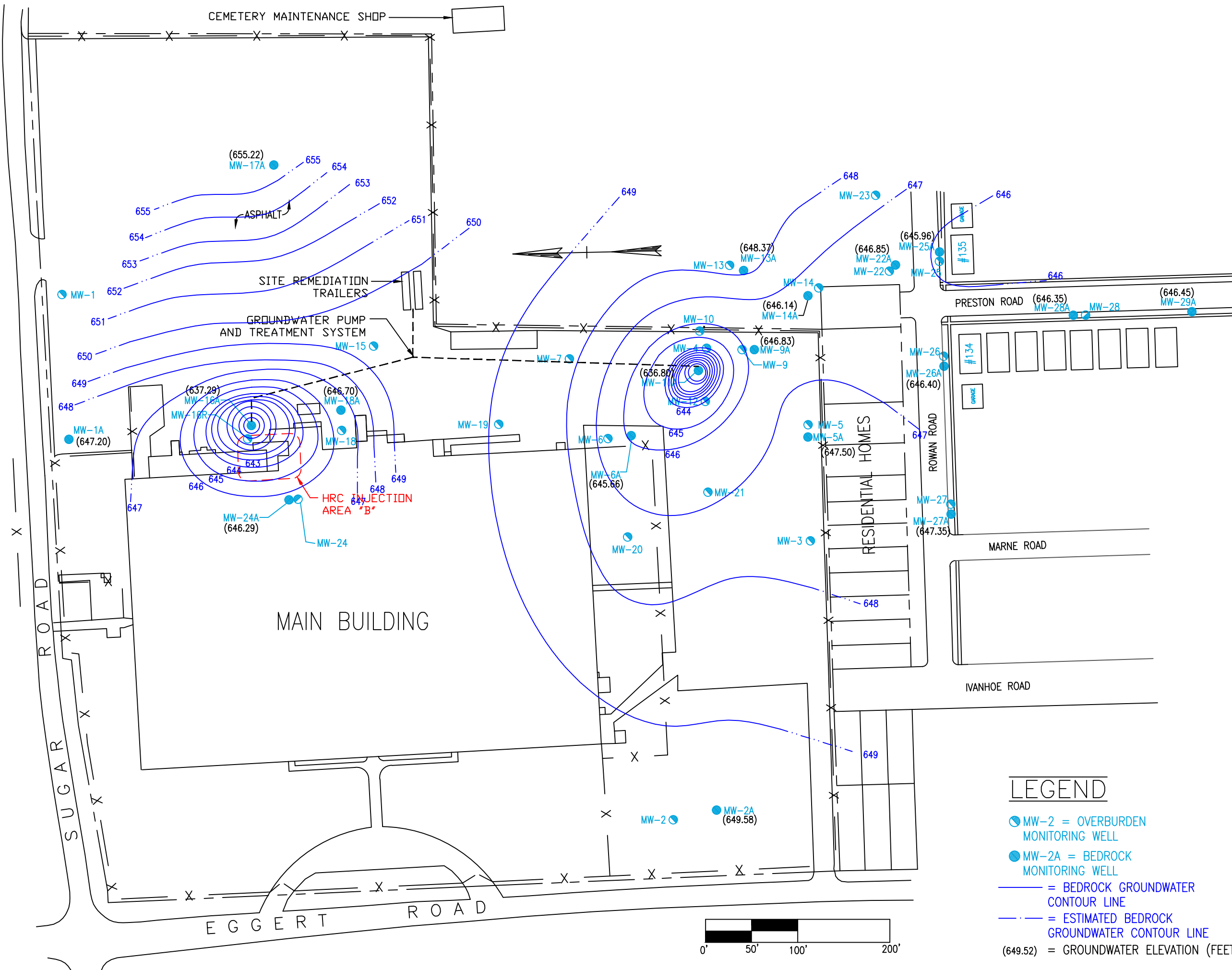
DOCUMENT CONTROL NO.	PROJECT		PROJECT # 137015
	LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY		FILENAME:
REVISION NO.	DRAWING	DATE: 9/9/10	
		BY: MT	
		CK: PM	
		FIGURE # 6	
100 MILL PLAIN RD DANBURY, CT. 06811 (203)797-8301			



DOCUMENT CONTROL NO.	PROJECT	PROJECT #	137015
		FILENAME:	
REVISION NO.	DRAWING	SCALE:	1" = 100'
		DATE:	9/30/10
		BY:	MT
		CK:	PM
		FIGURE #	7

LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY	
GROUNDWATER CONTOURS, JULY 2010, OVERBURDEN WELLS	
100 MILL PLAIN RD DANBURY, CT. 06811 (203)797-8301	



**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = BEDROCK GROUNDWATER CONTOUR LINE
- - - = ESTIMATED BEDROCK GROUNDWATER CONTOUR LINE
- (649.52) = GROUNDWATER ELEVATION (FEET)

PROJECT # 137015  
 FILENAME:  
 SCALE: 1" = 100'  
 DATE: 9/14/10  
 BY: MT  
 CK: PM  
 FIGURE # 8

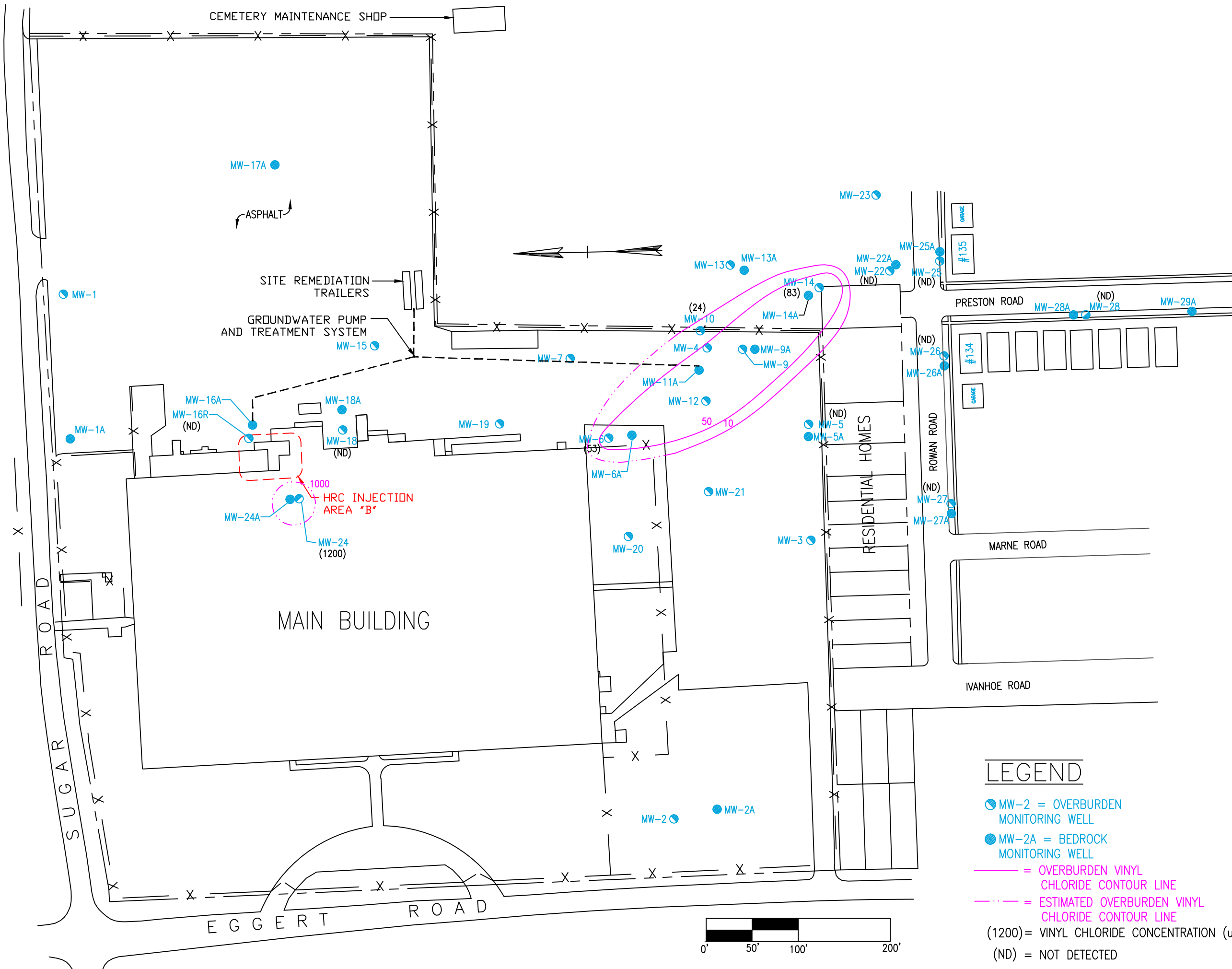
**ENERGY SOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301

LEICA MICROSYSTEMS INC.  
 203 EGGERT RD  
 CHEEKTOWAGA, NY

GROUNDWATER CONTOURS, JULY 2010, BEDROCK WELLS

DOCUMENT CONTROL NO.  
 REVISION NO.



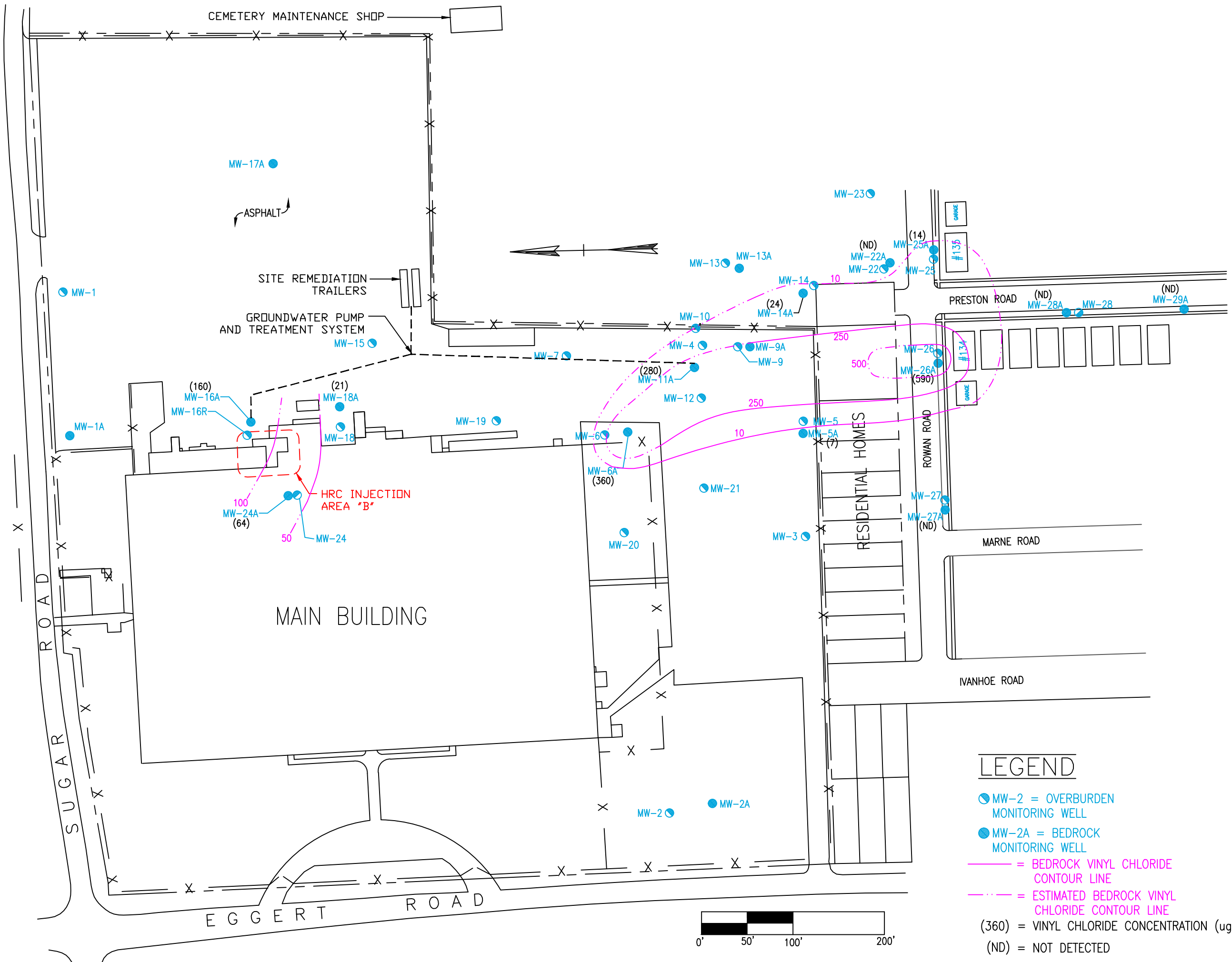


**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = OVERBURDEN VINYL CHLORIDE CONTOUR LINE
- - - = ESTIMATED OVERBURDEN VINYL CHLORIDE CONTOUR LINE
- (1200) = VINYL CHLORIDE CONCENTRATION (ug/L)
- (ND) = NOT DETECTED

DOCUMENT CONTROL NO.	PROJECT		PROJECT # 137015
	LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY		FILENAME:
REVISION NO.	DRAWING	DATE: 9/3/10	
		BY: MT CK: PM	
		FIGURE # 9	

**ENERGY SOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301



**ENERGYSOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301

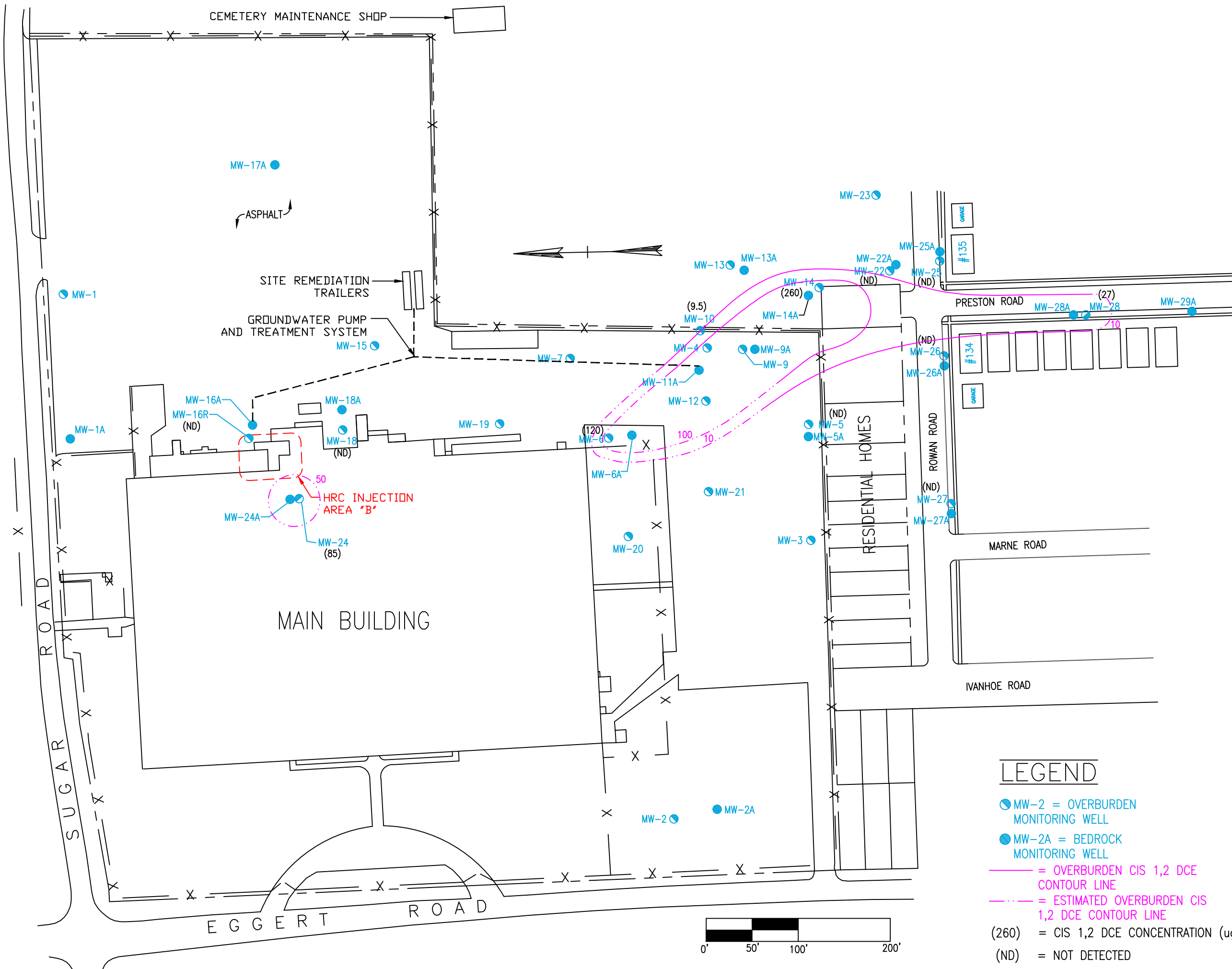
PROJECT # 137015  
 FILENAME:  
 SCALE: 1" = 100'  
 DATE: 9/30/10  
 BY: MT  
 CK: PM  
 FIGURE # 10

LEICA MICROSYSTEMS INC.  
 203 EGGERT RD  
 CHEEKTOWAGA, NY

VINYL CHLORIDE CONTAMINANT  
 CONCENTRATION ISOPLETHS, JULY  
 2010, BEDROCK WELLS

DOCUMENT CONTROL NO.	PROJECT
REVISION NO.	DRAWING





PROJECT #	137015
FILENAME:	
SCALE:	1" = 100'
DATE:	9/9/10
BY:	MT
CK:	PM
FIGURE #	11



100 MILL PLAIN RD  
DANBURY, CT. 06811  
(203)797-8301

LEICA MICROSYSTEMS INC.  
203 EGGERT RD  
CHEEKTOWAGA, NY

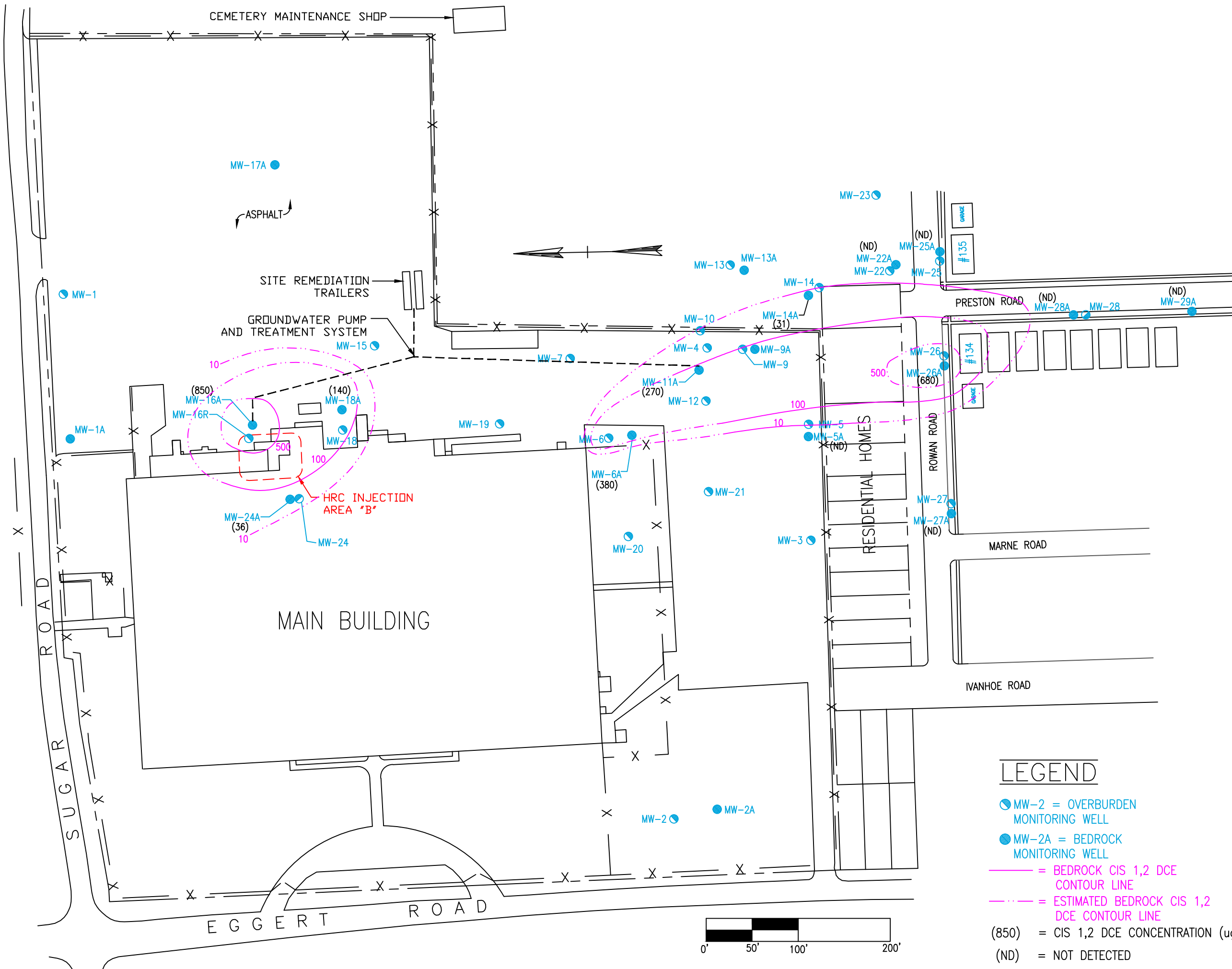
CIS 1,2 DCE CONTAMINANT  
CONCENTRATION ISOPLETHS, JULY  
2010, OVERBURDEN WELLS

PROJECT

DRAWING

DOCUMENT CONTROL NO.

REVISION NO.

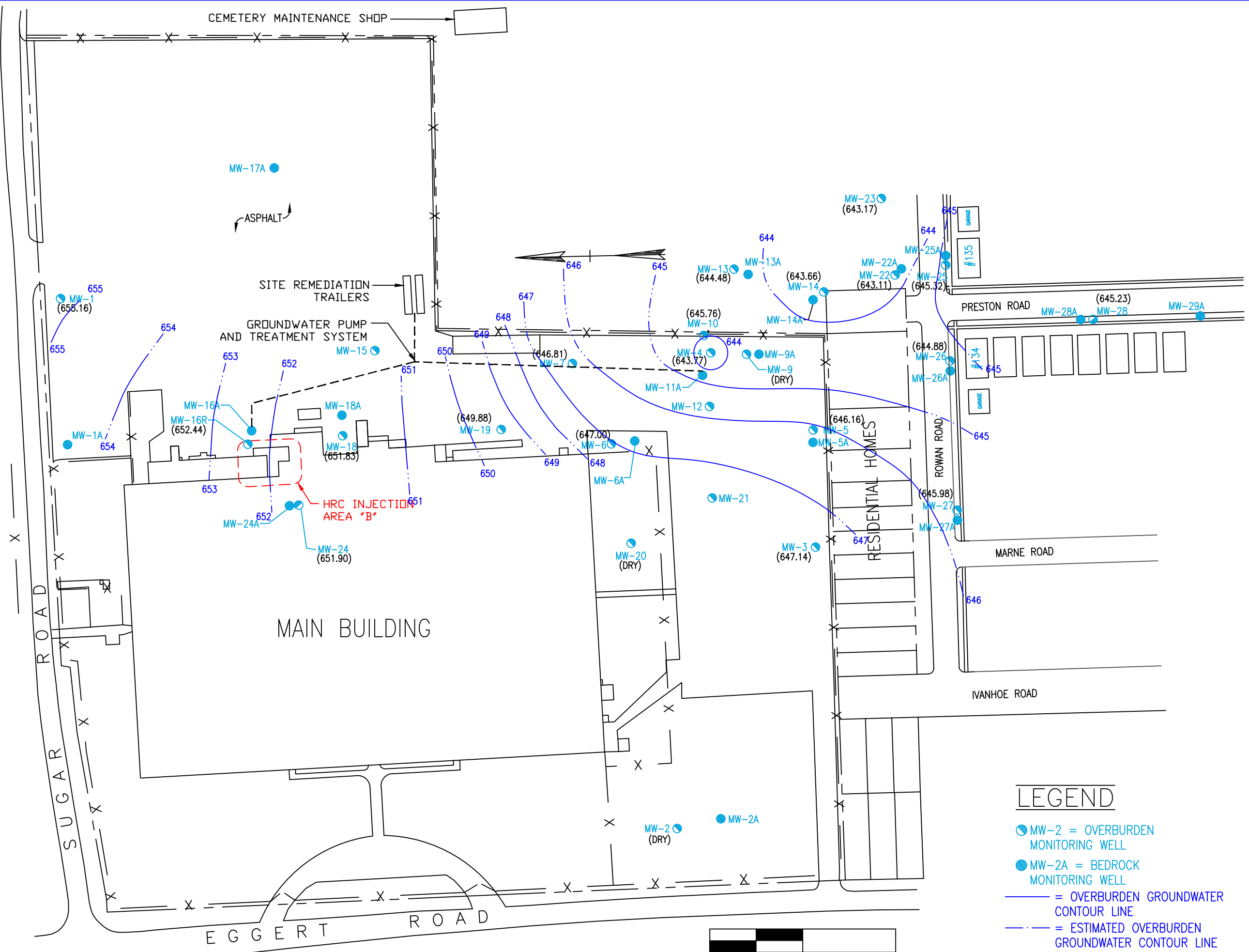


**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = BEDROCK CIS 1,2 DCE CONTOUR LINE
- - - = ESTIMATED BEDROCK CIS 1,2 DCE CONTOUR LINE
- (850) = CIS 1,2 DCE CONCENTRATION (µg/L)
- (ND) = NOT DETECTED

DOCUMENT CONTROL NO.	PROJECT		PROJECT # 137015
	LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY		FILENAME:
REVISION NO.	DRAWING		SCALE: 1" = 100'
	CIS 1,2 DCE CONTAMINANT CONCENTRATION ISOPLETHS, JULY 2010, BEDROCK WELLS		DATE: 9/3/10
			BY: MT
			CK: PM
			FIGURE # 12

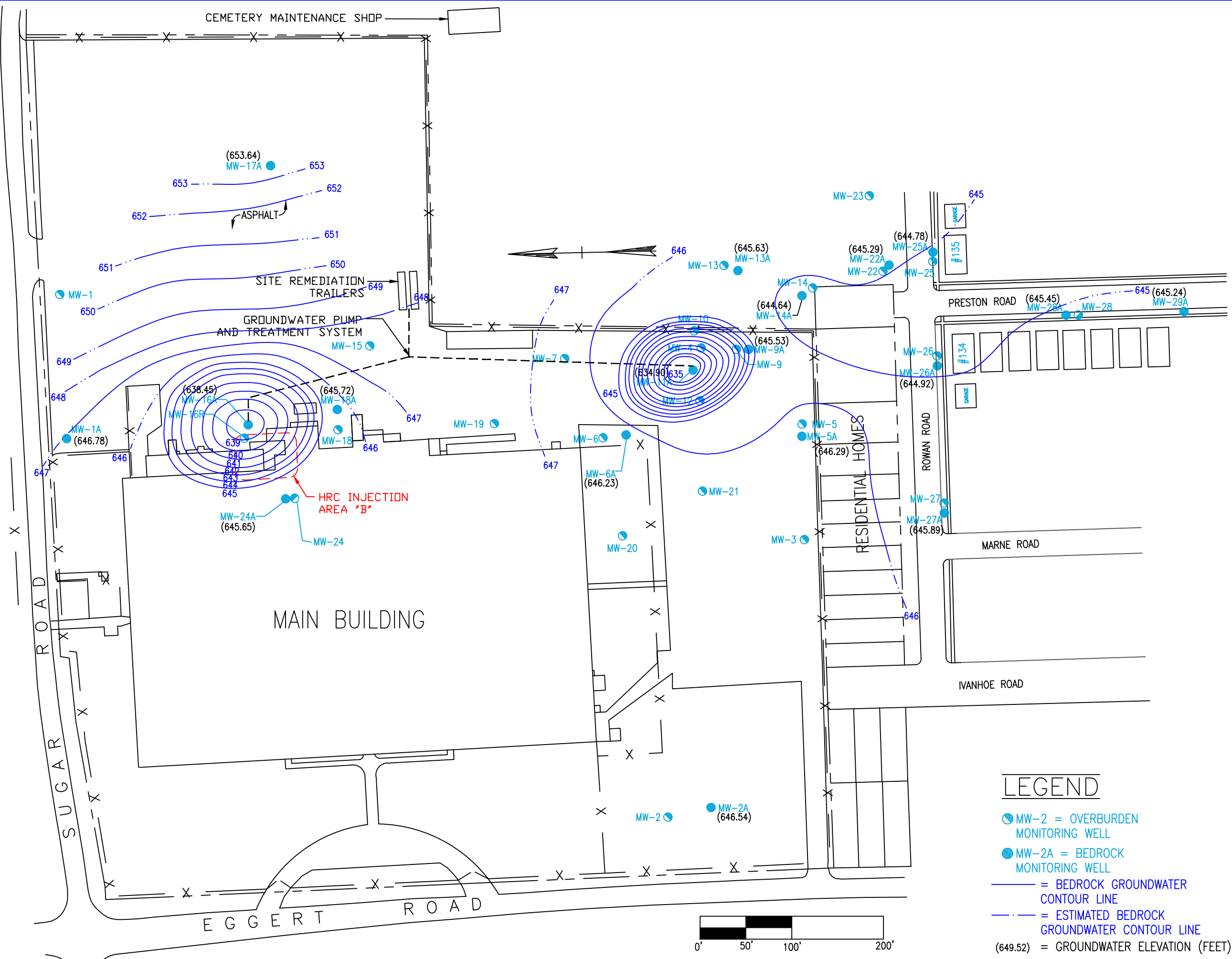
100 MILL PLAIN RD  
DANBURY, CT. 06811  
(203)797-8301



**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = OVERBURDEN GROUNDWATER CONTOUR LINE
- - - = ESTIMATED OVERBURDEN GROUNDWATER CONTOUR LINE
- (649.59) = GROUNDWATER ELEVATION (FEET)

DOCUMENT CONTROL NO.	PROJECT		REVISION NO.
	PROJECT	DRAWING	
LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY		GROUNDWATER CONTOURS, SEPTEMBER 2010, OVERBURDEN WELLS	
PROJECT # 137015 FILENAME: SCALE: 1" = 100' BY: MT		DATE: 12/09/10 CK: PM FIGURE # 13	
ENERGYSOLUTIONS 100 MILL PLAIN RD DANBURY, CT. 06811 (203)797-8301			



PROJECT #	137015
FILENAME:	
SCALE:	1" = 100'
DATE:	12/09/10
BY:	MT
CK:	PM
FIGURE #	14

**ENERGY SOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301

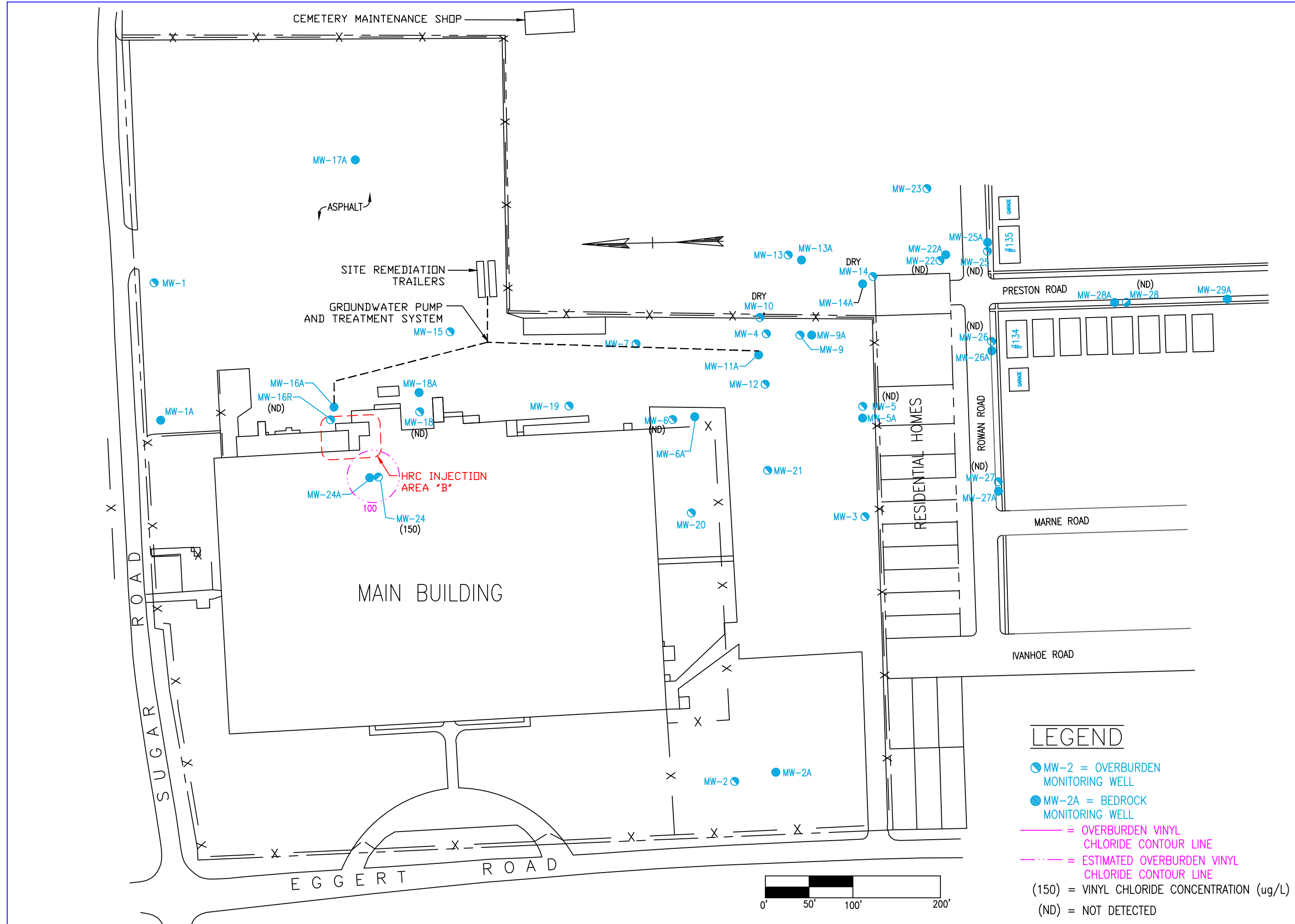
LEICA MICROSYSTEMS INC.  
 203 EGGERT RD  
 CHEEKTOWAGA, NY

GROUNDWATER CONTOURS, SEPTEMBER 2010, BEDROCK WELLS

DOCUMENT CONTROL NO.	
REVISION NO.	

**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = BEDROCK GROUNDWATER CONTOUR LINE
- - - = ESTIMATED BEDROCK GROUNDWATER CONTOUR LINE
- (649.52) = GROUNDWATER ELEVATION (FEET)



PROJECT #	137015
FILENAME:	
SCALE:	1" = 100'
DATE:	11/23/10
BY:	MT
CK:	PM
FIGURE #	15

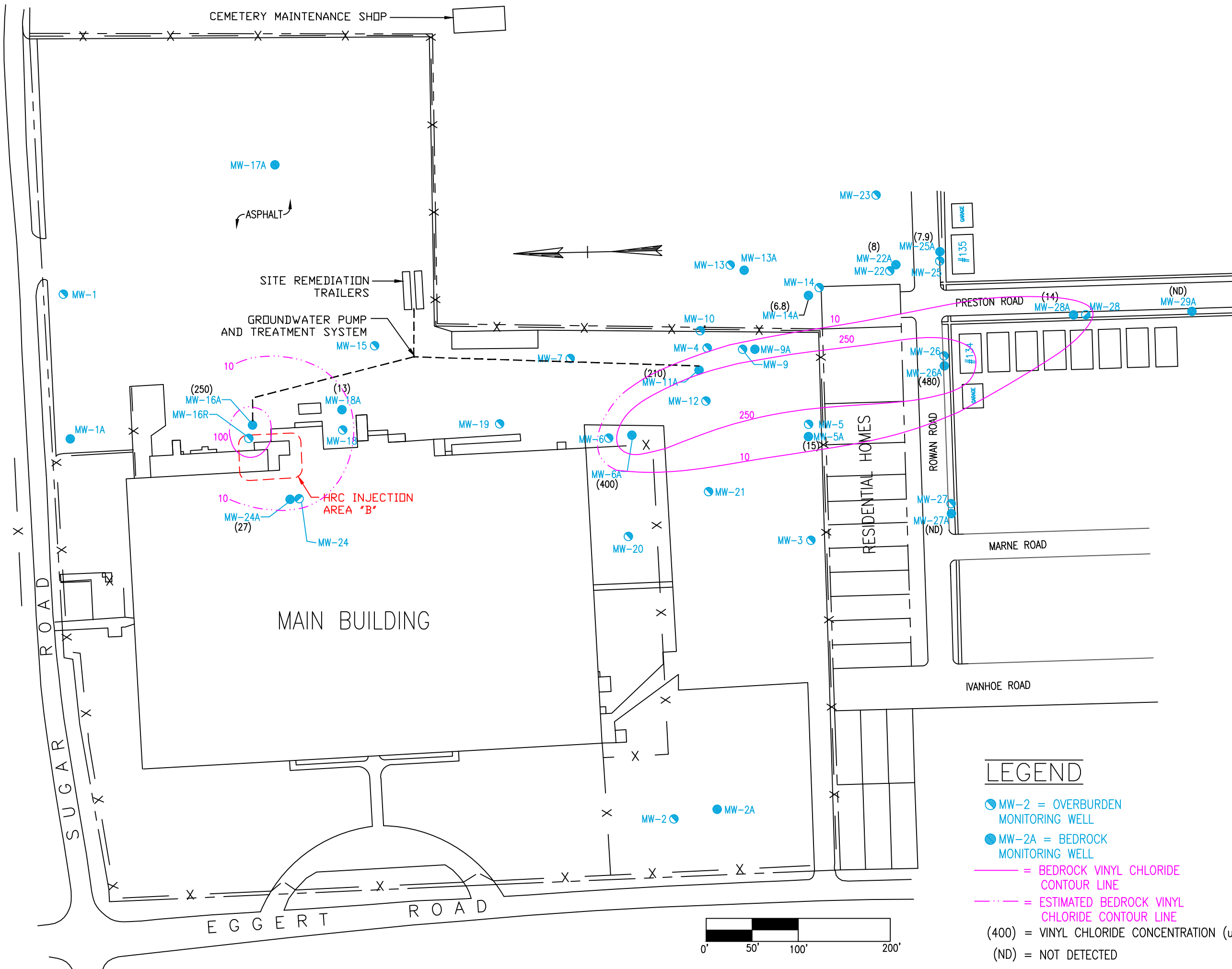
  

100 MILL PLAIN RD DANBURY, CT. 06811 (203)797-8301	

PROJECT	LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY
DRAWING	VINYL CHLORIDE CONTAMINANT CONCENTRATION ISOPLETHS, SEPTEMBER 2010, OVERBURDEN WELLS
DOCUMENT CONTROL NO.	
REVISION NO.	





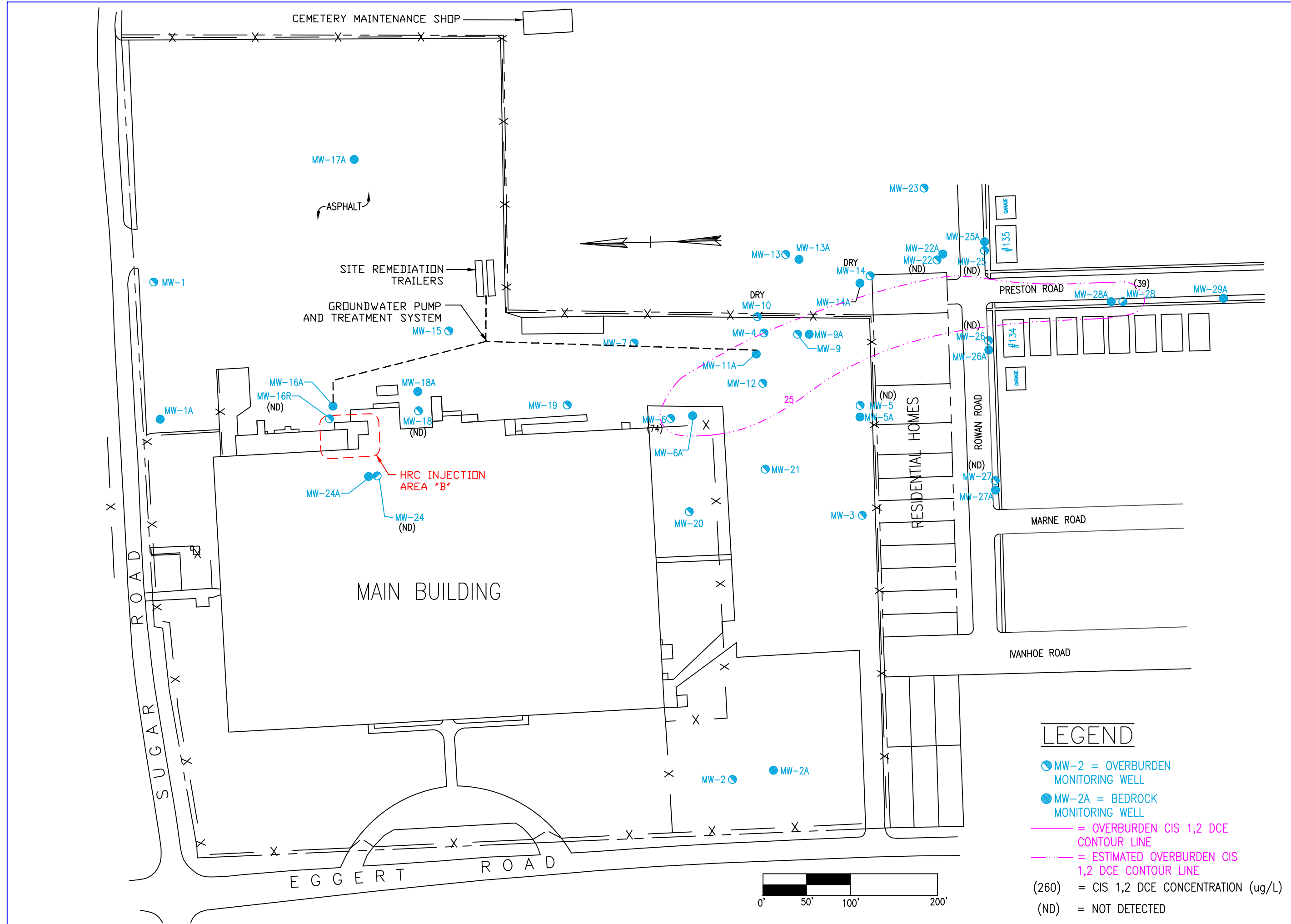
PROJECT #	137015
FILENAME:	
SCALE:	1" = 100'
DATE:	11/23/10
BY:	MT
CK:	PM
FIGURE #	16

**ENERGY SOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301

LEICA MICROSYSTEMS INC.  
 203 EGGERT RD  
 CHEEKTOWAGA, NY

VINYL CHLORIDE CONTAMINANT  
 CONCENTRATION ISOPLETHS, SEPTEMBER  
 2010, BEDROCK WELLS

DOCUMENT CONTROL NO.	
PROJECT	
DRAWING REVISION NO.	



DOCUMENT CONTROL NO.	PROJECT	PROJECT # 137015
		FILENAME:
REVISION NO.	DRAWING	SCALE: 1" = 100'
		DATE: 11/23/10
		BY: MT
		CK: PM
		FIGURE # 17

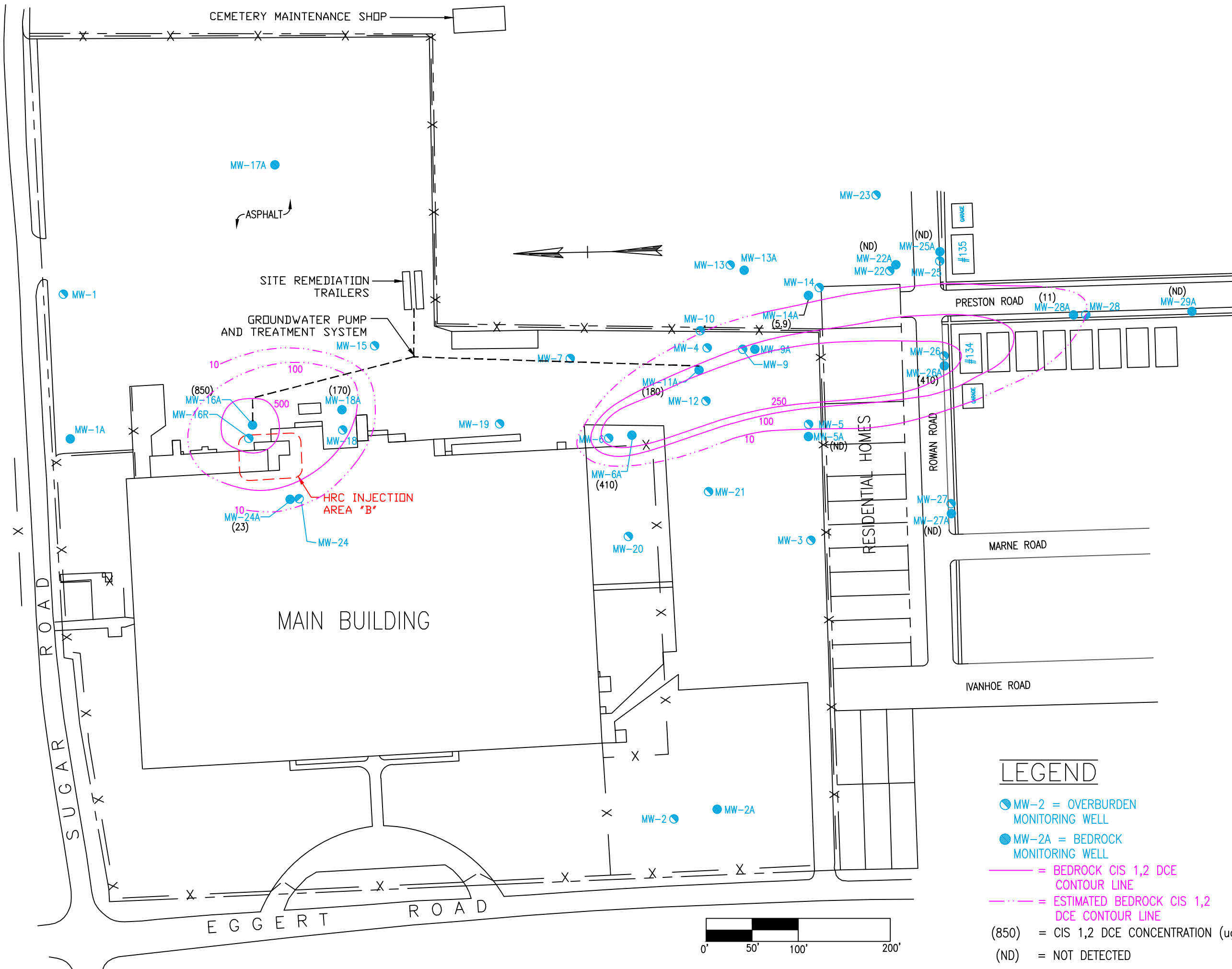
**ENERGY SOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301

LEICA MICROSYSTEMS INC.  
 203 EGGERT RD  
 CHEEKTOWAGA, NY

CIS 1,2 DCE CONTAMINANT  
 CONCENTRATION ISOPLETHS, SEPTEMBER  
 2010, OVERBURDEN WELLS

- LEGEND**
- MW-2 = OVERBURDEN MONITORING WELL
  - MW-2A = BEDROCK MONITORING WELL
  - = OVERBURDEN CIS 1,2 DCE CONTOUR LINE
  - - - = ESTIMATED OVERBURDEN CIS 1,2 DCE CONTOUR LINE
  - (260) = CIS 1,2 DCE CONCENTRATION (ug/L)
  - (ND) = NOT DETECTED





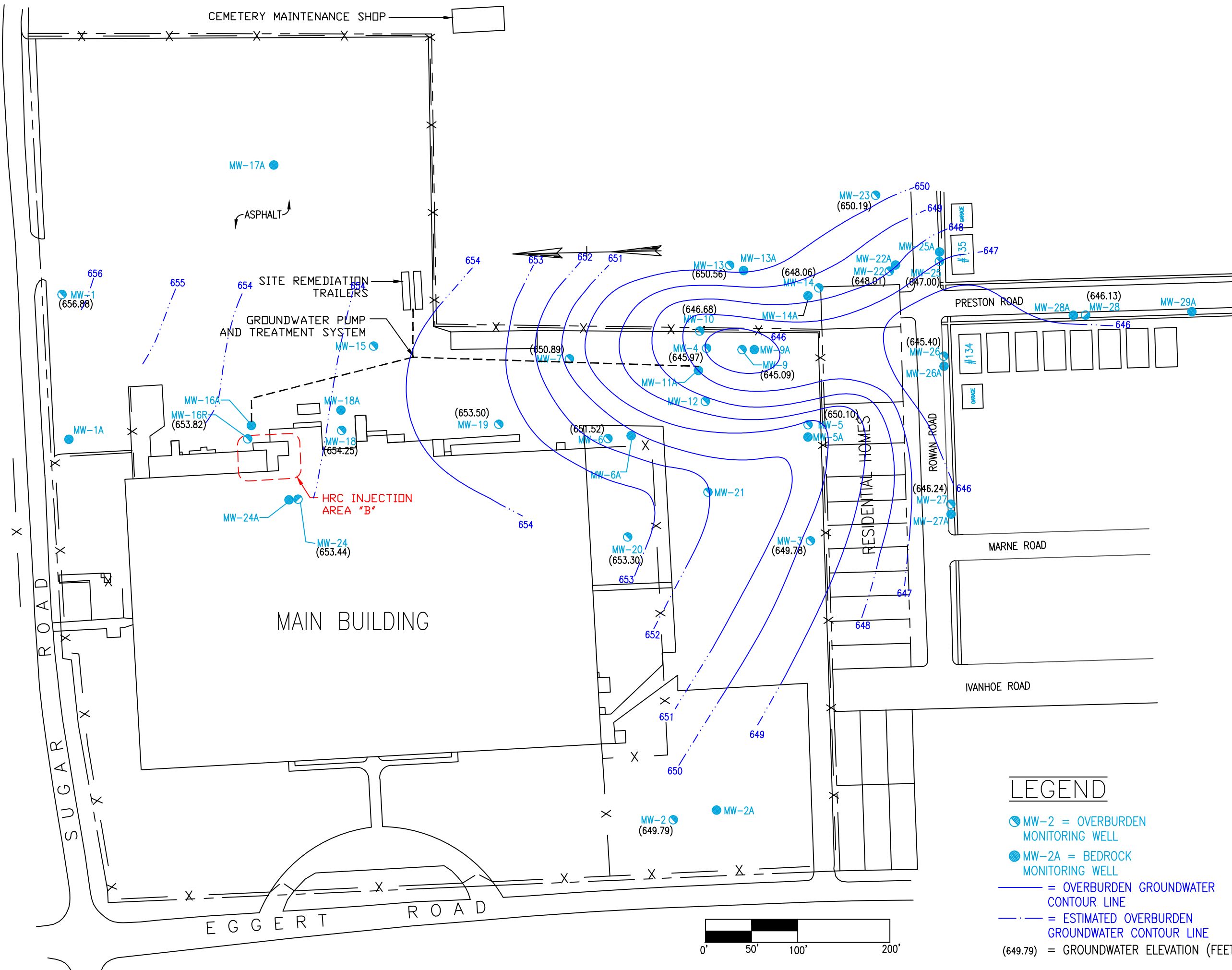
**ENERGY SOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301

PROJECT  
 LEICA MICROSYSYSTEMS INC.  
 203 EGGERT RD  
 CHEEKTOWAGA, NY

DRAWING  
 CIS 1,2 DCE CONTAMINANT  
 CONCENTRATION ISOPLETHS, SEPTEMBER  
 2010, BEDROCK WELLS

PROJECT	LEICA MICROSYSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY
DRAWING	CIS 1,2 DCE CONTAMINANT CONCENTRATION ISOPLETHS, SEPTEMBER 2010, BEDROCK WELLS

PROJECT #	137015
FILENAME:	
SCALE:	1" = 100'
DATE:	11/23/10
BY:	MT
CK:	PM
FIGURE #	18



**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = OVERBURDEN GROUNDWATER CONTOUR LINE
- - - = ESTIMATED OVERBURDEN GROUNDWATER CONTOUR LINE
- (649.79) = GROUNDWATER ELEVATION (FEET)

PROJECT # 137015  
 FILENAME:  
 SCALE: 1" = 100'  
 DATE: 1/19/11  
 BY: MT  
 CK: PM  
 FIGURE # 19

**ENERGYSOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301

LEICA MICROSYSTEMS INC.  
 203 EGGERT RD  
 CHEEKTOWAGA, NY

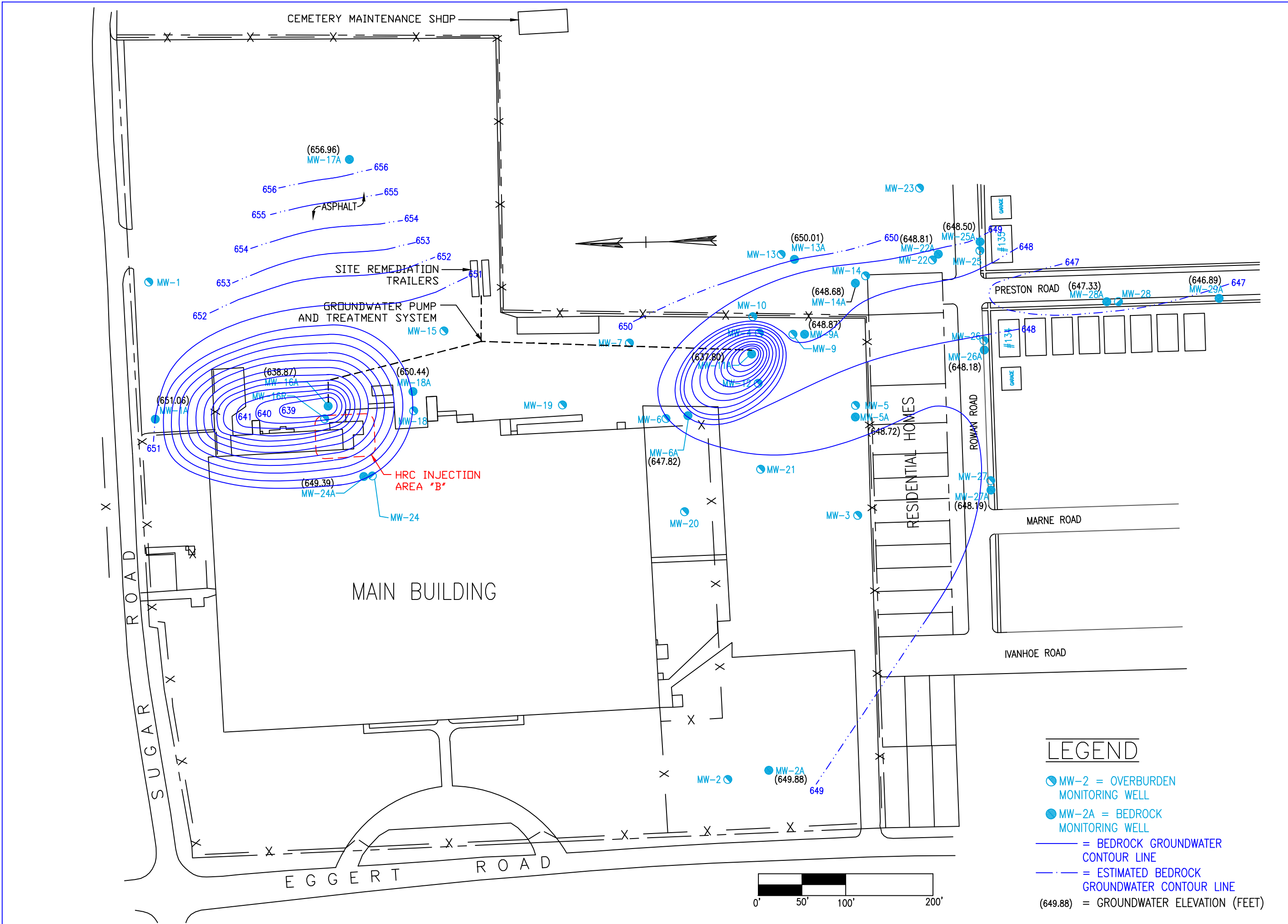
GROUNDWATER CONTOURS, DECEMBER 2010, OVERBURDEN WELLS

**PROJECT**

**DRAWING**

DOCUMENT CONTROL NO.

REVISION NO.



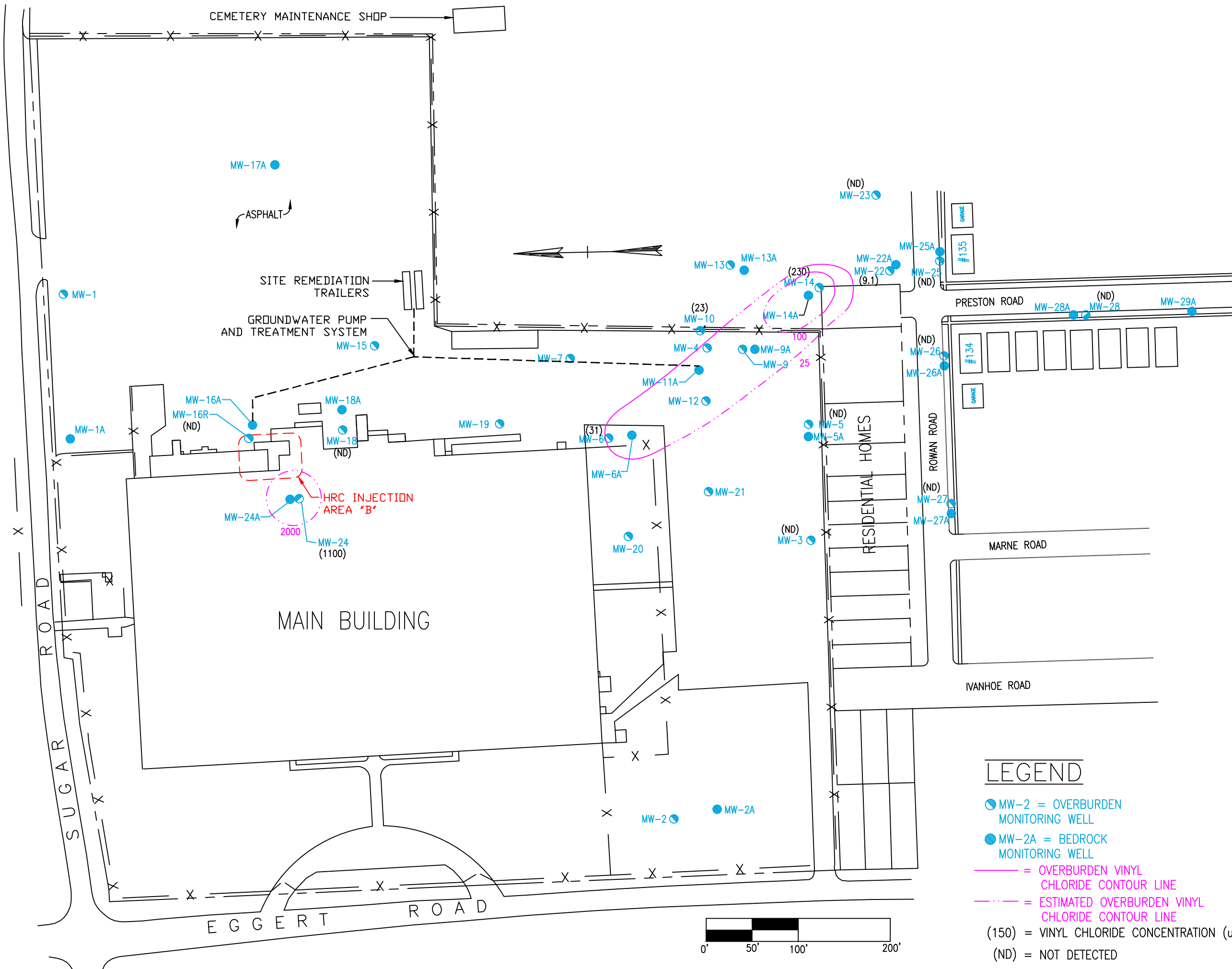
PROJECT # 137015  
 FILENAME:  
 SCALE: 1" = 100'  
 DATE: 1/19/11  
 BY: MT  
 CK: PM  
 FIGURE # 20



LEICA MICROSYSTEMS INC.  
 203 EGGERT RD  
 CHEEKTOWAGA, NY

GROUNDWATER CONTOURS, DECEMBER 2010, BEDROCK WELLS

DOCUMENT CONTROL NO.  
 REVISION NO.



**LEGEND**

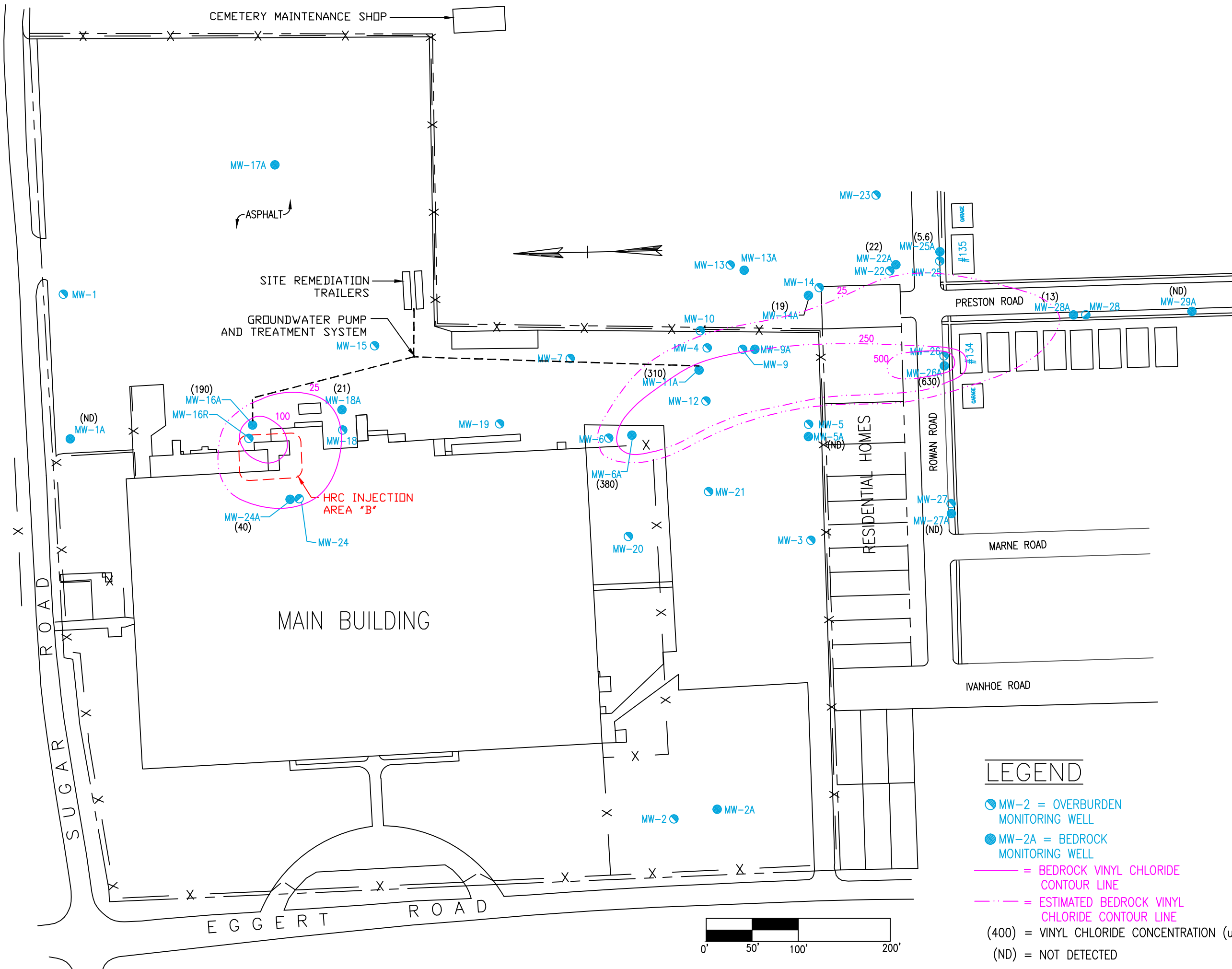
- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = OVERBURDEN VINYL CHLORIDE CONTOUR LINE
- - - = ESTIMATED OVERBURDEN VINYL CHLORIDE CONTOUR LINE
- (150) = VINYL CHLORIDE CONCENTRATION (ug/L)
- (ND) = NOT DETECTED

DOCUMENT CONTROL NO.	PROJECT	PROJECT # 137015
		FILENAME:
REVISION NO.	DRAWING	SCALE: 1" = 100'
		DATE: 1/13/11
		BY: MT
		CK: PM
		FIGURE # 21

**ENERGYSOLUTIONS**  
 100 MILL PLAIN RD  
 DANBURY, CT. 06811  
 (203)797-8301

LEICA MICROSYSTEMS INC.  
 203 EGGERT RD  
 CHEEKTOWAGA, NY

VINYL CHLORIDE CONTAMINANT  
 CONCENTRATION ISOPLETHS, DECEMBER  
 2010, OVERBURDEN WELLS

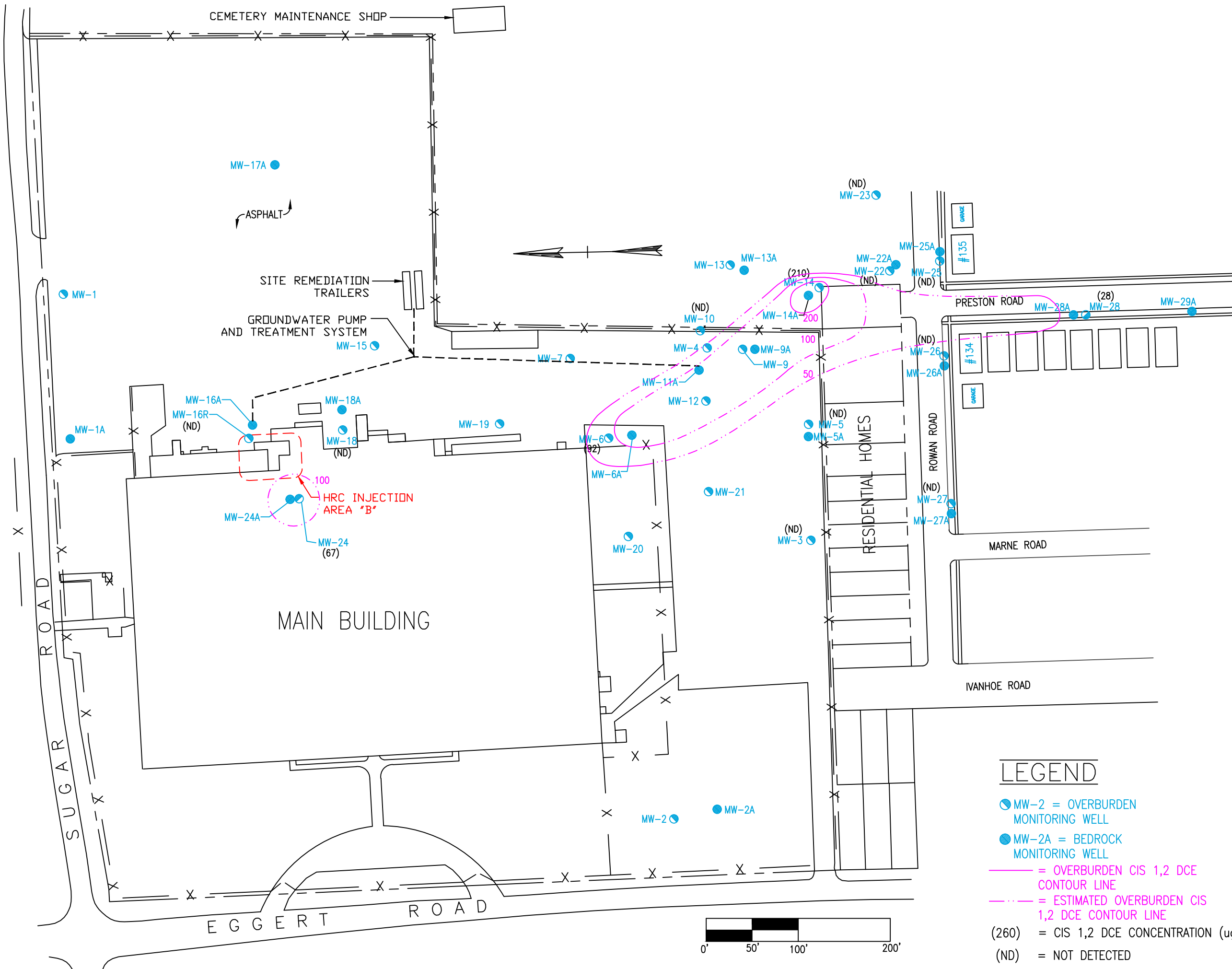


**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = BEDROCK VINYL CHLORIDE CONTOUR LINE
- - - = ESTIMATED BEDROCK VINYL CHLORIDE CONTOUR LINE
- (400) = VINYL CHLORIDE CONCENTRATION (ug/L)
- (ND) = NOT DETECTED

DOCUMENT CONTROL NO.	PROJECT		REVISION NO.
	LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY	VINYL CHLORIDE CONTAMINANT CONCENTRATION ISOPLETHS, DECEMBER 2010, BEDROCK WELLS	
PROJECT # 137015	FILENAME:	DATE: 1/13/11	FIGURE # 22
SCALE: 1" = 100'	BY: MT	CK: PM	
ENERGY SOLUTIONS		100 MILL PLAIN RD DANBURY, CT. 06811 (203)797-8301	



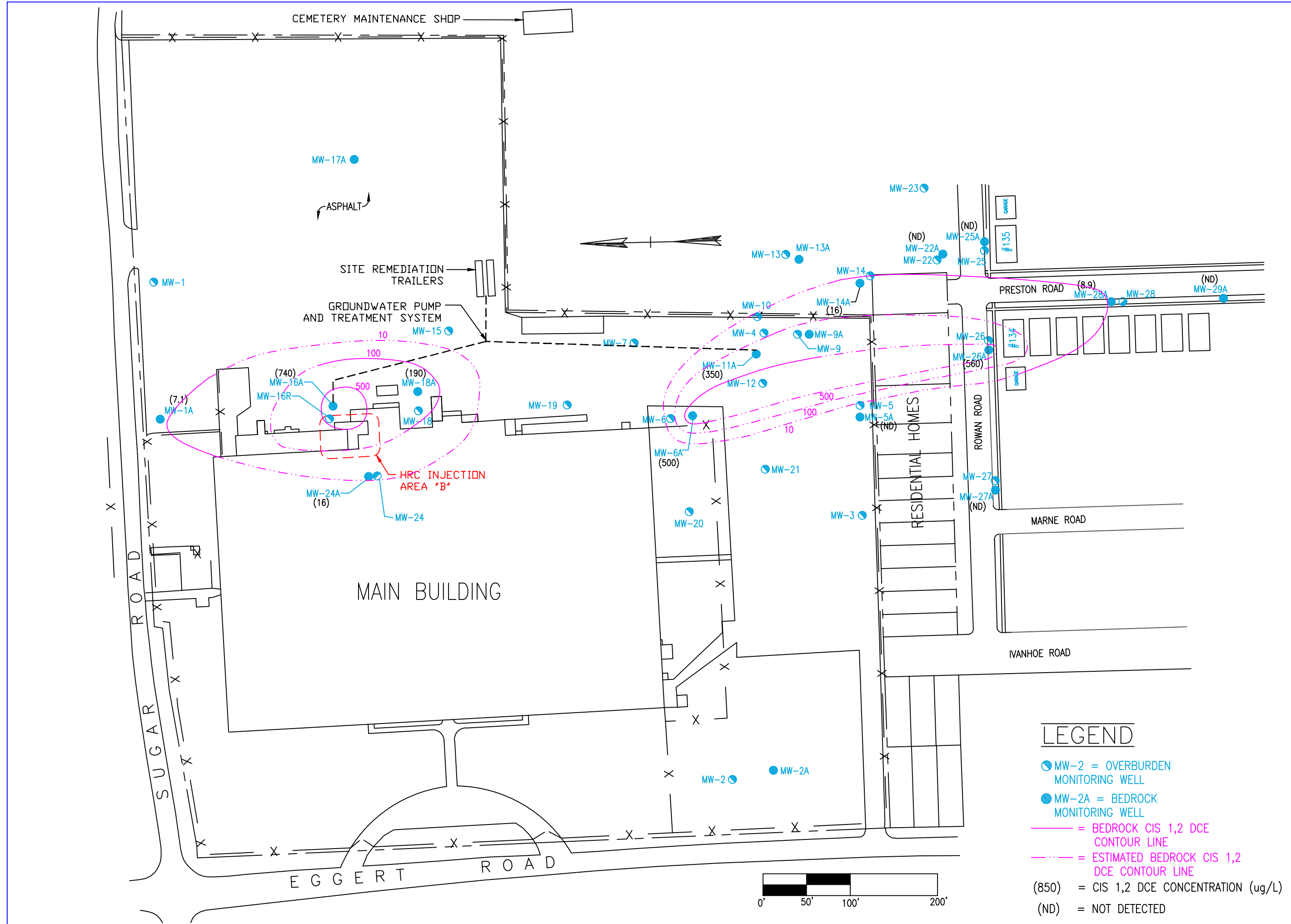


**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = OVERBURDEN CIS 1,2 DCE CONTOUR LINE
- - - = ESTIMATED OVERBURDEN CIS 1,2 DCE CONTOUR LINE
- (260) = CIS 1,2 DCE CONCENTRATION (ug/L)
- (ND) = NOT DETECTED

DOCUMENT CONTROL NO.	PROJECT		PROJECT # 137015
	LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY		FILENAME:
REVISION NO.	DRAWING	CIS 1,2 DCE CONTAMINANT CONCENTRATION ISOPLETHS, DECEMBER 2010, OVERBURDEN WELLS	
		ENERGY SOLUTIONS 100 MILL PLAIN RD DANBURY, CT. 06811 (203)797-8301	
		SCALE: 1" = 100'	DATE: 1/13/11
		BY: MT	CK: PM
			FIGURE # 23





**LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- = BEDROCK CIS 1,2 DCE CONTOUR LINE
- - - = ESTIMATED BEDROCK CIS 1,2 DCE CONTOUR LINE
- (850) = CIS 1,2 DCE CONCENTRATION (ug/L)
- (ND) = NOT DETECTED

DOCUMENT CONTROL NO.	PROJECT		REVISION NO.
	LEICA MICROSYSTEMS INC. 203 EGGERT RD CHEEKTOWAGA, NY	CIS 1,2 DCE CONTAMINANT CONCENTRATION ISOPLETHS, DECEMBER 2010, BEDROCK WELLS	
PROJECT # 137015	FILENAME:	DATE: 1/13/11	FIGURE # 24
SCALE: 1" = 100'	BY: MT	CK: PM	
ENERGY SOLUTIONS		100 MILL PLAIN RD DANBURY, CT. 06811 (203)797-8301	

**APPENDIX C**

**Analytical Data**

March, June, September, and December 2010 Groundwater Analytical Data

---

April 13, 2010

Service Request No: R1001511

Mr. Robert McPeak  
Energy Solutions, Inc.  
100 Mill Plain Rd  
2nd Floor Mailbox 106  
Danbury, CT 06811

**Laboratory Results for: Leica/Wells**

Dear Mr. McPeak:

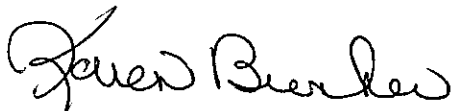
Enclosed are the results of the sample(s) submitted to our laboratory on March 23, 2010. For your reference, these analyses have been assigned our service request number **R1001511**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 134. You may also contact me via email at [KBunker@caslab.com](mailto:KBunker@caslab.com).

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Karen Bunker  
Project Manager

Page 1 of 47

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Energy Solutions  
Project: Leica Wells 3/2010  
Sample Matrix: Water

Service Request No.: R1001511  
Date Received: 3/23/10

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

**Sample Receipt**

Seven (7) groundwater samples and one (1) Trip Blank were collected by the client between 3/23/2010 and received for analysis at Columbia Analytical Services on the same day via CAS Courier. The samples were received in good condition. The cooler receipt temperature was 5°C, within the guidelines of 0-6°C.

**Volatile Organics**

Eight (8) water samples were analyzed for Volatile Organic compounds by GC/MS method 8260B.

The Initial and Continuing Calibration Criteria were met.

Batch QC is included in the report. All Laboratory Control Sample (LCS) recoveries for target compounds were within QC limits.

All Surrogate recoveries are within acceptance limits.

All Laboratory Method Blanks were free from contamination.

Many samples required dilutions in order to bring target compounds within the calibration range of the standards.

The samples were analyzed within the 14 day holding time for the method. All vials are checked for preservation after the analysis in order to maintain the integrity of the sample. All vials were found to be preserved to a pH of <2.

No problems were encountered during the analysis of these samples.

**Inorganics**

Four (4) water samples were analyzed for TOC, Dissolved Iron and Manganese, and IC compounds: Chloride, Nitrate, and Sulfate. All Method numbers are noted on the Data Form 1's of the report. The soluble locations were filtered in the laboratory.

All Initial and Continuing Calibration Criteria was met for these analyses.

Batch QC is included in the report. All Laboratory Control Sample recoveries were within QC acceptance limits.

All Laboratory Method Blanks were free from contamination except for Dissolved Iron on the 3/25/10 run. No data was affected since the samples from that analytical run were either non-detect or greater than 10 times the level in the blank.

All holding times were met for these analyses.

No problems were encountered with these analyses.

Approved by Karen Berber Date 4/13/10

## CASE NARRATIVE

This report contains analytical results for the following samples:  
Service Request Number: R1001511

<u>Lab ID</u>	<u>Client ID</u>
R1001511-001	MW 11A
R1001511-002	MW 16A
R1001511-003	MW 16A DISSOLVED
R1001511-004	MW 16R
R1001511-005	MW 16R DISSOLVED
R1001511-006	MW 6
R1001511-007	MW 6 DISSOLVED
R1001511-008	MW 6A
R1001511-009	MW 6A DISSOLVED
R1001511-010	MW 18
R1001511-011	MW 18A
R1001511-012	TRIP BLANK

## REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Pesticide/Aroclors: Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$  Difference between two GC columns).
- X See Case Narrative for discussion.



### CAS/Rochester Lab ID # for State Certifications<sup>1</sup>

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at [www.caslab.com](http://www.caslab.com).



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: MW 11A  
 Lab Code: R1001511-001

Service Request: R1001511  
 Date Collected: 3/23/10 0800  
 Date Received: 3/23/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	50	U	50	2.5	NA	3/31/10 19:02		194899	
Benzene	13	U	13	2.5	NA	3/31/10 19:02		194899	
Bromodichloromethane	13	U	13	2.5	NA	3/31/10 19:02		194899	
Bromoform	13	U	13	2.5	NA	3/31/10 19:02		194899	
Bromomethane	13	U	13	2.5	NA	3/31/10 19:02		194899	
2-Butanone (MEK)	25	U	25	2.5	NA	3/31/10 19:02		194899	
Carbon Disulfide	25	U	25	2.5	NA	3/31/10 19:02		194899	
Carbon Tetrachloride	13	U	13	2.5	NA	3/31/10 19:02		194899	
Chlorobenzene	13	U	13	2.5	NA	3/31/10 19:02		194899	
Chloroethane	13	U	13	2.5	NA	3/31/10 19:02		194899	
Chloroform	13	U	13	2.5	NA	3/31/10 19:02		194899	
Chloromethane	13	U	13	2.5	NA	3/31/10 19:02		194899	
Dibromochloromethane	13	U	13	2.5	NA	3/31/10 19:02		194899	
1,1-Dichloroethane	13	U	13	2.5	NA	3/31/10 19:02		194899	
1,2-Dichloroethane	13	U	13	2.5	NA	3/31/10 19:02		194899	
1,1-Dichloroethene	13	U	13	2.5	NA	3/31/10 19:02		194899	
cis-1,2-Dichloroethene	280		13	2.5	NA	3/31/10 19:02		194899	
trans-1,2-Dichloroethene	13	U	13	2.5	NA	3/31/10 19:02		194899	
1,2-Dichloropropane	13	U	13	2.5	NA	3/31/10 19:02		194899	
cis-1,3-Dichloropropene	13	U	13	2.5	NA	3/31/10 19:02		194899	
trans-1,3-Dichloropropene	13	U	13	2.5	NA	3/31/10 19:02		194899	
Ethylbenzene	13	U	13	2.5	NA	3/31/10 19:02		194899	
2-Hexanone	25	U	25	2.5	NA	3/31/10 19:02		194899	
Methylene Chloride	13	U	13	2.5	NA	3/31/10 19:02		194899	
4-Methyl-2-pentanone (MIBK)	25	U	25	2.5	NA	3/31/10 19:02		194899	
Styrene	13	U	13	2.5	NA	3/31/10 19:02		194899	
1,1,1,2-Tetrachloroethane	13	U	13	2.5	NA	3/31/10 19:02		194899	
Tetrachloroethene	13	U	13	2.5	NA	3/31/10 19:02		194899	
Toluene	13	U	13	2.5	NA	3/31/10 19:02		194899	
1,1,1-Trichloroethane	13	U	13	2.5	NA	3/31/10 19:02		194899	
1,1,2-Trichloroethane	13	U	13	2.5	NA	3/31/10 19:02		194899	
Trichloroethene	13	U	13	2.5	NA	3/31/10 19:02		194899	
Vinyl Chloride	290		13	2.5	NA	3/31/10 19:02		194899	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: MW 11A  
 Lab Code: R1001511-001

Service Request: R1001511  
 Date Collected: 3/23/10 0800  
 Date Received: 3/23/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	13	U	13	2.5	NA	3/31/10 19:02		194899	
m,p-Xylenes	13	U	13	2.5	NA	3/31/10 19:02		194899	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	90	85-122	3/31/10 19:02		
Toluene-d8	104	87-121	3/31/10 19:02		
Dibromofluoromethane	108	89-119	3/31/10 19:02		

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** MW 16A  
**Lab Code:** R1001511-002

**Service Request:** R1001511  
**Date Collected:** 3/23/10 0810  
**Date Received:** 3/23/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	4.5	mg/L	1.0	1	NA	4/2/10 00:01
Chloride	300.0	273	mg/L	8.0	40	NA	3/29/10 18:32
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	3/24/10 10:34
Sulfate	300.0	79.2	mg/L	2.0	10	NA	3/24/10 10:34

Comments:

---

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water  
Sample Name: MW 16A DISSOLVED  
Lab Code: R1001511-003

Service Request: R1001511  
Date Collected: 3/23/10 0810  
Date Received: 3/23/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	130	µg/L	100	1	4/ 7/10	4/12/10 11:11
Manganese, Dissolved	6010B	100	µg/L	10	1	3/25/10	3/29/10 15:40

Comments:

---

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: MW 16A  
 Lab Code: R1001511-002

Service Request: R1001511  
 Date Collected: 3/23/10 0810  
 Date Received: 3/23/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	200	U	200	10	NA	3/31/10 19:30		194899	
Benzene	50	U	50	10	NA	3/31/10 19:30		194899	
Bromodichloromethane	50	U	50	10	NA	3/31/10 19:30		194899	
Bromoform	50	U	50	10	NA	3/31/10 19:30		194899	
Bromomethane	50	U	50	10	NA	3/31/10 19:30		194899	
2-Butanone (MEK)	100	U	100	10	NA	3/31/10 19:30		194899	
Carbon Disulfide	100	U	100	10	NA	3/31/10 19:30		194899	
Carbon Tetrachloride	50	U	50	10	NA	3/31/10 19:30		194899	
Chlorobenzene	50	U	50	10	NA	3/31/10 19:30		194899	
Chloroethane	50	U	50	10	NA	3/31/10 19:30		194899	
Chloroform	50	U	50	10	NA	3/31/10 19:30		194899	
Chloromethane	50	U	50	10	NA	3/31/10 19:30		194899	
Dibromochloromethane	50	U	50	10	NA	3/31/10 19:30		194899	
1,1-Dichloroethane	280		50	10	NA	3/31/10 19:30		194899	
1,2-Dichloroethane	50	U	50	10	NA	3/31/10 19:30		194899	
1,1-Dichloroethene	50	U	50	10	NA	3/31/10 19:30		194899	
cis-1,2-Dichloroethene	1100		50	10	NA	3/31/10 19:30		194899	
trans-1,2-Dichloroethene	50	U	50	10	NA	3/31/10 19:30		194899	
1,2-Dichloropropane	50	U	50	10	NA	3/31/10 19:30		194899	
cis-1,3-Dichloropropene	50	U	50	10	NA	3/31/10 19:30		194899	
trans-1,3-Dichloropropene	50	U	50	10	NA	3/31/10 19:30		194899	
Ethylbenzene	50	U	50	10	NA	3/31/10 19:30		194899	
2-Hexanone	100	U	100	10	NA	3/31/10 19:30		194899	
Methylene Chloride	50	U	50	10	NA	3/31/10 19:30		194899	
4-Methyl-2-pentanone (MIBK)	100	U	100	10	NA	3/31/10 19:30		194899	
Styrene	50	U	50	10	NA	3/31/10 19:30		194899	
1,1,2,2-Tetrachloroethane	50	U	50	10	NA	3/31/10 19:30		194899	
Tetrachloroethene	50	U	50	10	NA	3/31/10 19:30		194899	
Toluene	50	U	50	10	NA	3/31/10 19:30		194899	
1,1,1-Trichloroethane	140		50	10	NA	3/31/10 19:30		194899	
1,1,2-Trichloroethane	50	U	50	10	NA	3/31/10 19:30		194899	
Trichloroethene	400		50	10	NA	3/31/10 19:30		194899	
Vinyl Chloride	320		50	10	NA	3/31/10 19:30		194899	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** MW 16A  
**Lab Code:** R1001511-002

**Service Request:** R1001511  
**Date Collected:** 3/23/10 0810  
**Date Received:** 3/23/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	50	U	50	10	NA	3/31/10 19:30		194899	
m,p-Xylenes	50	U	50	10	NA	3/31/10 19:30		194899	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	90	85-122	3/31/10 19:30		
Toluene-d8	105	87-121	3/31/10 19:30		
Dibromofluoromethane	108	89-119	3/31/10 19:30		

**Comments:** \_\_\_\_\_



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions
Project: Leica/Wells
Sample Matrix: Water
Sample Name: MW 16R
Lab Code: R1001511-004

Service Request: R1001511
Date Collected: 3/23/10 0830
Date Received: 3/23/10

Basis: NA

General Chemistry Parameters

Table with 9 columns: Analyte Name, Method, Result Q, Units, MRL, Dilution Factor, Date Extracted, Date Analyzed. Rows include Carbon, Total Organic (TOC), Chloride, Nitrate as Nitrogen, and Sulfate.

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water  
Sample Name: MW 16R DISSOLVED  
Lab Code: R1001511-005

Service Request: R1001511  
Date Collected: 3/23/10 0830  
Date Received: 3/23/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	280	µg/L	100	1	3/30/10	3/31/10 22:55
Manganese, Dissolved	6010B	64	µg/L	10	1	3/25/10	3/29/10 16:10

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** MW 16R  
**Lab Code:** R1001511-004

**Service Request:** R1001511  
**Date Collected:** 3/23/10 0830  
**Date Received:** 3/23/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	100	U	100	5	NA	4/1/10 00:30		194902	
Benzene	25	U	25	5	NA	4/1/10 00:30		194902	
Bromodichloromethane	25	U	25	5	NA	4/1/10 00:30		194902	
Bromoform	25	U	25	5	NA	4/1/10 00:30		194902	
Bromomethane	25	U	25	5	NA	4/1/10 00:30		194902	
2-Butanone (MEK)	50	U	50	5	NA	4/1/10 00:30		194902	
Carbon Disulfide	50	U	50	5	NA	4/1/10 00:30		194902	
Carbon Tetrachloride	25	U	25	5	NA	4/1/10 00:30		194902	
Chlorobenzene	25	U	25	5	NA	4/1/10 00:30		194902	
Chloroethane	500		25	5	NA	4/1/10 00:30		194902	
Chloroform	25	U	25	5	NA	4/1/10 00:30		194902	
Chloromethane	25	U	25	5	NA	4/1/10 00:30		194902	
Dibromochloromethane	25	U	25	5	NA	4/1/10 00:30		194902	
1,1-Dichloroethane	110		25	5	NA	4/1/10 00:30		194902	
1,2-Dichloroethane	25	U	25	5	NA	4/1/10 00:30		194902	
1,1-Dichloroethene	25	U	25	5	NA	4/1/10 00:30		194902	
cis-1,2-Dichloroethene	25	U	25	5	NA	4/1/10 00:30		194902	
trans-1,2-Dichloroethene	25	U	25	5	NA	4/1/10 00:30		194902	
1,2-Dichloropropane	25	U	25	5	NA	4/1/10 00:30		194902	
cis-1,3-Dichloropropene	25	U	25	5	NA	4/1/10 00:30		194902	
trans-1,3-Dichloropropene	25	U	25	5	NA	4/1/10 00:30		194902	
Ethylbenzene	34		25	5	NA	4/1/10 00:30		194902	
2-Hexanone	50	U	50	5	NA	4/1/10 00:30		194902	
Methylene Chloride	25	U	25	5	NA	4/1/10 00:30		194902	
4-Methyl-2-pentanone (MIBK)	50	U	50	5	NA	4/1/10 00:30		194902	
Styrene	25	U	25	5	NA	4/1/10 00:30		194902	
1,1,2,2-Tetrachloroethane	25	U	25	5	NA	4/1/10 00:30		194902	
Tetrachloroethene	25	U	25	5	NA	4/1/10 00:30		194902	
Toluene	25	U	25	5	NA	4/1/10 00:30		194902	
1,1,1-Trichloroethane	25	U	25	5	NA	4/1/10 00:30		194902	
1,1,2-Trichloroethane	25	U	25	5	NA	4/1/10 00:30		194902	
Trichloroethene	25	U	25	5	NA	4/1/10 00:30		194902	
Vinyl Chloride	25	U	25	5	NA	4/1/10 00:30		194902	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: MW 16R  
 Lab Code: R1001511-004

Service Request: R1001511  
 Date Collected: 3/23/10 0830  
 Date Received: 3/23/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	37		25	5	NA	4/1/10 00:30		194902	
m,p-Xylenes	55		25	5	NA	4/1/10 00:30		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	92	85-122	4/1/10 00:30		
Toluene-d8	106	87-121	4/1/10 00:30		
Dibromofluoromethane	106	89-119	4/1/10 00:30		

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** MW 6  
**Lab Code:** R1001511-006

**Service Request:** R1001511  
**Date Collected:** 3/23/10 0900  
**Date Received:** 3/23/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	6.6	mg/L	1.0	1	NA	4/2/10 00:38
Chloride	300.0	7.4	mg/L	2.0	10	NA	3/24/10 11:02
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	3/24/10 11:02
Sulfate	300.0	168	mg/L	8.0	40	NA	3/29/10 19:00

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** MW 6 DISSOLVED  
**Lab Code:** R1001511-007

**Service Request:** R1001511  
**Date Collected:** 3/23/10 0900  
**Date Received:** 3/23/10

**Basis:** NA

**Inorganic Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100 U	µg/L	100	1	3/25/10	3/29/10 16:16
Manganese, Dissolved	6010B	26	µg/L	10	1	3/25/10	3/29/10 16:16

Comments: \_\_\_\_\_



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: MW 6  
 Lab Code: R1001511-006

Service Request: R1001511  
 Date Collected: 3/23/10 0900  
 Date Received: 3/23/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 00:57		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 00:57		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 00:57		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
cis-1,2-Dichloroethene	130		5.0	1	NA	4/1/10 00:57		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 00:57		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 00:57		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
Trichloroethene	17		5.0	1	NA	4/1/10 00:57		194902	
Vinyl Chloride	28		5.0	1	NA	4/1/10 00:57		194902	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** MW 6  
**Lab Code:** R1001511-006

**Service Request:** R1001511  
**Date Collected:** 3/23/10 0900  
**Date Received:** 3/23/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 00:57		194902	
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 00:57		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	91	85-122	4/1/10 00:57		
Toluene-d8	105	87-121	4/1/10 00:57		
Dibromofluoromethane	108	89-119	4/1/10 00:57		

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** MW 6A  
**Lab Code:** R1001511-008

**Service Request:** R1001511  
**Date Collected:** 3/23/10 09:15  
**Date Received:** 3/23/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	6.1	mg/L	1.0	1	NA	4/6/10 16:13
Chloride	300.0	9.5	mg/L	2.0	10	NA	3/24/10 11:16
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	3/24/10 11:16
Sulfate	300.0	117	mg/L	4.0	20	NA	3/29/10 19:14

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water  
Sample Name: MW 6A DISSOLVED  
Lab Code: R1001511-009

Service Request: R1001511  
Date Collected: 3/23/10 0915  
Date Received: 3/23/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	3550	µg/L	100	1	3/25/10	3/29/10 16:33
Manganese, Dissolved	6010B	86	µg/L	10	1	3/25/10	3/29/10 16:33

Comments:

---

---

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: MW 6A  
 Lab Code: R1001511-008

Service Request: R1001511  
 Date Collected: 3/23/10 0915  
 Date Received: 3/23/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	50	U	50	2.5	NA	4/1/10 01:25		194902	
Benzene	13	U	13	2.5	NA	4/1/10 01:25		194902	
Bromodichloromethane	13	U	13	2.5	NA	4/1/10 01:25		194902	
Bromoform	13	U	13	2.5	NA	4/1/10 01:25		194902	
Bromomethane	13	U	13	2.5	NA	4/1/10 01:25		194902	
2-Butanone (MEK)	25	U	25	2.5	NA	4/1/10 01:25		194902	
Carbon Disulfide	25	U	25	2.5	NA	4/1/10 01:25		194902	
Carbon Tetrachloride	13	U	13	2.5	NA	4/1/10 01:25		194902	
Chlorobenzene	13	U	13	2.5	NA	4/1/10 01:25		194902	
Chloroethane	13	U	13	2.5	NA	4/1/10 01:25		194902	
Chloroform	13	U	13	2.5	NA	4/1/10 01:25		194902	
Chloromethane	13	U	13	2.5	NA	4/1/10 01:25		194902	
Dibromochloromethane	13	U	13	2.5	NA	4/1/10 01:25		194902	
1,1-Dichloroethane	13	U	13	2.5	NA	4/1/10 01:25		194902	
1,2-Dichloroethane	13	U	13	2.5	NA	4/1/10 01:25		194902	
1,1-Dichloroethene	13	U	13	2.5	NA	4/1/10 01:25		194902	
cis-1,2-Dichloroethene	410		13	2.5	NA	4/1/10 01:25		194902	
trans-1,2-Dichloroethene	13	U	13	2.5	NA	4/1/10 01:25		194902	
1,2-Dichloropropane	13	U	13	2.5	NA	4/1/10 01:25		194902	
cis-1,3-Dichloropropene	13	U	13	2.5	NA	4/1/10 01:25		194902	
trans-1,3-Dichloropropene	13	U	13	2.5	NA	4/1/10 01:25		194902	
Ethylbenzene	13	U	13	2.5	NA	4/1/10 01:25		194902	
2-Hexanone	25	U	25	2.5	NA	4/1/10 01:25		194902	
Methylene Chloride	13	U	13	2.5	NA	4/1/10 01:25		194902	
4-Methyl-2-pentanone (MIBK)	25	U	25	2.5	NA	4/1/10 01:25		194902	
Styrene	13	U	13	2.5	NA	4/1/10 01:25		194902	
1,1,2,2-Tetrachloroethane	13	U	13	2.5	NA	4/1/10 01:25		194902	
Tetrachloroethene	13	U	13	2.5	NA	4/1/10 01:25		194902	
Toluene	13	U	13	2.5	NA	4/1/10 01:25		194902	
1,1,1-Trichloroethane	13	U	13	2.5	NA	4/1/10 01:25		194902	
1,1,2-Trichloroethane	13	U	13	2.5	NA	4/1/10 01:25		194902	
Trichloroethene	13	U	13	2.5	NA	4/1/10 01:25		194902	
Vinyl Chloride	280		13	2.5	NA	4/1/10 01:25		194902	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: MW 6A  
 Lab Code: R1001511-008

Service Request: R1001511  
 Date Collected: 3/23/10 0915  
 Date Received: 3/23/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	13	U	13	2.5	NA	4/1/10 01:25		194902	
m,p-Xylenes	13	U	13	2.5	NA	4/1/10 01:25		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	95	85-122	4/1/10 01:25		
Toluene-d8	106	87-121	4/1/10 01:25		
Dibromofluoromethane	108	89-119	4/1/10 01:25		

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: MW 18  
 Lab Code: R1001511-010

Service Request: R1001511  
 Date Collected: 3/23/10 1000  
 Date Received: 3/23/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 01:52		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 01:52		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 01:52		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 01:52		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 01:52		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
1,1,1,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
Vinyl Chloride	5.0	U	5.0	1	NA	4/1/10 01:52		194902	

Comments:



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** MW 18  
**Lab Code:** R1001511-010

**Service Request:** R1001511  
**Date Collected:** 3/23/10 1000  
**Date Received:** 3/23/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 01:52		194902	
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 01:52		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	91	85-122	4/1/10 01:52		
Toluene-d8	104	87-121	4/1/10 01:52		
Dibromofluoromethane	108	89-119	4/1/10 01:52		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: MW 18A  
 Lab Code: R1001511-011

Service Request: R1001511  
 Date Collected: 3/23/10 1010  
 Date Received: 3/23/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 02:19		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 02:19		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 02:19		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
cis-1,2-Dichloroethene	67		5.0	1	NA	4/1/10 02:19		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 02:19		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 02:19		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
Trichloroethene	54		5.0	1	NA	4/1/10 02:19		194902	
Vinyl Chloride	34		5.0	1	NA	4/1/10 02:19		194902	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** MW 18A  
**Lab Code:** R1001511-011

**Service Request:** R1001511  
**Date Collected:** 3/23/10 1010  
**Date Received:** 3/23/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 02:19		194902	
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 02:19		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	92	85-122	4/1/10 02:19		
Toluene-d8	104	87-121	4/1/10 02:19		
Dibromofluoromethane	105	89-119	4/1/10 02:19		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: TRIP BLANK  
 Lab Code: R1001511-012

Service Request: R1001511  
 Date Collected: 3/23/10  
 Date Received: 3/23/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 02:47		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 02:47		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 02:47		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 02:47		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 02:47		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
Vinyl Chloride	5.0	U	5.0	1	NA	4/1/10 02:47		194902	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** TRIP BLANK  
**Lab Code:** R1001511-012

**Service Request:** R1001511  
**Date Collected:** 3/23/10  
**Date Received:** 3/23/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 02:47		194902	
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 02:47		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	94	85-122	4/1/10 02:47		
Toluene-d8	105	87-121	4/1/10 02:47		
Dibromofluoromethane	108	89-119	4/1/10 02:47		

**Comments:** \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** R1001511-MB1

**Service Request:** R1001511  
**Date Collected:** NA  
**Date Received:** NA

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	1.0 U	mg/L	1.0	1	NA	4/1/10 22:13
Chloride	300.0	0.20 U	mg/L	0.20	1	NA	3/24/10 09:51
Nitrate as Nitrogen	300.0	0.050 U	mg/L	0.050	1	NA	3/24/10 09:51
Sulfate	300.0	0.20 U	mg/L	0.20	1	NA	3/24/10 09:51

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1001511-MB2

Service Request: R1001511  
Date Collected: NA  
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	1.0 U	mg/L	1.0	1	NA	4/6/10 14:37
Chloride	300.0	0.20 U	mg/L	0.20	1	NA	3/29/10 18:04
Sulfate	300.0	0.20 U	mg/L	0.20	1	NA	3/29/10 18:04

Comments:

---



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1001511-MB1

Service Request: R1001511  
Date Collected: NA  
Date Received: NA  
Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	210	µg/L	100	1	3/25/10	3/29/10 15:23
Manganese, Dissolved	6010B	10 U	µg/L	10	1	3/25/10	3/29/10 15:23

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1001511-MB2

Service Request: R1001511  
Date Collected: NA  
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100 U	µg/L	100	1	3/25/10	3/29/10 15:34
Manganese, Dissolved	6010B	10 U	µg/L	10	1	3/25/10	3/29/10 15:34

Comments:

---

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1001511-MB3

Service Request: R1001511  
Date Collected: NA  
Date Received: NA

Basis: NA

Iron, Dissolved, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100 U	µg/L	100	1	3/30/10	3/31/10 22:37

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1001511-MB4

Service Request: R1001511  
Date Collected: NA  
Date Received: NA  
Basis: NA

Iron, Dissolved, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100 U	µg/L	100	1	4/7/10	4/12/10 11:03

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1002262-01

**Service Request:** R1001511  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	3/31/10 12:12		194899	
Benzene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Bromodichloromethane	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Bromoform	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Bromomethane	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
2-Butanone (MEK)	10	U	10	1	NA	3/31/10 12:12		194899	
Carbon Disulfide	10	U	10	1	NA	3/31/10 12:12		194899	
Carbon Tetrachloride	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Chlorobenzene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Chloroethane	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Chloroform	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Chloromethane	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Dibromochloromethane	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
1,1-Dichloroethane	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
1,2-Dichloroethane	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
1,1-Dichloroethene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
1,2-Dichloropropane	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Ethylbenzene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
2-Hexanone	10	U	10	1	NA	3/31/10 12:12		194899	
Methylene Chloride	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	3/31/10 12:12		194899	
Styrene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Tetrachloroethene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Toluene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Trichloroethene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
Vinyl Chloride	5.0	U	5.0	1	NA	3/31/10 12:12		194899	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: RQ1002262-01

Service Request: R1001511  
 Date Collected: NA  
 Date Received: NA  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	3/31/10 12:12		194899	
m,p-Xylenes	5.0	U	5.0	1	NA	3/31/10 12:12		194899	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	93	85-122	3/31/10 12:12		
Toluene-d8	106	87-121	3/31/10 12:12		
Dibromofluoromethane	106	89-119	3/31/10 12:12		

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: RQ1002263-01

Service Request: R1001511  
 Date Collected: NA  
 Date Received: NA  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
Acetone	20	U	20	1	NA	4/1/10 00:03		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 00:03		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 00:03		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 00:03		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 00:03		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
Vinyl Chloride	5.0	U	5.0	1	NA	4/1/10 00:03		194902	

Comments:



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: RQ1002263-01

Service Request: R1001511  
 Date Collected: NA  
 Date Received: NA  
 Units: µg/L  
 Basis: NA

**Volatile Organic Compounds by GC/MS**

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 00:03		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	92	85-122	4/1/10 00:03		
Toluene-d8	103	87-121	4/1/10 00:03		
Dibromofluoromethane	107	89-119	4/1/10 00:03		

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica/Wells  
**Sample Matrix:** Water

**Service Request:** R1001511  
**Date Analyzed:** 3/24/10 -  
 4/ 1/10

**Lab Control Sample Summary  
 General Chemistry Parameters**

**Units:** mg/L  
**Basis:** NA

Analyte Name	Method	Lab Control Sample R1001511-LCSI			% Rec Limits
		Result	Expected	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	9.72	10.0	97	86 - 117
Chloride	300.0	1.89	2.00	94	90 - 110
Nitrate as Nitrogen	300.0	0.934	1.00	93	90 - 110
Sulfate	300.0	1.80	2.00	90	90 - 110

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water

Service Request: R1001511  
Date Analyzed: 3/29/10 -  
4/ 6/10

Lab Control Sample Summary  
General Chemistry Parameters

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample R1001511-LCS2			% Rec Limits
		Result	Expected	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	8.65	10.0	86	86 - 117
Chloride	300.0	2.06	2.00	103	90 - 110
Sulfate	300.0	1.96	2.00	98	90 - 110

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water

Service Request: R1001511  
Date Analyzed: 3/29/10

Lab Control Sample Summary  
Inorganic Parameters

Units: µg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample R1001511-LCS1			% Rec Limits
		Result	Expected	% Rec	
Iron, Dissolved	6010B	1050	1000	105	80 - 120
Manganese, Dissolved	6010B	498	500	100	80 - 120

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water

Service Request: R1001511  
Date Analyzed: 3/31/10

Lab Control Sample Summary  
Iron, Dissolved, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Units: µg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample			% Rec Limits
		Result	Expected	% Rec	
Iron, Dissolved	6010B	933	1000	93	80 - 120

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica/Wells  
Sample Matrix: Water

Service Request: R1001511  
Date Analyzed: 4/12/10

Lab Control Sample Summary  
Iron, Dissolved, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Units: µg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample			% Rec Limits
		Result	Expected	% Rec	
Iron, Dissolved	6010B	1030	1000	103	80 - 120

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water

Service Request: R1001511  
 Date Analyzed: 3/31/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L  
 Basis: NA

Analysis Lot: 194899

Analyte Name	Lab Control Sample RQ1002262-02			% Rec Limits
	Result	Expected	% Rec	
Acetone	17.4	20.0	87	50 - 150
Benzene	20.1	20.0	101	70 - 130
Bromodichloromethane	18.8	20.0	94	70 - 130
Bromoform	18.1	20.0	91	70 - 130
Bromomethane	20.1	20.0	100	50 - 150
2-Butanone (MEK)	15.9	20.0	79	50 - 150
Carbon Disulfide	16.3	20.0	82	70 - 130
Carbon Tetrachloride	19.3	20.0	97	70 - 130
Chlorobenzene	19.6	20.0	98	70 - 130
Chloroethane	18.9	20.0	94	70 - 130
Chloroform	19.1	20.0	95	70 - 130
Chloromethane	19.8	20.0	99	70 - 130
Dibromochloromethane	19.0	20.0	95	70 - 130
1,1-Dichloroethane	19.6	20.0	98	70 - 130
1,2-Dichloroethane	18.4	20.0	92	70 - 130
1,1-Dichloroethene	19.6	20.0	98	70 - 130
cis-1,2-Dichloroethene	20.2	20.0	101	70 - 130
trans-1,2-Dichloroethene	19.1	20.0	95	70 - 130
1,2-Dichloropropane	19.9	20.0	99	70 - 130
cis-1,3-Dichloropropene	18.3	20.0	92	70 - 130
trans-1,3-Dichloropropene	17.9	20.0	90	70 - 130
Ethylbenzene	19.7	20.0	99	70 - 130
2-Hexanone	15.4	20.0	77	70 - 130
Methylene Chloride	18.5	20.0	93	70 - 130
4-Methyl-2-pentanone (MIBK)	16.2	20.0	81	70 - 130
Styrene	19.5	20.0	97	70 - 130
1,1,2,2-Tetrachloroethane	16.6	20.0	83	70 - 130
Tetrachloroethene	19.7	20.0	98	70 - 130
Toluene	19.9	20.0	99	70 - 130
1,1,1-Trichloroethane	19.8	20.0	99	70 - 130
1,1,2-Trichloroethane	17.8	20.0	89	70 - 130
Trichloroethene	19.5	20.0	97	70 - 130
Vinyl Chloride	21.4	20.0	107	70 - 130
o-Xylene	19.6	20.0	98	70 - 130
m,p-Xylenes	40.3	40.0	101	70 - 130

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica/Wells  
 Sample Matrix: Water

Service Request: R1001511  
 Date Analyzed: 3/31/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L  
 Basis: NA

Analysis Lot: 194902

Lab Control Sample  
 RQ1002263-02

Analyte Name	Result	Expected	% Rec	% Rec Limits
Acetone	22.5	20.0	112	50 - 150
Benzene	19.8	20.0	99	70 - 130
Bromodichloromethane	19.8	20.0	99	70 - 130
Bromoform	20.6	20.0	103	70 - 130
Bromomethane	20.7	20.0	104	50 - 150
2-Butanone (MEK)	16.7	20.0	84	50 - 150
Carbon Disulfide	15.5	20.0	77	70 - 130
Carbon Tetrachloride	20.1	20.0	101	70 - 130
Chlorobenzene	20.5	20.0	102	70 - 130
Chloroethane	22.9	20.0	115	70 - 130
Chloroform	19.5	20.0	98	70 - 130
Chloromethane	21.8	20.0	109	70 - 130
Dibromochloromethane	20.8	20.0	104	70 - 130
1,1-Dichloroethane	19.7	20.0	99	70 - 130
1,2-Dichloroethane	19.4	20.0	97	70 - 130
1,1-Dichloroethene	20.2	20.0	101	70 - 130
cis-1,2-Dichloroethene	20.2	20.0	101	70 - 130
trans-1,2-Dichloroethene	20.0	20.0	100	70 - 130
1,2-Dichloropropane	19.9	20.0	100	70 - 130
cis-1,3-Dichloropropene	18.1	20.0	90	70 - 130
trans-1,3-Dichloropropene	18.3	20.0	92	70 - 130
Ethylbenzene	19.8	20.0	99	70 - 130
2-Hexanone	15.6	20.0	78	70 - 130
Methylene Chloride	19.8	20.0	99	70 - 130
4-Methyl-2-pentanone (MIBK)	18.1	20.0	90	70 - 130
Styrene	19.7	20.0	99	70 - 130
1,1,2,2-Tetrachloroethane	18.5	20.0	93	70 - 130
Tetrachloroethene	20.5	20.0	102	70 - 130
Toluene	20.6	20.0	103	70 - 130
1,1,1-Trichloroethane	20.3	20.0	102	70 - 130
1,1,2-Trichloroethane	18.9	20.0	94	70 - 130
Trichloroethene	20.0	20.0	100	70 - 130
Vinyl Chloride	23.1	20.0	116	70 - 130
o-Xylene	19.7	20.0	98	70 - 130
m,p-Xylenes	41.1	40.0	103	70 - 130

Comments:





# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

One Mustard St., Suite 250 • Rochester, NY 14609-0859(585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-8475

PAGE 1 OF 1

SR #

CAS Contact

Project Name <b>Leica</b>		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager <b>Bob McPeak</b>		Report CC		PRESERVATIVE	
Company/Address <b>Energy Solutions Inc 100 Mill Plain Rd and Fl. MailBox 106 Danbury, CT 06811</b>		Phone # <b>801-303-1092</b>		PRELIMINARY TESTS (List in comments below)	
Fax # <b>203-797-8994</b>		Sampler's Printed Name <b>Wayne DeGobier</b>		METALS, TOTAL (List in comments below)	
Sampler's Signature <b>Wayne DeGobier</b>		FOR OFFICE USE ONLY		METALS, DISSOLVED (List in comments below)	
CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS
MW 11A	001	3/23/10	08:00	H <sub>2</sub> O	1
MW 16A	002, 003	3/23/10	08:10	H <sub>2</sub> O	4
MW 16R	004, 005	3/23/10	08:30	H <sub>2</sub> O	4
MW 6	006, 007	3/23/10	09:00	"	4
MW 6A	006, 009	3/23/10	09:15	"	4
MW 18	010	3/23/10	10:00		1
MW 18A	011	3/23/10	10:10		1
IB	012				
SPECIAL INSTRUCTIONS/COMMENTS <b>Metals</b>		TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) <input checked="" type="checkbox"/> 24 hr 48 hr 5 day STANDARD REQUESTED FAX DATE REQUESTED REPORT DATE		REPORT REQUIREMENTS <input checked="" type="checkbox"/> I. Results Only <input checked="" type="checkbox"/> II. Results + QC Summaries (LCS, DUP, MS/MSD as required) <input type="checkbox"/> III. Results + QC and Calibration Summaries <input type="checkbox"/> IV. Data Validation Report with Re <input type="checkbox"/> V. Specialized Forms / Custom Ri	
See QAPP <input type="checkbox"/>		CUSTODY SEALS: <input checked="" type="radio"/> Y <input type="radio"/> N		INVOICE INFORMATION PO# BILL TO:	
SAMPLE RECEIPT: CONDITION/COOLER TEMP: <b>5°C</b>		RECEIVED BY		RECEIVED BY	
RELINQUISHED BY		RELINQUISHED BY		RELINQUISHED BY	
Signature <b>Wayne DeGobier</b>	Signature <b>Wayne DeGobier</b>	Signature <b>Wayne DeGobier</b>	Signature <b>Wayne DeGobier</b>	Signature	Signature
Printed Name <b>Wayne DeGobier</b>	Printed Name <b>Wayne DeGobier</b>	Printed Name <b>Wayne DeGobier</b>	Printed Name <b>Wayne DeGobier</b>	Printed Name	Printed Name
Firm <b>ENERGY SITE Maint.</b>	Firm <b>Ch S</b>	Firm <b>Ch S</b>	Firm <b>Ch S</b>	Firm	Firm
Date/Time <b>3/23/10 12:00</b>	Date/Time <b>3/23/10 12:00</b>	Date/Time <b>3/23/10 12:00</b>	Date/Time <b>3/23/10 12:00</b>	Date/Time	Date/Time

In Lab Filtering Required

R1001511

Energy Solutions, Inc.  
Leica



SC001102-08

Cooler Receipt And Preservation Check Form



Project/Client Leica Submission Number R10-1511

Cooler received on 3/23/10 by: MCC COURIER:  CAS  UPS  FEDEX  VELOCITY  CLIENT

- Were custody seals on outside of cooler?  YES  NO
- Were custody papers properly filled out (ink, signed, etc.)?  YES  NO
- Did all bottles arrive in good condition (unbroken)?  YES  NO
- Did any VOA vials have significant\* air bubbles? YES  NO  N/A
- Were Ice or Ice packs present?  YES  NO
- Where did the bottles originate?  CAS/ROC,  CLIENT
- Temperature of cooler(s) upon receipt: 5°

Is the temperature within 0° - 6° C?:  Yes  Yes  Yes  Yes  Yes

If No, Explain Below  No  No  No  No  No

Date/Time Temperatures Taken: 3/23/10 1440

Thermometer ID:  IR GUN#3 /  IR GUN#4 Reading From:  Temp Blank /  Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: \_\_\_\_\_

PC Secondary Review: RB 4/13/10

Cooler Breakdown: Date: 3/23/10 by: MCC

- Were all bottle labels complete (i.e. analysis, preservation, etc.)?  YES  NO
- Did all bottle labels and tags agree with custody papers?  YES  NO
- Were correct containers used for the tests indicated?  YES  NO
- Air Samples: Cassettes / Tubes Intact  Canisters Pressurized  Tedlar® Bags Inflated  N/A

Explain any discrepancies: \_\_\_\_\_

pH	Reagent			Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
		YES	NO						
≥12	NaOH								
≤	HNO <sub>3</sub>								
≤	H <sub>2</sub> SO <sub>4</sub>			<u>LC92456</u>	<u>12/10</u>				
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>4109080, 4109050, 111, 211</u>					

Yes = All samples OK  
No = Samples were preserved at lab as listed  
PM OK to Adjust: \_\_\_\_\_

Bottle lot numbers: 9-308-001, 02220-2H

Other Comments: \_\_\_\_\_

PC Secondary Review: RB 4/13/10

\*significant air bubbles are greater than 5-6 mm

April 09, 2010

Service Request No: R1001553

Mr. Robert McPeak  
Energy Solutions, Inc.  
100 Mill Plain Rd  
2nd Floor Mailbox 106  
Danbury, CT 06811

**Laboratory Results for: Leica/Wells 3/10**

Dear Mr. McPeak:

Enclosed are the results of the sample(s) submitted to our laboratory on March 24, 2010. For your reference, these analyses have been assigned our service request number **R1001553**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 134. You may also contact me via email at [KBunker@caslab.com](mailto:KBunker@caslab.com).

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Karen Bunker  
Project Manager

Page 1 of 54

## CASE NARRATIVE

This report contains analytical results for the following samples:  
Service Request Number: R1001553

<u>Lab ID</u>	<u>Client ID</u>
R1001553-001	MW22
R1001553-002	MW22A
R1001553-003	MW24
R1001553-004	MW24-DISSOLVED
R1001553-005	MW24A
R1001553-006	MW24A-DISSOLVED
R1001553-007	MW14
R1001553-008	MW14-DISSOLVED
R1001553-009	MW14A
R1001553-010	MW14A-DISSOLVED
R1001553-011	MW5
R1001553-012	MW5-DISSOLVED
R1001553-013	MW5A
R1001553-014	MW5A-DISSOLVED
R1001553-015	MW25
R1001553-016	MW25A
R1001553-017	MW26
R1001553-018	TRIP BLANK

All samples were received in good condition unless otherwise noted on the cooler receipt and preservation check form located at the end of this report.

All samples were preserved in accordance with approved analytical methods.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.

All sampling activities performed by CAS personnel have been in accordance with "CAS Field Procedures and Measurements Manual" or by client specifications.

00002

## REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Pesticide/Aroclors: Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$  Difference between two GC columns).
- X See Case Narrative for discussion.



### CAS/Rochester Lab ID # for State Certifications<sup>1</sup>

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at [www.caslab.com](http://www.caslab.com).

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW22  
 Lab Code: R1001553-001

Service Request: R1001553  
 Date Collected: 3/23/10 1500  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
Acetone	20	U	20	1	NA	4/1/10 03:14		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 03:14		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 03:14		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 03:14		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 03:14		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 03:14		194902	
Vinyl Chloride	5.0	U	5.0	1	NA	4/1/10 03:14		194902	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW22  
 Lab Code: R1001553-001

Service Request: R1001553  
 Date Collected: 3/23/10 1500  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

**Volatile Organic Compounds by GC/MS**

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 03:14			194902
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 03:14			194902

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	96	85-122	4/1/10 03:14		
Toluene-d8	107	87-121	4/1/10 03:14		
Dibromofluoromethane	109	89-119	4/1/10 03:14		

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW22A  
 Lab Code: R1001553-002

Service Request: R1001553  
 Date Collected: 3/23/10 1515  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
Acetone	20	U	20	1	NA	4/1/10 03:41		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 03:41		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 03:41		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 03:41		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 03:41		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
Vinyl Chloride	14		5.0	1	NA	4/1/10 03:41		194902	

Comments:



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW22A  
 Lab Code: R1001553-002

Service Request: R1001553  
 Date Collected: 3/23/10 1515  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 03:41		194902	
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 03:41		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	92	85-122	4/1/10 03:41		
Toluene-d8	104	87-121	4/1/10 03:41		
Dibromofluoromethane	109	89-119	4/1/10 03:41		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells 3/10  
Sample Matrix: Water  
Sample Name: MW24  
Lab Code: R1001553-003

Service Request: R1001553  
Date Collected: 3/23/10 1630  
Date Received: 3/24/10

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	1670	mg/L	100	100	NA	4/6/10 18:14
Chloride	300.0	239	mg/L	8.0	40	NA	3/29/10 21:07
Nitrate as Nitrogen	300.0	0.51	mg/L	0.50	10	NA	3/24/10 15:36
Sulfate	300.0	8.6	mg/L	2.0	10	NA	3/24/10 15:36

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW24  
 Lab Code: R1001553-003

Service Request: R1001553  
 Date Collected: 3/23/10 1630  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
Acetone	750		500	25	NA	4/1/10 04:08			194902
Benzene	130	U	130	25	NA	4/1/10 04:08			194902
Bromodichloromethane	130	U	130	25	NA	4/1/10 04:08			194902
Bromoform	130	U	130	25	NA	4/1/10 04:08			194902
Bromomethane	130	U	130	25	NA	4/1/10 04:08			194902
2-Butanone (MEK)	3700		250	25	NA	4/1/10 04:08			194902
Carbon Disulfide	250	U	250	25	NA	4/1/10 04:08			194902
Carbon Tetrachloride	130	U	130	25	NA	4/1/10 04:08			194902
Chlorobenzene	130	U	130	25	NA	4/1/10 04:08			194902
Chloroethane	130	U	130	25	NA	4/1/10 04:08			194902
Chloroform	130	U	130	25	NA	4/1/10 04:08			194902
Chloromethane	130	U	130	25	NA	4/1/10 04:08			194902
Dibromochloromethane	130	U	130	25	NA	4/1/10 04:08			194902
1,1-Dichloroethane	680		130	25	NA	4/1/10 04:08			194902
1,2-Dichloroethane	130	U	130	25	NA	4/1/10 04:08			194902
1,1-Dichloroethene	130	U	130	25	NA	4/1/10 04:08			194902
cis-1,2-Dichloroethene	850		130	25	NA	4/1/10 04:08			194902
trans-1,2-Dichloroethene	130	U	130	25	NA	4/1/10 04:08			194902
1,2-Dichloropropane	130	U	130	25	NA	4/1/10 04:08			194902
cis-1,3-Dichloropropene	130	U	130	25	NA	4/1/10 04:08			194902
trans-1,3-Dichloropropene	130	U	130	25	NA	4/1/10 04:08			194902
Ethylbenzene	130	U	130	25	NA	4/1/10 04:08			194902
2-Hexanone	250	U	250	25	NA	4/1/10 04:08			194902
Methylene Chloride	130	U	130	25	NA	4/1/10 04:08			194902
4-Methyl-2-pentanone (MIBK)	250	U	250	25	NA	4/1/10 04:08			194902
Styrene	130	U	130	25	NA	4/1/10 04:08			194902
1,1,2,2-Tetrachloroethane	130	U	130	25	NA	4/1/10 04:08			194902
Tetrachloroethene	130	U	130	25	NA	4/1/10 04:08			194902
Toluene	130	U	130	25	NA	4/1/10 04:08			194902
1,1,1-Trichloroethane	130	U	130	25	NA	4/1/10 04:08			194902
1,1,2-Trichloroethane	130	U	130	25	NA	4/1/10 04:08			194902
Trichloroethene	130	U	130	25	NA	4/1/10 04:08			194902
Vinyl Chloride	2300		130	25	NA	4/1/10 04:08			194902

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW24  
**Lab Code:** R1001553-003

**Service Request:** R1001553  
**Date Collected:** 3/23/10 1630  
**Date Received:** 3/24/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	130	U	130	25	NA	4/1/10 04:08			194902
m,p-Xylenes	130	U	130	25	NA	4/1/10 04:08			194902

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	93	85-122	4/1/10 04:08		
Toluene-d8	105	87-121	4/1/10 04:08		
Dibromofluoromethane	106	89-119	4/1/10 04:08		

**Comments:** \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells 3/10  
Sample Matrix: Water  
Sample Name: MW24-DISSOLVED  
Lab Code: R1001553-004

Service Request: R1001553  
Date Collected: 3/23/10 1630  
Date Received: 3/24/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	15400	µg/L	100	1	3/25/10	3/27/10 00:11
Manganese, Dissolved	6010B	289	µg/L	10	1	3/25/10	3/27/10 00:11

Comments:

---

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW24A  
**Lab Code:** R1001553-005

**Service Request:** R1001553  
**Date Collected:** 3/23/10 1645  
**Date Received:** 3/24/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	19.1	mg/L	1.0	1	NA	4/2/10 02:09
Chloride	300.0	256	mg/L	8.0	40	NA	3/29/10 21:50
Nitrate as Nitrogen	300.0	0.55	mg/L	0.50	10	NA	3/24/10 16:18
Sulfate	300.0	24.5	mg/L	2.0	10	NA	3/24/10 16:18

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW24A  
 Lab Code: R1001553-005

Service Request: R1001553  
 Date Collected: 3/23/10 1645  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 12:38		195067	
Benzene	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Bromoform	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
2-Butanone (MEK)	27		10	1	NA	4/1/10 12:38		195067	
Carbon Disulfide	10	U	10	1	NA	4/1/10 12:38		195067	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Chloroethane	11		5.0	1	NA	4/1/10 12:38		195067	
Chloroform	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
1,1-Dichloroethane	60		5.0	1	NA	4/1/10 12:38		195067	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
cis-1,2-Dichloroethene	77		5.0	1	NA	4/1/10 12:38		195067	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
2-Hexanone	10	U	10	1	NA	4/1/10 12:38		195067	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 12:38		195067	
Styrene	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Toluene	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 12:38		195067	
Vinyl Chloride	110		5.0	1	NA	4/1/10 12:38		195067	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW24A  
**Lab Code:** R1001553-005

**Service Request:** R1001553  
**Date Collected:** 3/23/10 1645  
**Date Received:** 3/24/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 12:38			195067
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 12:38			195067

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	96	85-122	4/1/10 12:38		
Toluene-d8	101	87-121	4/1/10 12:38		
Dibromofluoromethane	105	89-119	4/1/10 12:38		

Comments: \_\_\_\_\_



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells 3/10  
Sample Matrix: Water  
Sample Name: MW24A-DISSOLVED  
Lab Code: R1001553-006

Service Request: R1001553  
Date Collected: 3/23/10 1645  
Date Received: 3/24/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	3380	µg/L	100	1	3/25/10	3/27/10 00:17
Manganese, Dissolved	6010B	160	µg/L	10	1	3/25/10	3/27/10 00:17

Comments:

---

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW14  
**Lab Code:** R1001553-007

**Service Request:** R1001553  
**Date Collected:** 3/23/10 1700  
**Date Received:** 3/24/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	3.8	mg/L	1.0	1	NA	4/2/10 02:27
Chloride	300.0	45.0	mg/L	2.0	10	NA	3/24/10 16:32
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	3/24/10 16:32
Sulfate	300.0	218	mg/L	8.0	40	NA	3/29/10 22:32

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW14  
 Lab Code: R1001553-007

Service Request: R1001553  
 Date Collected: 3/23/10 1700  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	40	U	40	2	NA	4/1/10 05:03		194902	
Benzene	10	U	10	2	NA	4/1/10 05:03		194902	
Bromodichloromethane	10	U	10	2	NA	4/1/10 05:03		194902	
Bromoform	10	U	10	2	NA	4/1/10 05:03		194902	
Bromomethane	10	U	10	2	NA	4/1/10 05:03		194902	
2-Butanone (MEK)	20	U	20	2	NA	4/1/10 05:03		194902	
Carbon Disulfide	20	U	20	2	NA	4/1/10 05:03		194902	
Carbon Tetrachloride	10	U	10	2	NA	4/1/10 05:03		194902	
Chlorobenzene	10	U	10	2	NA	4/1/10 05:03		194902	
Chloroethane	10	U	10	2	NA	4/1/10 05:03		194902	
Chloroform	10	U	10	2	NA	4/1/10 05:03		194902	
Chloromethane	10	U	10	2	NA	4/1/10 05:03		194902	
Dibromochloromethane	10	U	10	2	NA	4/1/10 05:03		194902	
1,1-Dichloroethane	10	U	10	2	NA	4/1/10 05:03		194902	
1,2-Dichloroethane	10	U	10	2	NA	4/1/10 05:03		194902	
1,1-Dichloroethene	10	U	10	2	NA	4/1/10 05:03		194902	
cis-1,2-Dichloroethene	190		10	2	NA	4/1/10 05:03		194902	
trans-1,2-Dichloroethene	10	U	10	2	NA	4/1/10 05:03		194902	
1,2-Dichloropropane	10	U	10	2	NA	4/1/10 05:03		194902	
cis-1,3-Dichloropropene	10	U	10	2	NA	4/1/10 05:03		194902	
trans-1,3-Dichloropropene	10	U	10	2	NA	4/1/10 05:03		194902	
Ethylbenzene	10	U	10	2	NA	4/1/10 05:03		194902	
2-Hexanone	20	U	20	2	NA	4/1/10 05:03		194902	
Methylene Chloride	10	U	10	2	NA	4/1/10 05:03		194902	
4-Methyl-2-pentanone (MIBK)	20	U	20	2	NA	4/1/10 05:03		194902	
Styrene	10	U	10	2	NA	4/1/10 05:03		194902	
1,1,2,2-Tetrachloroethane	10	U	10	2	NA	4/1/10 05:03		194902	
Tetrachloroethene	10	U	10	2	NA	4/1/10 05:03		194902	
Toluene	10	U	10	2	NA	4/1/10 05:03		194902	
1,1,1-Trichloroethane	10	U	10	2	NA	4/1/10 05:03		194902	
1,1,2-Trichloroethane	10	U	10	2	NA	4/1/10 05:03		194902	
Trichloroethene	10	U	10	2	NA	4/1/10 05:03		194902	
Vinyl Chloride	44		10	2	NA	4/1/10 05:03		194902	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW14  
**Lab Code:** R1001553-007

**Service Request:** R1001553  
**Date Collected:** 3/23/10 1700  
**Date Received:** 3/24/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	10	U	10	2	NA	4/1/10 05:03			194902
m,p-Xylenes	10	U	10	2	NA	4/1/10 05:03			194902

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Toluene-d8	103	87-121	4/1/10 05:03		
Dibromofluoromethane	106	89-119	4/1/10 05:03		

**Comments:** \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells 3/10  
Sample Matrix: Water  
Sample Name: MW14-DISSOLVED  
Lab Code: R1001553-008

Service Request: R1001553  
Date Collected: 3/23/10 1700  
Date Received: 3/24/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	140	µg/L	100	1	3/25/10	3/27/10 00:22
Manganese, Dissolved	6010B	59	µg/L	10	1	3/25/10	3/27/10 00:22

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW14A  
**Lab Code:** R1001553-009

**Service Request:** R1001553  
**Date Collected:** 3/23/10 17:15  
**Date Received:** 3/24/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	4.5	mg/L	1.0	1	NA	4/6/10 16:47
Chloride	300.0	21.7	mg/L	2.0	10	NA	3/24/10 16:46
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	3/24/10 16:46
Sulfate	300.0	146	mg/L	8.0	40	NA	3/29/10 22:46

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW14A  
 Lab Code: R1001553-009

Service Request: R1001553  
 Date Collected: 3/23/10 1715  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 05:31		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 05:31		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 05:31		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
cis-1,2-Dichloroethene	96		5.0	1	NA	4/1/10 05:31		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 05:31		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 05:31		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 05:31		194902	
Vinyl Chloride	53		5.0	1	NA	4/1/10 05:31		194902	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW14A  
**Lab Code:** R1001553-009

**Service Request:** R1001553  
**Date Collected:** 3/23/10 1715  
**Date Received:** 3/24/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 05:31			194902
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 05:31			194902

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Toluene-d8	101	87-121	4/1/10 05:31		
Dibromofluoromethane	105	89-119	4/1/10 05:31		

Comments: \_\_\_\_\_



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells 3/10  
Sample Matrix: Water  
Sample Name: MW14A-DISSOLVED  
Lab Code: R1001553-010

Service Request: R1001553  
Date Collected: 3/23/10 1715  
Date Received: 3/24/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	1250	µg/L	100	1	3/25/10	3/27/10 00:28
Manganese, Dissolved	6010B	97	µg/L	10	1	3/25/10	3/27/10 00:28

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW5  
**Lab Code:** R1001553-011

**Service Request:** R1001553  
**Date Collected:** 3/24/10 0800  
**Date Received:** 3/24/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	1.9	mg/L	1.0	1	NA	4/2/10 03:03
Chloride	300.0	5.5	mg/L	2.0	10	NA	3/24/10 17:00
Nitrate as Nitrogen	300.0	0.58	mg/L	0.50	10	NA	3/24/10 17:00
Sulfate	300.0	17.2	mg/L	2.0	10	NA	3/24/10 17:00

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW5  
**Lab Code:** R1001553-011

**Service Request:** R1001553  
**Date Collected:** 3/24/10 0800  
**Date Received:** 3/24/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 05:58		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 05:58		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 05:58		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 05:58		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 05:58		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 05:58		194902	
Vinyl Chloride	5.0	U	5.0	1	NA	4/1/10 05:58		194902	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW5  
**Lab Code:** R1001553-011

**Service Request:** R1001553  
**Date Collected:** 3/24/10 0800  
**Date Received:** 3/24/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 05:58			194902
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 05:58			194902

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	92	85-122	4/1/10 05:58		
Toluene-d8	104	87-121	4/1/10 05:58		
Dibromofluoromethane	105	89-119	4/1/10 05:58		

**Comments:** \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells 3/10  
Sample Matrix: Water  
Sample Name: MW5-DISSOLVED  
Lab Code: R1001553-012

Service Request: R1001553  
Date Collected: 3/24/10 0800  
Date Received: 3/24/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100 U	µg/L	100	1	3/25/10	3/27/10 00:34
Manganese, Dissolved	6010B	10 U	µg/L	10	1	3/25/10	3/27/10 00:34

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW5A  
**Lab Code:** R1001553-013

**Service Request:** R1001553  
**Date Collected:** 3/24/10 0810  
**Date Received:** 3/24/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	312	mg/L	20	20	NA	4/6/10 18:33
Chloride	300.0	110	mg/L	8.0	40	NA	3/29/10 23:01
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	3/24/10 17:14
Sulfate	300.0	46.9	mg/L	2.0	10	NA	3/24/10 17:14

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW5A  
 Lab Code: R1001553-013

Service Request: R1001553  
 Date Collected: 3/24/10 0810  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 06:25		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
2-Butanone (MEK)	43		10	1	NA	4/1/10 06:25		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 06:25		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 06:25		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 06:25		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
Vinyl Chloride	16		5.0	1	NA	4/1/10 06:25		194902	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW5A  
 Lab Code: R1001553-013

Service Request: R1001553  
 Date Collected: 3/24/10 0810  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 06:25		194902	
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 06:25		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	95	85-122	4/1/10 06:25		
Toluene-d8	104	87-121	4/1/10 06:25		
Dibromofluoromethane	109	89-119	4/1/10 06:25		

Comments:



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells 3/10  
Sample Matrix: Water  
Sample Name: MW5A-DISSOLVED  
Lab Code: R1001553-014

Service Request: R1001553  
Date Collected: 3/24/10 0810  
Date Received: 3/24/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	11200	µg/L	100	1	3/25/10	3/27/10 00:40
Manganese, Dissolved	6010B	109	µg/L	10	1	3/25/10	3/27/10 00:40

Comments:

---

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW25  
 Lab Code: R1001553-015

Service Request: R1001553  
 Date Collected: 3/24/10 1100  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 06:53		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 06:53		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 06:53		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 06:53		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 06:53		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
Vinyl Chloride	5.0	U	5.0	1	NA	4/1/10 06:53		194902	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW25  
 Lab Code: R1001553-015

Service Request: R1001553  
 Date Collected: 3/24/10 1100  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 06:53		194902	
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 06:53		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	93	85-122	4/1/10 06:53		
Toluene-d8	103	87-121	4/1/10 06:53		
Dibromofluoromethane	107	89-119	4/1/10 06:53		

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW25A  
 Lab Code: R1001553-016

Service Request: R1001553  
 Date Collected: 3/24/10 1110  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

**Volatile Organic Compounds by GC/MS**

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 07:20		194902	
Benzene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Bromoform	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 07:20		194902	
Carbon Disulfide	10	U	10	1	NA	4/1/10 07:20		194902	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Chloroform	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
2-Hexanone	10	U	10	1	NA	4/1/10 07:20		194902	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 07:20		194902	
Styrene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Toluene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
Vinyl Chloride	15		5.0	1	NA	4/1/10 07:20		194902	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW25A  
 Lab Code: R1001553-016

Service Request: R1001553  
 Date Collected: 3/24/10 1110  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

**Volatile Organic Compounds by GC/MS**

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 07:20		194902	
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 07:20		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	91	85-122	4/1/10 07:20		
Toluene-d8	103	87-121	4/1/10 07:20		
Dibromofluoromethane	106	89-119	4/1/10 07:20		

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: MW26  
 Lab Code: R1001553-017

Service Request: R1001553  
 Date Collected: 3/24/10  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 13:06		195067	
Benzene	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Bromoform	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 13:06		195067	
Carbon Disulfide	10	U	10	1	NA	4/1/10 13:06		195067	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Chloroform	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
cis-1,2-Dichloroethene	12		5.0	1	NA	4/1/10 13:06		195067	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
2-Hexanone	10	U	10	1	NA	4/1/10 13:06		195067	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 13:06		195067	
Styrene	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Toluene	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 13:06		195067	
Vinyl Chloride	8.0		5.0	1	NA	4/1/10 13:06		195067	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** MW26  
**Lab Code:** R1001553-017

**Service Request:** R1001553  
**Date Collected:** 3/24/10  
**Date Received:** 3/24/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis	
							Lot	Lot Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 13:06		195067
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 13:06		195067

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	98	85-122	4/1/10 13:06		
Toluene-d8	103	87-121	4/1/10 13:06		
Dibromofluoromethane	108	89-119	4/1/10 13:06		

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: TRIP BLANK  
 Lab Code: R1001553-018

Service Request: R1001553  
 Date Collected: 3/23/10  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
Acetone	20	U	20	1	NA	4/1/10 13:33		195067	
Benzene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Bromoform	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 13:33		195067	
Carbon Disulfide	10	U	10	1	NA	4/1/10 13:33		195067	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Chloroform	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
2-Hexanone	10	U	10	1	NA	4/1/10 13:33		195067	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 13:33		195067	
Styrene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Toluene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
Vinyl Chloride	5.0	U	5.0	1	NA	4/1/10 13:33		195067	

Comments:



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: TRIP BLANK  
 Lab Code: R1001553-018

Service Request: R1001553  
 Date Collected: 3/23/10  
 Date Received: 3/24/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 13:33		195067	
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 13:33		195067	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	97	85-122	4/1/10 13:33		
Toluene-d8	101	87-121	4/1/10 13:33		
Dibromofluoromethane	107	89-119	4/1/10 13:33		

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: R1001553-MB1

Service Request: R1001553  
 Date Collected: NA  
 Date Received: NA

Basis: NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	1.0 U	mg/L	1.0	1	NA	4/1/10 22:13
Chloride	300.0	0.20 U	mg/L	0.20	1	NA	3/24/10 14:41
Nitrate as Nitrogen	300.0	0.050 U	mg/L	0.050	1	NA	3/24/10 14:41
Sulfate	300.0	0.20 U	mg/L	0.20	1	NA	3/24/10 14:41

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica/Wells 3/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1001553-MB2

Service Request: R1001553  
Date Collected: NA  
Date Received: NA  
Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	1.0 U	mg/L	1.0	1	NA	4/6/10 14:37
Chloride	300.0	0.20 U	mg/L	0.20	1	NA	3/29/10 18:04
Sulfate	300.0	0.20 U	mg/L	0.20	1	NA	3/29/10 18:04

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** R1001553-MB

**Service Request:** R1001553  
**Date Collected:** NA  
**Date Received:** NA  
  
**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100 U	µg/L	100	1	3/25/10	3/26/10 23:59
Manganese, Dissolved	6010B	10 U	µg/L	10	1	3/25/10	3/26/10 23:59

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1002263-01

**Service Request:** R1001553  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis	
							Lot	Lot Note
Acetone	20	U	20	1	NA	4/1/10 00:03		194902
Benzene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Bromoform	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Bromomethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 00:03		194902
Carbon Disulfide	10	U	10	1	NA	4/1/10 00:03		194902
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Chloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Chloroform	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Chloromethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 00:03		194902
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
2-Hexanone	10	U	10	1	NA	4/1/10 00:03		194902
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 00:03		194902
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 00:03		194902
Styrene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Toluene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 00:03		194902
Vinyl Chloride	5.0	U	5.0	1	NA	4/1/10 00:03		194902

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: RQ1002263-01

Service Request: R1001553  
 Date Collected: NA  
 Date Received: NA  
 Units: µg/L  
 Basis: NA

**Volatile Organic Compounds by GC/MS**

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 00:03		194902	
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 00:03		194902	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	92	85-122	4/1/10 00:03		
Toluene-d8	103	87-121	4/1/10 00:03		
Dibromofluoromethane	107	89-119	4/1/10 00:03		

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: RQ1002298-01

Service Request: R1001553  
 Date Collected: NA  
 Date Received: NA  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	4/1/10 12:11		195067	
Benzene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Bromoform	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 12:11		195067	
Carbon Disulfide	10	U	10	1	NA	4/1/10 12:11		195067	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Chloroform	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
2-Hexanone	10	U	10	1	NA	4/1/10 12:11		195067	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 12:11		195067	
Styrene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Toluene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 12:11		195067	
Vinyl Chloride	5.0	U	5.0	1	NA	4/1/10 12:11		195067	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/Wells 3/10  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1002298-01

**Service Request:** R1001553  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 12:11			195067
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 12:11			195067

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	96	85-122	4/1/10 12:11		
Toluene-d8	103	87-121	4/1/10 12:11		
Dibromofluoromethane	106	89-119	4/1/10 12:11		

**Comments:** \_\_\_\_\_



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica/Wells 3/10  
Sample Matrix: Water

Service Request: R1001553  
Date Analyzed: 3/24/10 -  
4/ 1/10

Lab Control Sample Summary  
General Chemistry Parameters

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample R1001553-LCS1			% Rec Limits
		Result	Expected	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	9.72	10.0	97	86 - 117
Chloride	300.0	1.90	2.00	95	90 - 110
Nitrate as Nitrogen	300.0	0.942	1.00	94	90 - 110
Sulfate	300.0	1.82	2.00	91	90 - 110

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica/Wells 3/10  
Sample Matrix: Water

Service Request: R1001553  
Date Analyzed: 3/29/10 -  
4/ 6/10

Lab Control Sample Summary  
General Chemistry Parameters

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample R1001553-LCS2			% Rec Limits
		Result	Expected	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	8.65	10.0	86	86 - 117
Chloride	300.0	2.06	2.00	103	90 - 110
Sulfate	300.0	1.96	2.00	98	90 - 110

Comments: \_\_\_\_\_

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica/Wells 3/10  
Sample Matrix: Water

Service Request: R1001553  
Date Analyzed: 3/27/10

Lab Control Sample Summary  
Inorganic Parameters

Units: µg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample R1001553-LCS			% Rec Limits
		Result	Expected	% Rec	
Iron, Dissolved	6010B	1020	1000	102	80 - 120
Manganese, Dissolved	6010B	488	500	98	80 - 120

Comments:

---

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water

Service Request: R1001553  
 Date Analyzed: 3/31/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L  
 Basis: NA

Analysis Lot: 194902

Analyte Name	Lab Control Sample RQ1002263-02			% Rec Limits
	Result	Expected	% Rec	
Acetone	22.5	20.0	112	50 - 150
Benzene	19.8	20.0	99	70 - 130
Bromodichloromethane	19.8	20.0	99	70 - 130
Bromoform	20.6	20.0	103	70 - 130
Bromomethane	20.7	20.0	104	50 - 150
2-Butanone (MEK)	16.7	20.0	84	50 - 150
Carbon Disulfide	15.5	20.0	77	70 - 130
Carbon Tetrachloride	20.1	20.0	101	70 - 130
Chlorobenzene	20.5	20.0	102	70 - 130
Chloroethane	22.9	20.0	115	70 - 130
Chloroform	19.5	20.0	98	70 - 130
Chloromethane	21.8	20.0	109	70 - 130
Dibromochloromethane	20.8	20.0	104	70 - 130
1,1-Dichloroethane	19.7	20.0	99	70 - 130
1,2-Dichloroethane	19.4	20.0	97	70 - 130
1,1-Dichloroethene	20.2	20.0	101	70 - 130
cis-1,2-Dichloroethene	20.2	20.0	101	70 - 130
trans-1,2-Dichloroethene	20.0	20.0	100	70 - 130
1,2-Dichloropropane	19.9	20.0	100	70 - 130
cis-1,3-Dichloropropene	18.1	20.0	90	70 - 130
trans-1,3-Dichloropropene	18.3	20.0	92	70 - 130
Ethylbenzene	19.8	20.0	99	70 - 130
2-Hexanone	15.6	20.0	78	70 - 130
Methylene Chloride	19.8	20.0	99	70 - 130
4-Methyl-2-pentanone (MIBK)	18.1	20.0	90	70 - 130
Styrene	19.7	20.0	99	70 - 130
1,1,2,2-Tetrachloroethane	18.5	20.0	93	70 - 130
Tetrachloroethene	20.5	20.0	102	70 - 130
Toluene	20.6	20.0	103	70 - 130
1,1,1-Trichloroethane	20.3	20.0	102	70 - 130
1,1,2-Trichloroethane	18.9	20.0	94	70 - 130
Trichloroethene	20.0	20.0	100	70 - 130
Vinyl Chloride	23.1	20.0	116	70 - 130
o-Xylene	19.7	20.0	98	70 - 130
m,p-Xylenes	41.1	40.0	103	70 - 130

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica/Wells 3/10  
 Sample Matrix: Water

Service Request: R1001553  
 Date Analyzed: 4/ 1/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 195067

Analyte Name	Lab Control Sample RQ1002298-02			% Rec Limits
	Result	Expected	% Rec	
Acetone	20.3	20.0	102	50 - 150
Benzene	18.5	20.0	93	70 - 130
Bromodichloromethane	18.7	20.0	94	70 - 130
Bromoform	19.2	20.0	96	70 - 130
Bromomethane	17.9	20.0	90	50 - 150
2-Butanone (MEK)	17.0	20.0	85	50 - 150
Carbon Disulfide	14.4	20.0	72	70 - 130
Carbon Tetrachloride	18.0	20.0	90	70 - 130
Chlorobenzene	19.1	20.0	95	70 - 130
Chloroethane	19.2	20.0	96	70 - 130
Chloroform	17.3	20.0	87	70 - 130
Chloromethane	16.7	20.0	83	70 - 130
Dibromochloromethane	20.4	20.0	102	70 - 130
1,1-Dichloroethane	17.8	20.0	89	70 - 130
1,2-Dichloroethane	18.4	20.0	92	70 - 130
1,1-Dichloroethene	17.8	20.0	89	70 - 130
cis-1,2-Dichloroethene	18.7	20.0	93	70 - 130
trans-1,2-Dichloroethene	17.9	20.0	89	70 - 130
1,2-Dichloropropane	18.3	20.0	92	70 - 130
cis-1,3-Dichloropropene	18.5	20.0	93	70 - 130
trans-1,3-Dichloropropene	18.3	20.0	92	70 - 130
Ethylbenzene	18.8	20.0	94	70 - 130
2-Hexanone	17.9	20.0	89	70 - 130
Methylene Chloride	17.9	20.0	90	70 - 130
4-Methyl-2-pentanone (MIBK)	17.7	20.0	89	70 - 130
Styrene	18.7	20.0	94	70 - 130
1,1,2,2-Tetrachloroethane	18.0	20.0	90	70 - 130
Tetrachloroethene	19.2	20.0	96	70 - 130
Toluene	18.8	20.0	94	70 - 130
1,1,1-Trichloroethane	18.1	20.0	91	70 - 130
1,1,2-Trichloroethane	19.0	20.0	95	70 - 130
Trichloroethene	18.0	20.0	90	70 - 130
Vinyl Chloride	19.3	20.0	96	70 - 130
o-Xylene	18.5	20.0	93	70 - 130
m,p-Xylenes	38.6	40.0	97	70 - 130

Comments:

**CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM**

One Mustard St., Suite 250 • Rochester, NY 14609-0859(585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-8475 PAGE 1 OF 2

SR # \_\_\_\_\_  
CAS Contact \_\_\_\_\_

Project Name	Project Number	Project Manager	Report CC	Company/Address	Preservative	ANALYSIS REQUESTED (Include Method Number and Container Preservative)	PRESERVATIVE	NUMBER OF CONTAINERS	CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE		MATRIX	REMARKS/ ALTERNATE DESCRIPTION	PRESERVATIVE KEY
											DATE	TIME			
Leica		Bob McPeak		Energy Solutions Inc., 100 Mill Plain Rd and Fl. Mailbox 106 Danbury, CT 06811		GC/MS VOAS □ CLP GC/MS SVOAS □ CLP METALS, TOTAL METALS, DISSOLVED (List in comments below) Chloride Sulfate Nitrate TOC Dissolved Dissolved MN		1	-001	3/23/10	15:00	H <sub>2</sub> O		0. NONE 1. HCL 2. HNO <sub>3</sub> 3. H <sub>2</sub> SO <sub>4</sub> 4. NaOH 5. Zn Acetate 6. MeOH 7. NaHSO <sub>4</sub> 8. Other _____	
801-303-1092		Wayne DeGobier		Wayne DeGobier				4	-003, 004	3/23/10	15:15				
								4	-005, 006	3/23/10	16:30				
								4	-007, 008	3/23/10	16:45				
								4	-009, -010	3/23/10	17:00				
								4	-011, 012	3/23/10	08:00				
								4	-013, 014	3/23/10	08:10				
								1	015	3/23/10	11:00				
								1	016	3/23/10	11:10				

IT Lab Filtering Required

**SPECIAL INSTRUCTIONS/COMMENTS**  
Metals

**TURNAROUND REQUIREMENTS**  
RUSH (SURCHARGES APPLY)  
24 hr \_\_\_\_\_ 48 hr \_\_\_\_\_ 5 day \_\_\_\_\_  
STANDARD  
REQUESTED FAX DATE \_\_\_\_\_  
REQUESTED REPORT DATE \_\_\_\_\_

**REPORT REQUIREMENTS**  
I. Results Only \_\_\_\_\_  
II. Results + OC Summaries (LCS, DUP, MSMSD as required)   
III. Results + OC and Calibration Summaries \_\_\_\_\_  
IV. Data Validation Report with Raw Data \_\_\_\_\_  
V. Specialized Forms / Custom Re Edata  Yes \_\_\_\_\_ No \_\_\_\_\_

**INVOICE INFORMATION**  
PO# \_\_\_\_\_  
BILL TO: \_\_\_\_\_

**R1001553**  
Energy Solutions, Inc.  
Leica

RECEIVED BY: \_\_\_\_\_  
DATE/TIME: 3/24/10 1440

**RECEIVED BY**  
Signature: \_\_\_\_\_  
Printed Name: Wayne DeGobier  
Firm: Energy Solutions, Inc.

**RECEIVED BY**  
Signature: \_\_\_\_\_  
Printed Name: Wayne DeGobier  
Firm: Energy Solutions, Inc.

**RECEIVED BY**  
Signature: \_\_\_\_\_  
Printed Name: Wayne DeGobier  
Firm: Energy Solutions, Inc.

**RECEIVED BY**  
Signature: \_\_\_\_\_  
Printed Name: Wayne DeGobier  
Firm: Energy Solutions, Inc.

**RECEIVED BY**  
Signature: \_\_\_\_\_  
Printed Name: Wayne DeGobier  
Firm: Energy Solutions, Inc.

**RECEIVED BY**  
Signature: \_\_\_\_\_  
Printed Name: Wayne DeGobier  
Firm: Energy Solutions, Inc.

**RECEIVED BY**  
Signature: \_\_\_\_\_  
Printed Name: Wayne DeGobier  
Firm: Energy Solutions, Inc.

**RECEIVED BY**  
Signature: \_\_\_\_\_  
Printed Name: Wayne DeGobier  
Firm: Energy Solutions, Inc.



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

One Mustard St., Suite 250 • Rochester, NY 14609-0859(585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-8475

PAGE 2 OF 2

SR #

CAS Contact

Project Name <b>Leica</b>		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager <b>Bob McPhear</b>		Report CC			
Company/Address <b>Energy Solutions Inc. 100 Mill Plain Rd. and Fl. Mailbox 106 Danbury, CT 06811</b>					
Phone # <b>801-303-1092</b>	FAX# <b>203-797-8994</b>	NUMBER OF CONTAINERS		PRESERVATIVE	
Sampler's Signature <b>Wayne Degolier</b>		Sampler's Printed Name <b>Wayne Degolier</b>		METALS, TOTAL (List in comments below) <input type="checkbox"/> 8082 <input type="checkbox"/> 608 <input type="checkbox"/> CLP METALS, DISSOLVED (List in comments below) <input type="checkbox"/> 8081 <input type="checkbox"/> 608 <input type="checkbox"/> CLP PCBs <input type="checkbox"/> 8082 <input type="checkbox"/> 608 <input type="checkbox"/> CLP PESTICIDES <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 GC VOAs <input type="checkbox"/> 8270 <input type="checkbox"/> 625 <input type="checkbox"/> CLP GC/MS SVoAs <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> CLP	
FOR OFFICE USE ONLY		SAMPLING DATE	TIME	MATRIX	REMARKS/ALTERNATE DESCRIPTION
CLIENT SAMPLE ID	LAB ID				
<b>MW 26</b>	<b>-017</b>	<b>3/24/10</b>		<b>H2O</b>	
<b>MW 26 A</b>	<b>-018</b>	<b>3/24/10</b>		<b>H2O</b>	<b>Unable to get in time for pickup</b>
<b>Trip Blank</b>					
<b>Temp Blank</b>					
SPECIAL INSTRUCTIONS/COMMENTS <b>Metals</b>		TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 5 day <input type="checkbox"/> STANDARD <input checked="" type="checkbox"/> REQUESTED FAX DATE REQUESTED REPORT DATE		REPORT REQUIREMENTS I. Results Only II. Results + QC Summaries (LCS, DUP, MS/MSD as required) <input checked="" type="checkbox"/> III. Results + QC and Calibration Summaries IV. Data Validation Report with Raw Data V. Specialized Forms / Custom Report Edata <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
See OAPP <input type="checkbox"/>		CUSTODY SEALS: <b>0</b> N		SUBMISSION #: <b>R-1583</b>	
RECEIVED BY		RECEIVED BY		RECEIVED BY	
Signature <b>Wayne Degolier</b>	Signature <b>Wayne Degolier</b>	Signature <b>Wayne Degolier</b>	Signature <b>Wayne Degolier</b>	Signature <b>Wayne Degolier</b>	Signature <b>Wayne Degolier</b>
Printed Name <b>Wayne Degolier</b>	Printed Name <b>Wayne Degolier</b>	Printed Name <b>Wayne Degolier</b>	Printed Name <b>Wayne Degolier</b>	Printed Name <b>Wayne Degolier</b>	Printed Name <b>Wayne Degolier</b>
Firm <b>Energy Solutions Maint</b>	Firm <b>Energy Solutions Maint</b>	Firm <b>Energy Solutions Maint</b>	Firm <b>Energy Solutions Maint</b>	Firm <b>Energy Solutions Maint</b>	Firm <b>Energy Solutions Maint</b>
Date/Time <b>3/24/10 12:00</b>	Date/Time <b>3/24/10 12:00</b>	Date/Time <b>3/24/10 12:00</b>	Date/Time <b>3/24/10 12:00</b>	Date/Time <b>3/24/10 12:00</b>	Date/Time <b>3/24/10 12:00</b>

**Cooler Receipt And Preservation R1001553**

Energy Solutions, Inc.  
Leica

Project/Client Leica Submission Numt \_\_\_\_\_



Cooler received on 3/24/10 by: AP COURIER: CAS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant\* air bubbles? YES NO N/A
5. Were **Ice** or **Ice packs** present? YES NO
6. Where did the bottles originate? CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 4°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 3/24/10 1500

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

**If out of Temperature, note packing/ice condition, Client Approval to Run Samples:** \_\_\_\_\_

PC Secondary Review: KB 3/25/10

Cooler Breakdown: Date: 3/24/10 by: APW

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

pH	Reagent			Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
		YES	NO							
≥12	NaOH									No = Samples were preserved at lab as listed
≤2	HNO <sub>3</sub>									
≤2	H <sub>2</sub> SO <sub>4</sub>			WC421157	12/10					
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid						
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet				PM OK to Adjust:
	Zn Aceta	-	-							
	HCl	*	*	4109051	02/11					

Bottle lot numbers: 9-308-001, 9-307-001, 022210-24

Other Comments: \_\_\_\_\_

PC Secondary Review: 3/25/10 KB

\*significant air bubbles are greater than 5-6 mm



April 09, 2010

Service Request No: R1001579

Mr. Robert McPeak  
Energy Solutions, Inc.  
100 Mill Plain Rd  
2nd Floor Mailbox 106  
Danbury, CT 06811

**Laboratory Results for: Leica/ Well MW26A**

Dear Mr. McPeak:

Enclosed are the results of the sample(s) submitted to our laboratory on March 25, 2010. For your reference, these analyses have been assigned our service request number **R1001579**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 134. You may also contact me via email at KBunker@caslab.com.

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Karen Bunker  
Project Manager

Page 1 of 10

## CASE NARRATIVE

This report contains analytical results for the following samples:  
Service Request Number: R1001579

Lab ID  
R1001579-001

Client ID  
MW26A

All samples were received in good condition unless otherwise noted on the cooler receipt and preservation check form located at the end of this report.

All samples were preserved in accordance with approved analytical methods.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.

All sampling activities performed by CAS personnel have been in accordance with "CAS Field Procedures and Measurements Manual" or by client specifications.

00002

## REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Pesticide/Aroclors: Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$  Difference between two GC columns).
- X See Case Narrative for discussion.



### CAS/Rochester Lab ID # for State Certifications<sup>1</sup>

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at [www.caslab.com](http://www.caslab.com).

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/ Well MW26A  
 Sample Matrix: Water  
 Sample Name: MW26A  
 Lab Code: R1001579-001

Service Request: R1001579  
 Date Collected: 3/24/10 1500  
 Date Received: 3/25/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
Acetone	100	U	100	5	NA	4/1/10 11:43		195041	
Benzene	25	U	25	5	NA	4/1/10 11:43		195041	
Bromodichloromethane	25	U	25	5	NA	4/1/10 11:43		195041	
Bromoform	25	U	25	5	NA	4/1/10 11:43		195041	
Bromomethane	25	U	25	5	NA	4/1/10 11:43		195041	
2-Butanone (MEK)	50	U	50	5	NA	4/1/10 11:43		195041	
Carbon Disulfide	50	U	50	5	NA	4/1/10 11:43		195041	
Carbon Tetrachloride	25	U	25	5	NA	4/1/10 11:43		195041	
Chlorobenzene	25	U	25	5	NA	4/1/10 11:43		195041	
Chloroethane	25	U	25	5	NA	4/1/10 11:43		195041	
Chloroform	25	U	25	5	NA	4/1/10 11:43		195041	
Chloromethane	25	U	25	5	NA	4/1/10 11:43		195041	
Dibromochloromethane	25	U	25	5	NA	4/1/10 11:43		195041	
1,1-Dichloroethane	25	U	25	5	NA	4/1/10 11:43		195041	
1,2-Dichloroethane	25	U	25	5	NA	4/1/10 11:43		195041	
1,1-Dichloroethene	25	U	25	5	NA	4/1/10 11:43		195041	
cis-1,2-Dichloroethene	540		25	5	NA	4/1/10 11:43		195041	
trans-1,2-Dichloroethene	25	U	25	5	NA	4/1/10 11:43		195041	
1,2-Dichloropropane	25	U	25	5	NA	4/1/10 11:43		195041	
cis-1,3-Dichloropropene	25	U	25	5	NA	4/1/10 11:43		195041	
trans-1,3-Dichloropropene	25	U	25	5	NA	4/1/10 11:43		195041	
Ethylbenzene	25	U	25	5	NA	4/1/10 11:43		195041	
2-Hexanone	50	U	50	5	NA	4/1/10 11:43		195041	
Methylene Chloride	25	U	25	5	NA	4/1/10 11:43		195041	
4-Methyl-2-pentanone (MIBK)	50	U	50	5	NA	4/1/10 11:43		195041	
Styrene	25	U	25	5	NA	4/1/10 11:43		195041	
1,1,2,2-Tetrachloroethane	25	U	25	5	NA	4/1/10 11:43		195041	
Tetrachloroethene	25	U	25	5	NA	4/1/10 11:43		195041	
Toluene	25	U	25	5	NA	4/1/10 11:43		195041	
1,1,1-Trichloroethane	25	U	25	5	NA	4/1/10 11:43		195041	
1,1,2-Trichloroethane	25	U	25	5	NA	4/1/10 11:43		195041	
Trichloroethene	25	U	25	5	NA	4/1/10 11:43		195041	
Vinyl Chloride	350		25	5	NA	4/1/10 11:43		195041	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica/ Well MW26A  
**Sample Matrix:** Water  
**Sample Name:** MW26A  
**Lab Code:** R1001579-001

**Service Request:** R1001579  
**Date Collected:** 3/24/10 1500  
**Date Received:** 3/25/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	25	U	25	5	NA	4/1/10 11:43			195041
m,p-Xylenes	25	U	25	5	NA	4/1/10 11:43			195041

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	99	85-122	4/1/10 11:43		
Toluene-d8	97	87-121	4/1/10 11:43		
Dibromofluoromethane	104	89-119	4/1/10 11:43		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica/ Well MW26A  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: RQ1002293-01

Service Request: R1001579  
 Date Collected: NA  
 Date Received: NA  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
Acetone	20	U	20	1	NA	4/1/10 10:38		195041	
Benzene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Bromodichloromethane	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Bromoform	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Bromomethane	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
2-Butanone (MEK)	10	U	10	1	NA	4/1/10 10:38		195041	
Carbon Disulfide	10	U	10	1	NA	4/1/10 10:38		195041	
Carbon Tetrachloride	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Chlorobenzene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Chloroethane	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Chloroform	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Chloromethane	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Dibromochloromethane	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
1,1-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
1,2-Dichloroethane	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
1,1-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
1,2-Dichloropropane	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Ethylbenzene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
2-Hexanone	10	U	10	1	NA	4/1/10 10:38		195041	
Methylene Chloride	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	4/1/10 10:38		195041	
Styrene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Tetrachloroethene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Toluene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Trichloroethene	5.0	U	5.0	1	NA	4/1/10 10:38		195041	
Vinyl Chloride	5.0	U	5.0	1	NA	4/1/10 10:38		195041	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

Client: Energy Solutions  
 Project: Leica/ Well MW26A  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: RQ1002293-01

Service Request: R1001579  
 Date Collected: NA  
 Date Received: NA  
 Units: µg/L  
 Basis: NA

**Volatile Organic Compounds by GC/MS**

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	5.0	U	5.0	1	NA	4/1/10 10:38			195041
m,p-Xylenes	5.0	U	5.0	1	NA	4/1/10 10:38			195041

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	100	85-122	4/1/10 10:38		
Toluene-d8	103	87-121	4/1/10 10:38		
Dibromofluoromethane	104	89-119	4/1/10 10:38		

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica/ Well MW26A  
**Sample Matrix:** Water

**Service Request:** R1001579  
**Date Analyzed:** 4/ 1/10

**Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Units:** µg/L

**Basis:** NA

**Analysis Lot:** 195041

**Lab Control Sample**

RQ1002293-02

Analyte Name	Result	Expected	% Rec	% Rec Limits
Acetone	19.6	20.0	98	50 - 150
Benzene	19.5	20.0	98	70 - 130
Bromodichloromethane	21.2	20.0	106	70 - 130
Bromoform	23.6	20.0	118	70 - 130
Bromomethane	18.1	20.0	90	50 - 150
2-Butanone (MEK)	22.2	20.0	111	50 - 150
Carbon Disulfide	14.4	20.0	72	70 - 130
Carbon Tetrachloride	20.0	20.0	100	70 - 130
Chlorobenzene	20.0	20.0	100	70 - 130
Chloroethane	19.4	20.0	97	70 - 130
Chloroform	20.2	20.0	101	70 - 130
Chloromethane	20.2	20.0	101	70 - 130
Dibromochloromethane	22.7	20.0	113	70 - 130
1,1-Dichloroethane	20.3	20.0	102	70 - 130
1,2-Dichloroethane	21.2	20.0	106	70 - 130
1,1-Dichloroethene	19.0	20.0	95	70 - 130
cis-1,2-Dichloroethene	19.6	20.0	98	70 - 130
trans-1,2-Dichloroethene	18.9	20.0	94	70 - 130
1,2-Dichloropropane	20.4	20.0	102	70 - 130
cis-1,3-Dichloropropene	19.8	20.0	99	70 - 130
trans-1,3-Dichloropropene	20.9	20.0	105	70 - 130
Ethylbenzene	20.0	20.0	100	70 - 130
2-Hexanone	22.1	20.0	111	70 - 130
Methylene Chloride	19.8	20.0	99	70 - 130
4-Methyl-2-pentanone (MIBK)	22.3	20.0	111	70 - 130
Styrene	19.7	20.0	99	70 - 130
1,1,2,2-Tetrachloroethane	22.2	20.0	111	70 - 130
Tetrachloroethene	19.6	20.0	98	70 - 130
Toluene	19.5	20.0	98	70 - 130
1,1,1-Trichloroethane	19.9	20.0	99	70 - 130
1,1,2-Trichloroethane	21.1	20.0	105	70 - 130
Trichloroethene	19.6	20.0	98	70 - 130
Vinyl Chloride	20.7	20.0	103	70 - 130
o-Xylene	19.3	20.0	97	70 - 130
m,p-Xylenes	38.5	40.0	96	70 - 130

Comments: \_\_\_\_\_





SR # \_\_\_\_\_  
CAS Contact \_\_\_\_\_

Project Name <b>Leica</b>		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager <b>Bob McPeak</b>		Report CC		PRESERVATIVE	
Company/Address <b>Energy Solutions Inc</b>				PRELIMINARY TESTS (List in comments below)	
100 Mill Plain Rd and Floor Mailbox 106				METALS, TOTAL	
Danbury, CT 06811				METALS, DISSOLVED	
Phone #	801-303-1092	FAX#	203-797-8994	PCBs <input type="checkbox"/> 8082 <input type="checkbox"/> 608 <input type="checkbox"/> CLP	
Sample's Signature	<i>Wayne DeGoliere</i>	Sampler's Printed Name	<b>Wayne DeGoliere</b>	PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 <input type="checkbox"/> CLP	
FOR OFFICE USE ONLY	LAB ID	LAB ID	LAB ID	GC VOAs <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602	
CLIENT SAMPLE ID	MW26 A	LAB ID	-001	GCMS SVOAs <input type="checkbox"/> CLP	
SAMPLING DATE	3/24/10	SAMPLING TIME	15:00	GCMS VOAs <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> CLP	
MATRIX	HAO	NUMBER OF CONTAINERS		1	
REMARKS/ALTERNATE DESCRIPTION <b>Time on Package marked - wrong samples taken 15:00</b>					
PRESERVATIVE KEY 0. NONE 1. HCL 2. HNO3 3. H2SO4 4. NaOH 5. Zn, Acetate 6. MeOH 7. NaHSO4 8. Other _____					
SPECIAL INSTRUCTIONS/COMMENTS <b>Metals</b>		TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 5 day <input type="checkbox"/> STANDARD <input checked="" type="checkbox"/> REQUESTED FAX DATE _____ REQUESTED REPORT DATE _____		REPORT REQUIREMENTS I. Results Only <input type="checkbox"/> II. Results + QC Summaries (LCS, DUP, MS/MSD as required) <input checked="" type="checkbox"/> III. Results + QC and Calibration Summaries <input type="checkbox"/> IV. Data Validation Report with Raw Data <input type="checkbox"/> V. Specialized Forms / Custom R <input type="checkbox"/> Etcia <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
RECEIVED BY <i>Wayne DeGoliere</i> Signature <b>Wayne DeGoliere</b> Printed Name Firm <b>Energy Solutions Maint.</b> Date/Time <b>3/24/10 16:5</b>		RECEIVED BY <i>David W. ...</i> Signature <b>David W. ...</b> Printed Name Firm <b>CA5</b> Date/Time <b>3/25/10/1415</b>		INVOICE INFORMATION PO# _____ BILL TO: _____ <b>R1001579</b> Energy Solutions, Inc. Leica	
SAMPLE RECEIPT: CONDITION/COOLER TEMP: <b>2-7</b>		CUSTODY SEALS: <b>Y N</b>		RELINQUISHED BY	
RELINQUISHED BY		RELINQUISHED BY		RELINQUISHED BY	

Cooler Receipt And Preservation

R1001579

Energy Solutions, Inc.  
Leica

Project/Client Energy Solutions Submission Number



Cooler received on 3/25/10 by: DPW/BS COURIER: CAS UPS FEDEX VELOCITY CLIENT

- Were custody seals on outside of cooler? YES NO
  - Were custody papers properly filled out (ink, signed, etc.)? YES NO
  - Did all bottles arrive in good condition (unbroken)? YES NO
  - Did any VOA vials have significant\* air bubbles? YES NO N/A
  - Were ~~Ice~~ or Ice packs present? YES NO
  - Where did the bottles originate? CAS/ROC, CLIENT
  - Temperature of cooler(s) upon receipt: 6.9° 4.0° i.d. 4.2° 2.0° 4.0°
- Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
- If No, Explain Below 4 hr. rule ← No No No No No No
- Date/Time Temperatures Taken: 3/25/10 / 1440

Thermometer ID: IR GUN#3 / ~~IR GUN#4~~ Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: \_\_\_\_\_

PC Secondary Review: KB 3/26/10

Cooler Breakdown: Date: 3/25/10 by: DPW

- Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were correct containers used for the tests indicated? YES NO
- Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

pH	Reagent	Lot Received		Exp	Sample ID	Vol. Added	Lot Added	Final pH
		YES	NO					
≥12	NaOH							
≤2	HNO <sub>3</sub>							
≤2	H <sub>2</sub> SO <sub>4</sub>							
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid				
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-					
	Zn Aceta	-	-					
	HCl	*	*	4109050	08/11			

Yes = All samples OK  
No = Samples were preserved at lab as listed  
PM OK to Adjust: \_\_\_\_\_

\*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet

Bottle lot numbers: 4-308-001

Other Comments: \_\_\_\_\_

PC Secondary Review: KB 4/9/10

\*significant air bubbles are greater than 5-6 mm

July 23, 2010

Service Request No: R1003551

Mr. Robert McPeak  
Energy Solutions, Inc.  
100 Mill Plain Rd  
2nd Floor Mailbox 106  
Danbury, CT 06811

**Laboratory Results for: Leica Wells July 2010**

Dear Mr. McPeak:

Enclosed are the results of the sample(s) submitted to our laboratory on July 6, 2010. For your reference, these analyses have been assigned our service request number **R1003551**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 134. You may also contact me via email at KBunker@caslab.com.

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Karen Bunker  
Project Manager

Page 1 of 86

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Energy Solutions  
Project: Leica Wells 7/2010  
Sample Matrix: Water

Service Request No.: R1003551  
Date Received: 7/6/10

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

**Sample Receipt**

Twelve (12) groundwater samples and one (1) Trip Blank were collected by the client on 7/7/2010 and received for analysis at Columbia Analytical Services on the same day via CAS Courier. The samples were received in good condition. The cooler receipt temperature range was 2.8-5.8°C, within the guidelines of 0-6°C.

**Volatile Organics**

Thirteen (13) water samples were analyzed for Volatile Organic compounds by GC/MS method 8260B.

The Initial and Continuing Calibration Criteria were met.

Batch QC is included in the report. All Laboratory Control Sample (LCS) and LCS Duplicate recoveries for target compounds were within QC limits. All Relative Percent Difference (RPD) calculations were acceptable.

All Surrogate recoveries are within acceptance limits.

Hits above the calibration range of the standards are flagged "E", estimated. The sample is then repeated at the appropriate dilution for the hits. Both sets of data are included in the report. The subsequent dilution hits are flagged as "D".

All Laboratory Method Blanks were free from contamination.

The samples were analyzed within the 14 day holding time for the method. All vials are checked for preservation after the analysis in order to maintain the integrity of the sample. All vials were found to be preserved to a pH of <2.

No problems were encountered during the analysis of these samples.

**Inorganics**

Twelve (12) water samples were analyzed for TOC, Dissolved Iron and Manganese, and IC compounds: Chloride, Nitrate, and Sulfate. All Method numbers are noted on the Data Form 1's of the report. The soluble locations were filtered in the laboratory.

All Initial and Continuing Calibration Criteria was met for these analyses.

Batch QC is included in the report. All Laboratory Control Sample recoveries were within QC acceptance limits.

All Laboratory Method Blanks were free from contamination.

All holding times were initially met for these analyses. The Nitrate analysis was repeated less than 2 hours outside of holding time for samples MW 16A (CAS #R1003551-017), MW 24A (R1003551-021) and MW 24 (R1003551-023). The repeats were necessary due to a Continuing Calibration failure on the initial run.

No problems were encountered with these analyses.

Approved by



Date

7/23/10

## CASE NARRATIVE

This report contains analytical results for the following samples:  
Service Request Number: R1003551

<u>Lab ID</u>	<u>Client ID</u>
R1003551-001	MW 10
R1003551-002	MW 10 DISSOLVED
R1003551-003	MW 14
R1003551-004	MW 14 DISSOLVED
R1003551-005	MW 14A
R1003551-006	MW 14A DISSOLVED
R1003551-007	MW 5
R1003551-008	MW 5 DISSOLVED
R1003551-009	MW 5A
R1003551-010	MW 5A DISSOLVED
R1003551-011	MW 6
R1003551-012	MW 6 DISSOLVED
R1003551-013	MW 6A
R1003551-014	MW 6A DISSOLVED
R1003551-015	MW 16R
R1003551-016	MW 16R DISSOLVED
R1003551-017	MW 16A
R1003551-018	MW 16A DISSOLVED
R1003551-019	MW 11A
R1003551-020	MW 11A DISSOLVED
R1003551-021	MW 24A
R1003551-022	MW 24A DISSOLVED
R1003551-023	MW 24
R1003551-024	MW 24 DISSOLVED
R1003551-025	Trip Blank

## REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$  Difference between two GC columns).
- X See Case Narrative for discussion.



### CAS/Rochester Lab ID # for State Certifications<sup>1</sup>

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at [www.caslab.com](http://www.caslab.com).

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 10  
**Lab Code:** R1003551-001

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0800  
**Date Received:** 7/ 6/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	152	mg/L	10	10	NA	7/15/10 23:08
Chloride	300.0	33.5	mg/L	2.0	10	NA	7/7/10 11:49
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/7/10 11:49
Sulfate	300.0	4.1	mg/L	2.0	10	NA	7/7/10 11:49

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 10  
 Lab Code: R1003551-001

Service Request: R1003551  
 Date Collected: 7/ 6/10 0800  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	46		20	1	NA	7/14/10 15:57		208370
Benzene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Bromodichloromethane	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Bromoform	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Bromomethane	5.0	U	5.0	1	NA	7/14/10 15:57		208370
2-Butanone (MEK)	110		10	1	NA	7/14/10 15:57		208370
Carbon Disulfide	10	U	10	1	NA	7/14/10 15:57		208370
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Chlorobenzene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Chloroethane	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Chloroform	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Chloromethane	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Dibromochloromethane	5.0	U	5.0	1	NA	7/14/10 15:57		208370
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/14/10 15:57		208370
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/14/10 15:57		208370
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
cis-1,2-Dichloroethene	9.5		5.0	1	NA	7/14/10 15:57		208370
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/14/10 15:57		208370
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Ethylbenzene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
2-Hexanone	10	U	10	1	NA	7/14/10 15:57		208370
Methylene Chloride	5.0	U	5.0	1	NA	7/14/10 15:57		208370
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/14/10 15:57		208370
Styrene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Tetrachloroethene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Toluene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/14/10 15:57		208370
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Trichloroethene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
Vinyl Chloride	24		5.0	1	NA	7/14/10 15:57		208370
o-Xylene	5.0	U	5.0	1	NA	7/14/10 15:57		208370
m,p-Xylenes	5.0	U	5.0	1	NA	7/14/10 15:57		208370



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: MW 10  
Lab Code: R1003551-001

Service Request: R1003551  
Date Collected: 7/ 6/10 0800  
Date Received: 7/ 6/10  
Units: Percent  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	107	85-122	7/14/10 15:57	
Toluene-d8	106	87-121	7/14/10 15:57	
Dibromofluoromethane	114	89-119	7/14/10 15:57	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 10 DISSOLVED  
**Lab Code:** R1003551-002

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0800  
**Date Received:** 7/ 6/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	2510		µg/L	100	1	7/12/10	7/16/10 14:29
Manganese, Dissolved	6010B	30		µg/L	10	1	7/12/10	7/16/10 14:29

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 14  
**Lab Code:** R1003551-003

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0815  
**Date Received:** 7/ 6/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	4.5	mg/L	1.0	1	NA	7/19/10 17:02
Chloride	300.0	55.1	mg/L	2.0	10	NA	7/7/10 12:28
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/7/10 12:28
Sulfate	300.0	327	mg/L	20	100	NA	7/8/10 18:29

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 14  
 Lab Code: R1003551-003

Service Request: R1003551  
 Date Collected: 7/ 6/10 0815  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis	
							Lot	Lot
Acetone	20	U	20	1	NA	7/12/10 16:30		208123
Benzene	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Bromodichloromethane	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Bromoform	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Bromomethane	5.0	U	5.0	1	NA	7/12/10 16:30		208123
2-Butanone (MEK)	10	U	10	1	NA	7/12/10 16:30		208123
Carbon Disulfide	10	U	10	1	NA	7/12/10 16:30		208123
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Chlorobenzene	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Chloroethane	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Chloroform	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Chloromethane	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Dibromochloromethane	5.0	U	5.0	1	NA	7/12/10 16:30		208123
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 16:30		208123
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 16:30		208123
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 16:30		208123
cis-1,2-Dichloroethene	280	E	5.0	1	NA	7/12/10 16:30		208123
trans-1,2-Dichloroethene	7.0		5.0	1	NA	7/12/10 16:30		208123
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/12/10 16:30		208123
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 16:30		208123
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Ethylbenzene	5.0	U	5.0	1	NA	7/12/10 16:30		208123
2-Hexanone	10	U	10	1	NA	7/12/10 16:30		208123
Methylene Chloride	5.0	U	5.0	1	NA	7/12/10 16:30		208123
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/12/10 16:30		208123
Styrene	5.0	U	5.0	1	NA	7/12/10 16:30		208123
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Tetrachloroethene	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Toluene	5.0	U	5.0	1	NA	7/12/10 16:30		208123
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 16:30		208123
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Trichloroethene	5.0	U	5.0	1	NA	7/12/10 16:30		208123
Vinyl Chloride	91		5.0	1	NA	7/12/10 16:30		208123
o-Xylene	5.0	U	5.0	1	NA	7/12/10 16:30		208123
m,p-Xylenes	5.0	U	5.0	1	NA	7/12/10 16:30		208123

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: MW 14  
Lab Code: R1003551-003

Service Request: R1003551  
Date Collected: 7/ 6/10 0815  
Date Received: 7/ 6/10  
Units: Percent  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	110	85-122	7/12/10 16:30	
Toluene-d8	102	87-121	7/12/10 16:30	
Dibromofluoromethane	111	89-119	7/12/10 16:30	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 14  
 Lab Code: R1003551-003  
 Run Type: Dilution

Service Request: R1003551  
 Date Collected: 7/ 6/10 0815  
 Date Received: 7/ 6/10

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	40	U	40	2	NA	7/14/10 16:35		208370
Benzene	10	U	10	2	NA	7/14/10 16:35		208370
Bromodichloromethane	10	U	10	2	NA	7/14/10 16:35		208370
Bromoform	10	U	10	2	NA	7/14/10 16:35		208370
Bromomethane	10	U	10	2	NA	7/14/10 16:35		208370
2-Butanone (MEK)	20	U	20	2	NA	7/14/10 16:35		208370
Carbon Disulfide	20	U	20	2	NA	7/14/10 16:35		208370
Carbon Tetrachloride	10	U	10	2	NA	7/14/10 16:35		208370
Chlorobenzene	10	U	10	2	NA	7/14/10 16:35		208370
Chloroethane	10	U	10	2	NA	7/14/10 16:35		208370
Chloroform	10	U	10	2	NA	7/14/10 16:35		208370
Chloromethane	10	U	10	2	NA	7/14/10 16:35		208370
Dibromochloromethane	10	U	10	2	NA	7/14/10 16:35		208370
1,1-Dichloroethane	10	U	10	2	NA	7/14/10 16:35		208370
1,2-Dichloroethane	10	U	10	2	NA	7/14/10 16:35		208370
1,1-Dichloroethene	10	U	10	2	NA	7/14/10 16:35		208370
cis-1,2-Dichloroethene	260	D	10	2	NA	7/14/10 16:35		208370
trans-1,2-Dichloroethene	10	U	10	2	NA	7/14/10 16:35		208370
1,2-Dichloropropane	10	U	10	2	NA	7/14/10 16:35		208370
cis-1,3-Dichloropropene	10	U	10	2	NA	7/14/10 16:35		208370
trans-1,3-Dichloropropene	10	U	10	2	NA	7/14/10 16:35		208370
Ethylbenzene	10	U	10	2	NA	7/14/10 16:35		208370
2-Hexanone	20	U	20	2	NA	7/14/10 16:35		208370
Methylene Chloride	10	U	10	2	NA	7/14/10 16:35		208370
4-Methyl-2-pentanone (MIBK)	20	U	20	2	NA	7/14/10 16:35		208370
Styrene	10	U	10	2	NA	7/14/10 16:35		208370
1,1,2,2-Tetrachloroethane	10	U	10	2	NA	7/14/10 16:35		208370
Tetrachloroethene	10	U	10	2	NA	7/14/10 16:35		208370
Toluene	10	U	10	2	NA	7/14/10 16:35		208370
1,1,1-Trichloroethane	10	U	10	2	NA	7/14/10 16:35		208370
1,1,2-Trichloroethane	10	U	10	2	NA	7/14/10 16:35		208370
Trichloroethene	10	U	10	2	NA	7/14/10 16:35		208370
Vinyl Chloride	83	D	10	2	NA	7/14/10 16:35		208370
o-Xylene	10	U	10	2	NA	7/14/10 16:35		208370
m,p-Xylenes	10	U	10	2	NA	7/14/10 16:35		208370

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 14  
**Lab Code:** R1003551-003  
**Run Type:** Dilution

**Service Request:** R1003551  
**Date Collected:** 7/6/10 0815  
**Date Received:** 7/6/10  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

**Analytical Method:** 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	109	85-122	7/14/10 16:35	
Toluene-d8	104	87-121	7/14/10 16:35	
Dibromofluoromethane	109	89-119	7/14/10 16:35	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 14 DISSOLVED  
**Lab Code:** R1003551-004

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0815  
**Date Received:** 7/ 6/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	200		µg/L	100	1	7/12/10	7/16/10 14:58
Manganese, Dissolved	6010B	63		µg/L	10	1	7/12/10	7/16/10 14:58



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 14A  
**Lab Code:** R1003551-005

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0825  
**Date Received:** 7/ 6/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	3.9	mg/L	1.0	1	NA	7/19/10 17:36
Chloride	300.0	15.0	mg/L	2.0	10	NA	7/7/10 12:42
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/7/10 12:42
Sulfate	300.0	115	mg/L	4.0	20	NA	7/8/10 18:41

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 14A  
 Lab Code: R1003551-005

Service Request: R1003551  
 Date Collected: 7/ 6/10 0825  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	20	U	20	1	NA	7/12/10 17:08		208123
Benzene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Bromodichloromethane	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Bromoform	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Bromomethane	5.0	U	5.0	1	NA	7/12/10 17:08		208123
2-Butanone (MEK)	10	U	10	1	NA	7/12/10 17:08		208123
Carbon Disulfide	10	U	10	1	NA	7/12/10 17:08		208123
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Chlorobenzene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Chloroethane	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Chloroform	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Chloromethane	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Dibromochloromethane	5.0	U	5.0	1	NA	7/12/10 17:08		208123
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 17:08		208123
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 17:08		208123
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
cis-1,2-Dichloroethene	31		5.0	1	NA	7/12/10 17:08		208123
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/12/10 17:08		208123
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Ethylbenzene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
2-Hexanone	10	U	10	1	NA	7/12/10 17:08		208123
Methylene Chloride	5.0	U	5.0	1	NA	7/12/10 17:08		208123
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/12/10 17:08		208123
Styrene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Tetrachloroethene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Toluene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 17:08		208123
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Trichloroethene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
Vinyl Chloride	24		5.0	1	NA	7/12/10 17:08		208123
o-Xylene	5.0	U	5.0	1	NA	7/12/10 17:08		208123
m,p-Xylenes	5.0	U	5.0	1	NA	7/12/10 17:08		208123

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: MW 14A  
Lab Code: R1003551-005

Service Request: R1003551  
Date Collected: 7/ 6/10 0825  
Date Received: 7/ 6/10  
Units: Percent  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	85-122	7/12/10 17:08	
Toluene-d8	103	87-121	7/12/10 17:08	
Dibromofluoromethane	111	89-119	7/12/10 17:08	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: MW 14A DISSOLVED  
Lab Code: R1003551-006

Service Request: R1003551  
Date Collected: 7/ 6/10 0825  
Date Received: 7/ 6/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	830		µg/L	100	1	7/12/10	7/16/10 15:04
Manganese, Dissolved	6010B	83		µg/L	10	1	7/12/10	7/16/10 15:04

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 5  
**Lab Code:** R1003551-007

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0840  
**Date Received:** 7/ 6/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	3.8	mg/L	1.0	1	NA	7/16/10 00:38
Chloride	300.0	2.0	mg/L	2.0	10	NA	7/7/10 12:55
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/7/10 12:55
Sulfate	300.0	9.8	mg/L	2.0	10	NA	7/7/10 12:55

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 5  
 Lab Code: R1003551-007

Service Request: R1003551  
 Date Collected: 7/ 6/10 0840  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	20	U	20	1	NA	7/12/10 17:46		208123
Benzene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Bromodichloromethane	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Bromoform	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Bromomethane	5.0	U	5.0	1	NA	7/12/10 17:46		208123
2-Butanone (MEK)	10	U	10	1	NA	7/12/10 17:46		208123
Carbon Disulfide	10	U	10	1	NA	7/12/10 17:46		208123
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Chlorobenzene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Chloroethane	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Chloroform	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Chloromethane	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Dibromochloromethane	5.0	U	5.0	1	NA	7/12/10 17:46		208123
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 17:46		208123
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 17:46		208123
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/12/10 17:46		208123
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Ethylbenzene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
2-Hexanone	10	U	10	1	NA	7/12/10 17:46		208123
Methylene Chloride	5.0	U	5.0	1	NA	7/12/10 17:46		208123
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/12/10 17:46		208123
Styrene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Tetrachloroethene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Toluene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 17:46		208123
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Trichloroethene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
Vinyl Chloride	5.0	U	5.0	1	NA	7/12/10 17:46		208123
o-Xylene	5.0	U	5.0	1	NA	7/12/10 17:46		208123
m,p-Xylenes	5.0	U	5.0	1	NA	7/12/10 17:46		208123

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 5  
**Lab Code:** R1003551-007

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0840  
**Date Received:** 7/ 6/10  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	112	85-122	7/12/10 17:46	
Toluene-d8	102	87-121	7/12/10 17:46	
Dibromofluoromethane	113	89-119	7/12/10 17:46	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 5 DISSOLVED  
**Lab Code:** R1003551-008

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0840  
**Date Received:** 7/ 6/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	160	µg/L	100	1	7/12/10	7/16/10 15:22
Manganese, Dissolved	6010B	33	µg/L	10	1	7/12/10	7/16/10 15:22



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 5A  
**Lab Code:** R1003551-009

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0850  
**Date Received:** 7/ 6/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	176	mg/L	10	10	NA	7/16/10 00:56
Chloride	300.0	96.0	mg/L	2.0	10	NA	7/7/10 13:08
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/7/10 13:08
Sulfate	300.0	8.5	mg/L	2.0	10	NA	7/7/10 13:08

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 5A  
 Lab Code: R1003551-009

Service Request: R1003551  
 Date Collected: 7/ 6/10 0850  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	32		20	1	NA	7/12/10 18:24		208123
Benzene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Bromodichloromethane	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Bromoform	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Bromomethane	5.0	U	5.0	1	NA	7/12/10 18:24		208123
2-Butanone (MEK)	120		10	1	NA	7/12/10 18:24		208123
Carbon Disulfide	10	U	10	1	NA	7/12/10 18:24		208123
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Chlorobenzene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Chloroethane	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Chloroform	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Chloromethane	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Dibromochloromethane	5.0	U	5.0	1	NA	7/12/10 18:24		208123
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 18:24		208123
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 18:24		208123
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/12/10 18:24		208123
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Ethylbenzene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
2-Hexanone	10	U	10	1	NA	7/12/10 18:24		208123
Methylene Chloride	5.0	U	5.0	1	NA	7/12/10 18:24		208123
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/12/10 18:24		208123
Styrene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Tetrachloroethene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Toluene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 18:24		208123
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Trichloroethene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
Vinyl Chloride	7.0		5.0	1	NA	7/12/10 18:24		208123
o-Xylene	5.0	U	5.0	1	NA	7/12/10 18:24		208123
m,p-Xylenes	5.0	U	5.0	1	NA	7/12/10 18:24		208123

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 5A  
**Lab Code:** R1003551-009

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0850  
**Date Received:** 7/ 6/10  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	109	85-122	7/12/10 18:24	
Toluene-d8	98	87-121	7/12/10 18:24	
Dibromofluoromethane	113	89-119	7/12/10 18:24	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 5A DISSOLVED  
**Lab Code:** R1003551-010

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0850  
**Date Received:** 7/ 6/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	12500	µg/L	100	1	7/12/10	7/16/10 15:28
Manganese, Dissolved	6010B	87	µg/L	10	1	7/12/10	7/16/10 15:28

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 6  
**Lab Code:** R1003551-011

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0910  
**Date Received:** 7/ 6/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	7.8	mg/L	1.0	1	NA	7/19/10 18:11
Chloride	300.0	8.2	mg/L	2.0	10	NA	7/7/10 13:21
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/7/10 13:21
Sulfate	300.0	196	mg/L	8.0	40	NA	7/8/10 18:53

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 6  
 Lab Code: R1003551-011

Service Request: R1003551  
 Date Collected: 7/ 6/10 0910  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	20	U	20	1	NA	7/12/10 19:02		208123
Benzene	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Bromodichloromethane	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Bromoform	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Bromomethane	5.0	U	5.0	1	NA	7/12/10 19:02		208123
2-Butanone (MEK)	10	U	10	1	NA	7/12/10 19:02		208123
Carbon Disulfide	10	U	10	1	NA	7/12/10 19:02		208123
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Chlorobenzene	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Chloroethane	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Chloroform	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Chloromethane	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Dibromochloromethane	5.0	U	5.0	1	NA	7/12/10 19:02		208123
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 19:02		208123
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 19:02		208123
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 19:02		208123
cis-1,2-Dichloroethene	120		5.0	1	NA	7/12/10 19:02		208123
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 19:02		208123
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/12/10 19:02		208123
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 19:02		208123
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Ethylbenzene	5.0	U	5.0	1	NA	7/12/10 19:02		208123
2-Hexanone	10	U	10	1	NA	7/12/10 19:02		208123
Methylene Chloride	5.0	U	5.0	1	NA	7/12/10 19:02		208123
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/12/10 19:02		208123
Styrene	5.0	U	5.0	1	NA	7/12/10 19:02		208123
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Tetrachloroethene	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Toluene	5.0	U	5.0	1	NA	7/12/10 19:02		208123
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 19:02		208123
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 19:02		208123
Trichloroethene	15		5.0	1	NA	7/12/10 19:02		208123
Vinyl Chloride	53		5.0	1	NA	7/12/10 19:02		208123
o-Xylene	5.0	U	5.0	1	NA	7/12/10 19:02		208123
m,p-Xylenes	5.0	U	5.0	1	NA	7/12/10 19:02		208123

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 6  
**Lab Code:** R1003551-011

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0910  
**Date Received:** 7/ 6/10  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	114	85-122	7/12/10 19:02	
Toluene-d8	106	87-121	7/12/10 19:02	
Dibromofluoromethane	113	89-119	7/12/10 19:02	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 6 DISSOLVED  
**Lab Code:** R1003551-012

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0910  
**Date Received:** 7/ 6/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	860		µg/L	100	1	7/12/10	7/16/10 15:34
Manganese, Dissolved	6010B	56		µg/L	10	1	7/12/10	7/16/10 15:34



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 6A  
**Lab Code:** R1003551-013

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0920  
**Date Received:** 7/ 6/10

**Basis:** NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	5.8	mg/L	1.0	1	NA	7/19/10 18:45
Chloride	300.0	11.7	mg/L	2.0	10	NA	7/7/10 13:34
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/7/10 13:34
Sulfate	300.0	67.6	mg/L	2.0	10	NA	7/7/10 13:34

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 6A  
 Lab Code: R1003551-013

Service Request: R1003551  
 Date Collected: 7/ 6/10 0920  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	50	U	50	2.5	NA	7/12/10 19:40		208123
Benzene	13	U	13	2.5	NA	7/12/10 19:40		208123
Bromodichloromethane	13	U	13	2.5	NA	7/12/10 19:40		208123
Bromoform	13	U	13	2.5	NA	7/12/10 19:40		208123
Bromomethane	13	U	13	2.5	NA	7/12/10 19:40		208123
2-Butanone (MEK)	25	U	25	2.5	NA	7/12/10 19:40		208123
Carbon Disulfide	25	U	25	2.5	NA	7/12/10 19:40		208123
Carbon Tetrachloride	13	U	13	2.5	NA	7/12/10 19:40		208123
Chlorobenzene	13	U	13	2.5	NA	7/12/10 19:40		208123
Chloroethane	13	U	13	2.5	NA	7/12/10 19:40		208123
Chloroform	13	U	13	2.5	NA	7/12/10 19:40		208123
Chloromethane	13	U	13	2.5	NA	7/12/10 19:40		208123
Dibromochloromethane	13	U	13	2.5	NA	7/12/10 19:40		208123
1,1-Dichloroethane	13	U	13	2.5	NA	7/12/10 19:40		208123
1,2-Dichloroethane	13	U	13	2.5	NA	7/12/10 19:40		208123
1,1-Dichloroethene	13	U	13	2.5	NA	7/12/10 19:40		208123
cis-1,2-Dichloroethene	380		13	2.5	NA	7/12/10 19:40		208123
trans-1,2-Dichloroethene	13	U	13	2.5	NA	7/12/10 19:40		208123
1,2-Dichloropropane	13	U	13	2.5	NA	7/12/10 19:40		208123
cis-1,3-Dichloropropene	13	U	13	2.5	NA	7/12/10 19:40		208123
trans-1,3-Dichloropropene	13	U	13	2.5	NA	7/12/10 19:40		208123
Ethylbenzene	13	U	13	2.5	NA	7/12/10 19:40		208123
2-Hexanone	25	U	25	2.5	NA	7/12/10 19:40		208123
Methylene Chloride	13	U	13	2.5	NA	7/12/10 19:40		208123
4-Methyl-2-pentanone (MIBK)	25	U	25	2.5	NA	7/12/10 19:40		208123
Styrene	13	U	13	2.5	NA	7/12/10 19:40		208123
1,1,2,2-Tetrachloroethane	13	U	13	2.5	NA	7/12/10 19:40		208123
Tetrachloroethene	13	U	13	2.5	NA	7/12/10 19:40		208123
Toluene	13	U	13	2.5	NA	7/12/10 19:40		208123
1,1,1-Trichloroethane	13	U	13	2.5	NA	7/12/10 19:40		208123
1,1,2-Trichloroethane	13	U	13	2.5	NA	7/12/10 19:40		208123
Trichloroethene	13	U	13	2.5	NA	7/12/10 19:40		208123
Vinyl Chloride	360		13	2.5	NA	7/12/10 19:40		208123
o-Xylene	13	U	13	2.5	NA	7/12/10 19:40		208123
m,p-Xylenes	13	U	13	2.5	NA	7/12/10 19:40		208123

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: MW 6A  
Lab Code: R1003551-013

Service Request: R1003551  
Date Collected: 7/ 6/10 0920  
Date Received: 7/ 6/10  
Units: Percent  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	110	85-122	7/12/10 19:40	
Toluene-d8	98	87-121	7/12/10 19:40	
Dibromofluoromethane	119	89-119	7/12/10 19:40	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 6A DISSOLVED  
**Lab Code:** R1003551-014

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 0920  
**Date Received:** 7/ 6/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	230	µg/L	100	1	7/12/10	7/16/10 15:40
Manganese, Dissolved	6010B	103	µg/L	10	1	7/12/10	7/16/10 15:40

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: MW 16R  
Lab Code: R1003551-015

Service Request: R1003551  
Date Collected: 7/ 6/10 1005  
Date Received: 7/ 6/10

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	22.5	mg/L	1.0	1	NA	7/19/10 19:03
Chloride	300.0	511	mg/L	20	100	NA	7/9/10 16:38
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/7/10 14:13
Sulfate	300.0	8.9	mg/L	2.0	10	NA	7/7/10 14:13

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 16R  
 Lab Code: R1003551-015

Service Request: R1003551  
 Date Collected: 7/ 6/10 1005  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	20	U	20	1	NA	7/13/10 03:03		208160
Benzene	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Bromodichloromethane	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Bromoform	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Bromomethane	5.0	U	5.0	1	NA	7/13/10 03:03		208160
2-Butanone (MEK)	14		10	1	NA	7/13/10 03:03		208160
Carbon Disulfide	10	U	10	1	NA	7/13/10 03:03		208160
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Chlorobenzene	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Chloroethane	340	E	5.0	1	NA	7/13/10 03:03		208160
Chloroform	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Chloromethane	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Dibromochloromethane	5.0	U	5.0	1	NA	7/13/10 03:03		208160
1,1-Dichloroethane	130		5.0	1	NA	7/13/10 03:03		208160
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/13/10 03:03		208160
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 03:03		208160
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 03:03		208160
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 03:03		208160
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/13/10 03:03		208160
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 03:03		208160
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Ethylbenzene	52		5.0	1	NA	7/13/10 03:03		208160
2-Hexanone	10	U	10	1	NA	7/13/10 03:03		208160
Methylene Chloride	5.0	U	5.0	1	NA	7/13/10 03:03		208160
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/13/10 03:03		208160
Styrene	5.0	U	5.0	1	NA	7/13/10 03:03		208160
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Tetrachloroethene	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Toluene	5.0	U	5.0	1	NA	7/13/10 03:03		208160
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/13/10 03:03		208160
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Trichloroethene	5.0	U	5.0	1	NA	7/13/10 03:03		208160
Vinyl Chloride	5.0	U	5.0	1	NA	7/13/10 03:03		208160
o-Xylene	52		5.0	1	NA	7/13/10 03:03		208160
m,p-Xylenes	110		5.0	1	NA	7/13/10 03:03		208160

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: MW 16R  
Lab Code: R1003551-015

Service Request: R1003551  
Date Collected: 7/ 6/10 1005  
Date Received: 7/ 6/10  
Units: Percent  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	112	85-122	7/13/10 03:03	
Toluene-d8	103	87-121	7/13/10 03:03	
Dibromofluoromethane	110	89-119	7/13/10 03:03	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 16R  
 Lab Code: R1003551-015  
 Run Type: Dilution

Service Request: R1003551  
 Date Collected: 7/6/10 1005  
 Date Received: 7/6/10

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	40	U	40	2	NA	7/14/10 17:13		208370
Benzene	10	U	10	2	NA	7/14/10 17:13		208370
Bromodichloromethane	10	U	10	2	NA	7/14/10 17:13		208370
Bromoform	10	U	10	2	NA	7/14/10 17:13		208370
Bromomethane	10	U	10	2	NA	7/14/10 17:13		208370
2-Butanone (MEK)	20	U	20	2	NA	7/14/10 17:13		208370
Carbon Disulfide	20	U	20	2	NA	7/14/10 17:13		208370
Carbon Tetrachloride	10	U	10	2	NA	7/14/10 17:13		208370
Chlorobenzene	10	U	10	2	NA	7/14/10 17:13		208370
Chloroethane	320	D	10	2	NA	7/14/10 17:13		208370
Chloroform	10	U	10	2	NA	7/14/10 17:13		208370
Chloromethane	10	U	10	2	NA	7/14/10 17:13		208370
Dibromochloromethane	10	U	10	2	NA	7/14/10 17:13		208370
1,1-Dichloroethane	110	D	10	2	NA	7/14/10 17:13		208370
1,2-Dichloroethane	10	U	10	2	NA	7/14/10 17:13		208370
1,1-Dichloroethene	10	U	10	2	NA	7/14/10 17:13		208370
cis-1,2-Dichloroethene	10	U	10	2	NA	7/14/10 17:13		208370
trans-1,2-Dichloroethene	10	U	10	2	NA	7/14/10 17:13		208370
1,2-Dichloropropane	10	U	10	2	NA	7/14/10 17:13		208370
cis-1,3-Dichloropropene	10	U	10	2	NA	7/14/10 17:13		208370
trans-1,3-Dichloropropene	10	U	10	2	NA	7/14/10 17:13		208370
Ethylbenzene	47	D	10	2	NA	7/14/10 17:13		208370
2-Hexanone	20	U	20	2	NA	7/14/10 17:13		208370
Methylene Chloride	10	U	10	2	NA	7/14/10 17:13		208370
4-Methyl-2-pentanone (MIBK)	20	U	20	2	NA	7/14/10 17:13		208370
Styrene	10	U	10	2	NA	7/14/10 17:13		208370
1,1,2,2-Tetrachloroethane	10	U	10	2	NA	7/14/10 17:13		208370
Tetrachloroethene	10	U	10	2	NA	7/14/10 17:13		208370
Toluene	10	U	10	2	NA	7/14/10 17:13		208370
1,1,1-Trichloroethane	10	U	10	2	NA	7/14/10 17:13		208370
1,1,2-Trichloroethane	10	U	10	2	NA	7/14/10 17:13		208370
Trichloroethene	10	U	10	2	NA	7/14/10 17:13		208370
Vinyl Chloride	10	U	10	2	NA	7/14/10 17:13		208370
o-Xylene	47	D	10	2	NA	7/14/10 17:13		208370
m,p-Xylenes	90	D	10	2	NA	7/14/10 17:13		208370



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 16R  
**Lab Code:** R1003551-015  
**Run Type:** Dilution

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1005  
**Date Received:** 7/ 6/10  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	112	85-122	7/14/10 17:13	
Toluene-d8	100	87-121	7/14/10 17:13	
Dibromofluoromethane	114	89-119	7/14/10 17:13	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 16R DISSOLVED  
**Lab Code:** R1003551-016

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1005  
**Date Received:** 7/ 6/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	940		µg/L	100	1	7/12/10	7/16/10 15:45
Manganese, Dissolved	6010B	82		µg/L	10	1	7/12/10	7/16/10 15:45

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 16A  
**Lab Code:** R1003551-017

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1030  
**Date Received:** 7/ 6/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	3.6	mg/L	1.0	1	NA	7/19/10 19:38
Chloride	300.0	216	mg/L	8.0	40	NA	7/8/10 22:41
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/8/10 12:16
Sulfate	300.0	79.7	mg/L	2.0	10	NA	7/7/10 14:26

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 16A  
 Lab Code: R1003551-017

Service Request: R1003551  
 Date Collected: 7/ 6/10 1030  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	20	U	20	1	NA	7/13/10 03:40		208160
Benzene	5.0	U	5.0	1	NA	7/13/10 03:40		208160
Bromodichloromethane	5.0	U	5.0	1	NA	7/13/10 03:40		208160
Bromoform	5.0	U	5.0	1	NA	7/13/10 03:40		208160
Bromomethane	5.0	U	5.0	1	NA	7/13/10 03:40		208160
2-Butanone (MEK)	10	U	10	1	NA	7/13/10 03:40		208160
Carbon Disulfide	10	U	10	1	NA	7/13/10 03:40		208160
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/13/10 03:40		208160
Chlorobenzene	5.0	U	5.0	1	NA	7/13/10 03:40		208160
Chloroethane	12		5.0	1	NA	7/13/10 03:40		208160
Chloroform	5.0	U	5.0	1	NA	7/13/10 03:40		208160
Chloromethane	5.0	U	5.0	1	NA	7/13/10 03:40		208160
Dibromochloromethane	5.0	U	5.0	1	NA	7/13/10 03:40		208160
1,1-Dichloroethane	88		5.0	1	NA	7/13/10 03:40		208160
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/13/10 03:40		208160
1,1-Dichloroethene	6.3		5.0	1	NA	7/13/10 03:40		208160
cis-1,2-Dichloroethene	820	E	5.0	1	NA	7/13/10 03:40		208160
trans-1,2-Dichloroethene	11		5.0	1	NA	7/13/10 03:40		208160
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/13/10 03:40		208160
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 03:40		208160
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 03:40		208160
Ethylbenzene	5.9		5.0	1	NA	7/13/10 03:40		208160
2-Hexanone	10	U	10	1	NA	7/13/10 03:40		208160
Methylene Chloride	5.0	U	5.0	1	NA	7/13/10 03:40		208160
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/13/10 03:40		208160
Styrene	5.0	U	5.0	1	NA	7/13/10 03:40		208160
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/13/10 03:40		208160
Tetrachloroethene	5.0	U	5.0	1	NA	7/13/10 03:40		208160
Toluene	5.0	U	5.0	1	NA	7/13/10 03:40		208160
1,1,1-Trichloroethane	43		5.0	1	NA	7/13/10 03:40		208160
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/13/10 03:40		208160
Trichloroethene	180		5.0	1	NA	7/13/10 03:40		208160
Vinyl Chloride	200	E	5.0	1	NA	7/13/10 03:40		208160
o-Xylene	5.0	U	5.0	1	NA	7/13/10 03:40		208160
m,p-Xylenes	6.5		5.0	1	NA	7/13/10 03:40		208160

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 16A  
**Lab Code:** R1003551-017

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1030  
**Date Received:** 7/ 6/10  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	85-122	7/13/10 03:40	
Toluene-d8	102	87-121	7/13/10 03:40	
Dibromofluoromethane	112	89-119	7/13/10 03:40	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 16A  
 Lab Code: R1003551-017  
 Run Type: Dilution

Service Request: R1003551  
 Date Collected: 7/ 6/10 1030  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	100	U	100	5	NA	7/14/10 17:51		208370
Benzene	25	U	25	5	NA	7/14/10 17:51		208370
Bromodichloromethane	25	U	25	5	NA	7/14/10 17:51		208370
Bromoform	25	U	25	5	NA	7/14/10 17:51		208370
Bromomethane	25	U	25	5	NA	7/14/10 17:51		208370
2-Butanone (MEK)	50	U	50	5	NA	7/14/10 17:51		208370
Carbon Disulfide	50	U	50	5	NA	7/14/10 17:51		208370
Carbon Tetrachloride	25	U	25	5	NA	7/14/10 17:51		208370
Chlorobenzene	25	U	25	5	NA	7/14/10 17:51		208370
Chloroethane	25	U	25	5	NA	7/14/10 17:51		208370
Chloroform	25	U	25	5	NA	7/14/10 17:51		208370
Chloromethane	25	U	25	5	NA	7/14/10 17:51		208370
Dibromochloromethane	25	U	25	5	NA	7/14/10 17:51		208370
1,1-Dichloroethane	78	D	25	5	NA	7/14/10 17:51		208370
1,2-Dichloroethane	25	U	25	5	NA	7/14/10 17:51		208370
1,1-Dichloroethene	25	U	25	5	NA	7/14/10 17:51		208370
cis-1,2-Dichloroethene	850	D	25	5	NA	7/14/10 17:51		208370
trans-1,2-Dichloroethene	25	U	25	5	NA	7/14/10 17:51		208370
1,2-Dichloropropane	25	U	25	5	NA	7/14/10 17:51		208370
cis-1,3-Dichloropropene	25	U	25	5	NA	7/14/10 17:51		208370
trans-1,3-Dichloropropene	25	U	25	5	NA	7/14/10 17:51		208370
Ethylbenzene	25	U	25	5	NA	7/14/10 17:51		208370
2-Hexanone	50	U	50	5	NA	7/14/10 17:51		208370
Methylene Chloride	25	U	25	5	NA	7/14/10 17:51		208370
4-Methyl-2-pentanone (MIBK)	50	U	50	5	NA	7/14/10 17:51		208370
Styrene	25	U	25	5	NA	7/14/10 17:51		208370
1,1,2,2-Tetrachloroethane	25	U	25	5	NA	7/14/10 17:51		208370
Tetrachloroethene	25	U	25	5	NA	7/14/10 17:51		208370
Toluene	25	U	25	5	NA	7/14/10 17:51		208370
1,1,1-Trichloroethane	39	D	25	5	NA	7/14/10 17:51		208370
1,1,2-Trichloroethane	25	U	25	5	NA	7/14/10 17:51		208370
Trichloroethene	160	D	25	5	NA	7/14/10 17:51		208370
Vinyl Chloride	160	D	25	5	NA	7/14/10 17:51		208370
o-Xylene	25	U	25	5	NA	7/14/10 17:51		208370
m,p-Xylenes	25	U	25	5	NA	7/14/10 17:51		208370

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 16A  
**Lab Code:** R1003551-017  
**Run Type:** Dilution

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1030  
**Date Received:** 7/ 6/10  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	115	85-122	7/14/10 17:51	
Toluene-d8	108	87-121	7/14/10 17:51	
Dibromofluoromethane	109	89-119	7/14/10 17:51	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 16A DISSOLVED  
**Lab Code:** R1003551-018

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1030  
**Date Received:** 7/ 6/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	130	µg/L	100	1	7/12/10	7/16/10 15:51
Manganese, Dissoived	6010B	68	µg/L	10	1	7/12/10	7/16/10 15:51



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: MW 11A  
Lab Code: R1003551-019

Service Request: R1003551  
Date Collected: 7/ 6/10 1045  
Date Received: 7/ 6/10

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	3.9	mg/L	1.0	1	NA	7/19/10 20:12
Chloride	300.0	107	mg/L	4.0	20	NA	7/8/10 22:53
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/7/10 14:39
Sulfate	300.0	74.8	mg/L	2.0	10	NA	7/7/10 14:39

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 11A  
 Lab Code: R1003551-019

Service Request: R1003551  
 Date Collected: 7/ 6/10 1045  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	50	U	50	2.5	NA	7/13/10 04:18		208160
Benzene	13	U	13	2.5	NA	7/13/10 04:18		208160
Bromodichloromethane	13	U	13	2.5	NA	7/13/10 04:18		208160
Bromoform	13	U	13	2.5	NA	7/13/10 04:18		208160
Bromomethane	13	U	13	2.5	NA	7/13/10 04:18		208160
2-Butanone (MEK)	25	U	25	2.5	NA	7/13/10 04:18		208160
Carbon Disulfide	25	U	25	2.5	NA	7/13/10 04:18		208160
Carbon Tetrachloride	13	U	13	2.5	NA	7/13/10 04:18		208160
Chlorobenzene	13	U	13	2.5	NA	7/13/10 04:18		208160
Chloroethane	13	U	13	2.5	NA	7/13/10 04:18		208160
Chloroform	13	U	13	2.5	NA	7/13/10 04:18		208160
Chloromethane	13	U	13	2.5	NA	7/13/10 04:18		208160
Dibromochloromethane	13	U	13	2.5	NA	7/13/10 04:18		208160
1,1-Dichloroethane	13	U	13	2.5	NA	7/13/10 04:18		208160
1,2-Dichloroethane	13	U	13	2.5	NA	7/13/10 04:18		208160
1,1-Dichloroethene	13	U	13	2.5	NA	7/13/10 04:18		208160
cis-1,2-Dichloroethene	270		13	2.5	NA	7/13/10 04:18		208160
trans-1,2-Dichloroethene	13	U	13	2.5	NA	7/13/10 04:18		208160
1,2-Dichloropropane	13	U	13	2.5	NA	7/13/10 04:18		208160
cis-1,3-Dichloropropene	13	U	13	2.5	NA	7/13/10 04:18		208160
trans-1,3-Dichloropropene	13	U	13	2.5	NA	7/13/10 04:18		208160
Ethylbenzene	13	U	13	2.5	NA	7/13/10 04:18		208160
2-Hexanone	25	U	25	2.5	NA	7/13/10 04:18		208160
Methylene Chloride	13	U	13	2.5	NA	7/13/10 04:18		208160
4-Methyl-2-pentanone (MIBK)	25	U	25	2.5	NA	7/13/10 04:18		208160
Styrene	13	U	13	2.5	NA	7/13/10 04:18		208160
1,1,2,2-Tetrachloroethane	13	U	13	2.5	NA	7/13/10 04:18		208160
Tetrachloroethene	13	U	13	2.5	NA	7/13/10 04:18		208160
Toluene	13	U	13	2.5	NA	7/13/10 04:18		208160
1,1,1-Trichloroethane	13	U	13	2.5	NA	7/13/10 04:18		208160
1,1,2-Trichloroethane	13	U	13	2.5	NA	7/13/10 04:18		208160
Trichloroethene	13	U	13	2.5	NA	7/13/10 04:18		208160
Vinyl Chloride	280		13	2.5	NA	7/13/10 04:18		208160
o-Xylene	13	U	13	2.5	NA	7/13/10 04:18		208160
m,p-Xylenes	13	U	13	2.5	NA	7/13/10 04:18		208160

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: MW 11A  
Lab Code: R1003551-019

Service Request: R1003551  
Date Collected: 7/ 6/10 1045  
Date Received: 7/ 6/10  
Units: Percent  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	112	85-122	7/13/10 04:18	
Toluene-d8	105	87-121	7/13/10 04:18	
Dibromofluoromethane	112	89-119	7/13/10 04:18	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 11A DISSOLVED  
**Lab Code:** R1003551-020

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1045  
**Date Received:** 7/ 6/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	160	µg/L	100	1	7/12/10	7/16/10 15:57
Manganese, Dissolved	6010B	67	µg/L	10	1	7/12/10	7/16/10 15:57

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 24A  
**Lab Code:** R1003551-021

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1200  
**Date Received:** 7/ 6/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	73.2	mg/L	4.0	4	NA	7/19/10 20:46
Chloride	300.0	288	mg/L	8.0	40	NA	7/8/10 23:05
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/8/10 12:52
Sulfate	300.0	2.0 U	mg/L	2.0	10	NA	7/7/10 14:52

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 24A  
 Lab Code: R1003551-021

Service Request: R1003551  
 Date Collected: 7/ 6/10 1200  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	31	20	1	NA	7/13/10 04:56		208160
Benzene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Bromodichloromethane	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Bromoform	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Bromomethane	5.0 U	5.0	1	NA	7/13/10 04:56		208160
2-Butanone (MEK)	130	10	1	NA	7/13/10 04:56		208160
Carbon Disulfide	10 U	10	1	NA	7/13/10 04:56		208160
Carbon Tetrachloride	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Chlorobenzene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Chloroethane	8.1	5.0	1	NA	7/13/10 04:56		208160
Chloroform	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Chloromethane	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Dibromochloromethane	5.0 U	5.0	1	NA	7/13/10 04:56		208160
1,1-Dichloroethane	69	5.0	1	NA	7/13/10 04:56		208160
1,2-Dichloroethane	5.0 U	5.0	1	NA	7/13/10 04:56		208160
1,1-Dichloroethene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
cis-1,2-Dichloroethene	36	5.0	1	NA	7/13/10 04:56		208160
trans-1,2-Dichloroethene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
1,2-Dichloropropane	5.0 U	5.0	1	NA	7/13/10 04:56		208160
cis-1,3-Dichloropropene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
trans-1,3-Dichloropropene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Ethylbenzene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
2-Hexanone	10 U	10	1	NA	7/13/10 04:56		208160
Methylene Chloride	5.0 U	5.0	1	NA	7/13/10 04:56		208160
4-Methyl-2-pentanone (MIBK)	10 U	10	1	NA	7/13/10 04:56		208160
Styrene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Tetrachloroethene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Toluene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
1,1,1-Trichloroethane	5.0 U	5.0	1	NA	7/13/10 04:56		208160
1,1,2-Trichloroethane	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Trichloroethene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
Vinyl Chloride	64	5.0	1	NA	7/13/10 04:56		208160
o-Xylene	5.0 U	5.0	1	NA	7/13/10 04:56		208160
m,p-Xylenes	5.0 U	5.0	1	NA	7/13/10 04:56		208160

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 24A  
**Lab Code:** R1003551-021

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1200  
**Date Received:** 7/ 6/10  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	110	85-122	7/13/10 04:56	
Toluene-d8	101	87-121	7/13/10 04:56	
Dibromofluoromethane	111	89-119	7/13/10 04:56	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 24A DISSOLVED  
**Lab Code:** R1003551-022

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1200  
**Date Received:** 7/ 6/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	16500	µg/L	100	1	7/12/10	7/16/10 16:03
Manganese, Dissolved	6010B	171	µg/L	10	1	7/12/10	7/16/10 16:03



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 24  
**Lab Code:** R1003551-023

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1215  
**Date Received:** 7/ 6/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	1430	mg/L	100	100	NA	7/19/10 21:21
Chloride	300.0	237	mg/L	8.0	40	NA	7/9/10 16:52
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	7/8/10 13:04
Sulfate	300.0	5.8	mg/L	2.0	10	NA	7/7/10 15:32

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 24  
 Lab Code: R1003551-023

Service Request: R1003551  
 Date Collected: 7/ 6/10 1215  
 Date Received: 7/ 6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	500	E	20	1	NA	7/13/10 05:33		208160
Benzene	140		5.0	1	NA	7/13/10 05:33		208160
Bromodichloromethane	5.0	U	5.0	1	NA	7/13/10 05:33		208160
Bromoform	5.0	U	5.0	1	NA	7/13/10 05:33		208160
Bromomethane	5.0	U	5.0	1	NA	7/13/10 05:33		208160
2-Butanone (MEK)	2600	E	10	1	NA	7/13/10 05:33		208160
Carbon Disulfide	10	U	10	1	NA	7/13/10 05:33		208160
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/13/10 05:33		208160
Chlorobenzene	5.0	U	5.0	1	NA	7/13/10 05:33		208160
Chloroethane	27		5.0	1	NA	7/13/10 05:33		208160
Chloroform	5.0	U	5.0	1	NA	7/13/10 05:33		208160
Chloromethane	5.0	U	5.0	1	NA	7/13/10 05:33		208160
Dibromochloromethane	5.0	U	5.0	1	NA	7/13/10 05:33		208160
1,1-Dichloroethane	860	E	5.0	1	NA	7/13/10 05:33		208160
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/13/10 05:33		208160
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 05:33		208160
cis-1,2-Dichloroethene	85		5.0	1	NA	7/13/10 05:33		208160
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 05:33		208160
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/13/10 05:33		208160
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 05:33		208160
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 05:33		208160
Ethylbenzene	5.0	U	5.0	1	NA	7/13/10 05:33		208160
2-Hexanone	10	U	10	1	NA	7/13/10 05:33		208160
Methylene Chloride	5.0	U	5.0	1	NA	7/13/10 05:33		208160
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/13/10 05:33		208160
Styrene	5.0	U	5.0	1	NA	7/13/10 05:33		208160
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/13/10 05:33		208160
Tetrachloroethene	5.0	U	5.0	1	NA	7/13/10 05:33		208160
Toluene	5.0	U	5.0	1	NA	7/13/10 05:33		208160
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/13/10 05:33		208160
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/13/10 05:33		208160
Trichloroethene	5.0	U	5.0	1	NA	7/13/10 05:33		208160
Vinyl Chloride	1200	E	5.0	1	NA	7/13/10 05:33		208160
o-Xylene	5.0	U	5.0	1	NA	7/13/10 05:33		208160
m,p-Xylenes	5.0	U	5.0	1	NA	7/13/10 05:33		208160

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 24  
**Lab Code:** R1003551-023

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1215  
**Date Received:** 7/ 6/10  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

**Analytical Method:** 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	112	85-122	7/13/10 05:33	
Toluene-d8	105	87-121	7/13/10 05:33	
Dibromofluoromethane	114	89-119	7/13/10 05:33	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW 24  
 Lab Code: R1003551-023  
 Run Type: Dilution

Service Request: R1003551  
 Date Collected: 7/6/10 12:15  
 Date Received: 7/6/10

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	470	D	400	20	NA	7/14/10 18:29		208370
Benzene	120	D	100	20	NA	7/14/10 18:29		208370
Bromodichloromethane	100	U	100	20	NA	7/14/10 18:29		208370
Bromoform	100	U	100	20	NA	7/14/10 18:29		208370
Bromomethane	100	U	100	20	NA	7/14/10 18:29		208370
2-Butanone (MEK)	2600	D	200	20	NA	7/14/10 18:29		208370
Carbon Disulfide	200	U	200	20	NA	7/14/10 18:29		208370
Carbon Tetrachloride	100	U	100	20	NA	7/14/10 18:29		208370
Chlorobenzene	100	U	100	20	NA	7/14/10 18:29		208370
Chloroethane	100	U	100	20	NA	7/14/10 18:29		208370
Chloroform	100	U	100	20	NA	7/14/10 18:29		208370
Chloromethane	100	U	100	20	NA	7/14/10 18:29		208370
Dibromochloromethane	100	U	100	20	NA	7/14/10 18:29		208370
1,1-Dichloroethane	830	D	100	20	NA	7/14/10 18:29		208370
1,2-Dichloroethane	100	U	100	20	NA	7/14/10 18:29		208370
1,1-Dichloroethene	100	U	100	20	NA	7/14/10 18:29		208370
cis-1,2-Dichloroethene	100	U	100	20	NA	7/14/10 18:29		208370
trans-1,2-Dichloroethene	100	U	100	20	NA	7/14/10 18:29		208370
1,2-Dichloropropane	100	U	100	20	NA	7/14/10 18:29		208370
cis-1,3-Dichloropropene	100	U	100	20	NA	7/14/10 18:29		208370
trans-1,3-Dichloropropene	100	U	100	20	NA	7/14/10 18:29		208370
Ethylbenzene	100	U	100	20	NA	7/14/10 18:29		208370
2-Hexanone	200	U	200	20	NA	7/14/10 18:29		208370
Methylene Chloride	100	U	100	20	NA	7/14/10 18:29		208370
4-Methyl-2-pentanone (MIBK)	200	U	200	20	NA	7/14/10 18:29		208370
Styrene	100	U	100	20	NA	7/14/10 18:29		208370
1,1,2,2-Tetrachloroethane	100	U	100	20	NA	7/14/10 18:29		208370
Tetrachloroethene	100	U	100	20	NA	7/14/10 18:29		208370
Toluene	100	U	100	20	NA	7/14/10 18:29		208370
1,1,1-Trichloroethane	100	U	100	20	NA	7/14/10 18:29		208370
1,1,2-Trichloroethane	100	U	100	20	NA	7/14/10 18:29		208370
Trichloroethene	100	U	100	20	NA	7/14/10 18:29		208370
Vinyl Chloride	1200	D	100	20	NA	7/14/10 18:29		208370
o-Xylene	100	U	100	20	NA	7/14/10 18:29		208370
m,p-Xylenes	100	U	100	20	NA	7/14/10 18:29		208370

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW 24  
**Lab Code:** R1003551-023  
**Run Type:** Dilution

**Service Request:** R1003551  
**Date Collected:** 7/ 6/10 1215  
**Date Received:** 7/ 6/10  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	112	85-122	7/14/10 18:29	
Toluene-d8	107	87-121	7/14/10 18:29	
Dibromofluoromethane	109	89-119	7/14/10 18:29	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: MW 24 DISSOLVED  
Lab Code: R1003551-024

Service Request: R1003551  
Date Collected: 7/ 6/10 1215  
Date Received: 7/ 6/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	6000	µg/L	100	1	7/12/10	7/16/10 16:09
Manganese, Dissolved	6010B	167	µg/L	10	1	7/12/10	7/16/10 16:09

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: Trip Blank  
 Lab Code: R1003551-025

Service Request: R1003551  
 Date Collected: 7/6/10  
 Date Received: 7/6/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	20	U	20	1	NA	7/14/10 15:20		208370
Benzene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Bromodichloromethane	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Bromoform	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Bromomethane	5.0	U	5.0	1	NA	7/14/10 15:20		208370
2-Butanone (MEK)	10	U	10	1	NA	7/14/10 15:20		208370
Carbon Disulfide	10	U	10	1	NA	7/14/10 15:20		208370
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Chlorobenzene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Chloroethane	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Chloroform	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Chloromethane	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Dibromochloromethane	5.0	U	5.0	1	NA	7/14/10 15:20		208370
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/14/10 15:20		208370
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/14/10 15:20		208370
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/14/10 15:20		208370
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Ethylbenzene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
2-Hexanone	10	U	10	1	NA	7/14/10 15:20		208370
Methylene Chloride	5.0	U	5.0	1	NA	7/14/10 15:20		208370
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/14/10 15:20		208370
Styrene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Tetrachloroethene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Toluene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/14/10 15:20		208370
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Trichloroethene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
Vinyl Chloride	5.0	U	5.0	1	NA	7/14/10 15:20		208370
o-Xylene	5.0	U	5.0	1	NA	7/14/10 15:20		208370
m,p-Xylenes	5.0	U	5.0	1	NA	7/14/10 15:20		208370

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: Trip Blank  
Lab Code: R1003551-025

Service Request: R1003551  
Date Collected: 7/ 6/10  
Date Received: 7/ 6/10  
Units: Percent  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	112	85-122	7/14/10 15:20	
Toluene-d8	107	87-121	7/14/10 15:20	
Dibromofluoromethane	111	89-119	7/14/10 15:20	



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** R1003551-MB1

**Service Request:** R1003551  
**Date Collected:** NA  
**Date Received:** NA

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	1.0	U	mg/L	1.0	1	NA	7/15/10 22:14
Chloride	300.0	0.20	U	mg/L	0.20	1	NA	7/7/10 11:23
Nitrate as Nitrogen	300.0	0.050	U	mg/L	0.050	1	NA	7/7/10 11:23
Sulfate	300.0	0.20	U	mg/L	0.20	1	NA	7/7/10 11:23

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1003551-MB2

Service Request: R1003551  
Date Collected: NA  
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	1.0	U	mg/L	1.0	1	NA	7/19/10 15:37
Chloride	300.0	0.20	U	mg/L	0.20	1	NA	7/8/10 19:53
Nitrate as Nitrogen	300.0	0.050	U	mg/L	0.050	1	NA	7/8/10 10:15
Sulfate	300.0	0.20	U	mg/L	0.20	1	NA	7/8/10 15:04

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** R1003551-MB3

**Service Request:** R1003551  
**Date Collected:** NA  
**Date Received:** NA  
**Basis:** NA

Chloride

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Chloride	300.0	0.20 U	mg/L	0.20	1	NA	7/9/10 12:43

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1003551-MB1

Service Request: R1003551  
Date Collected: NA  
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100 U	µg/L	100	1	7/12/10	7/16/10 14:12
Manganese, Dissolved	6010B	10 U	µg/L	10	1	7/12/10	7/16/10 14:12

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1003551-MB2

Service Request: R1003551  
Date Collected: NA  
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100 U	µg/L	100	1	7/12/10	7/16/10 14:24
Manganese, Dissolved	6010B	10 U	µg/L	10	1	7/12/10	7/16/10 14:24

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: RQ1005593-01

Service Request: R1003551  
 Date Collected: NA  
 Date Received: NA  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	20	U	20	1	NA	7/12/10 13:59		208123
Benzene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Bromodichloromethane	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Bromoform	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Bromomethane	5.0	U	5.0	1	NA	7/12/10 13:59		208123
2-Butanone (MEK)	10	U	10	1	NA	7/12/10 13:59		208123
Carbon Disulfide	10	U	10	1	NA	7/12/10 13:59		208123
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Chlorobenzene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Chloroethane	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Chloroform	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Chloromethane	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Dibromochloromethane	5.0	U	5.0	1	NA	7/12/10 13:59		208123
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 13:59		208123
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/12/10 13:59		208123
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/12/10 13:59		208123
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Ethylbenzene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
2-Hexanone	10	U	10	1	NA	7/12/10 13:59		208123
Methylene Chloride	5.0	U	5.0	1	NA	7/12/10 13:59		208123
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/12/10 13:59		208123
Styrene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Tetrachloroethene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Toluene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 13:59		208123
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Trichloroethene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
Vinyl Chloride	5.0	U	5.0	1	NA	7/12/10 13:59		208123
o-Xylene	5.0	U	5.0	1	NA	7/12/10 13:59		208123
m,p-Xylenes	5.0	U	5.0	1	NA	7/12/10 13:59		208123

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1005593-01

**Service Request:** R1003551  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	112	85-122	7/12/10 13:59	
Toluene-d8	106	87-121	7/12/10 13:59	
Dibromofluoromethane	112	89-119	7/12/10 13:59	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: RQ1005604-01

Service Request: R1003551  
 Date Collected: NA  
 Date Received: NA  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	20	U	20	1	NA	7/13/10 02:25		208160
Benzene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Bromodichloromethane	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Bromoform	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Bromomethane	5.0	U	5.0	1	NA	7/13/10 02:25		208160
2-Butanone (MEK)	10	U	10	1	NA	7/13/10 02:25		208160
Carbon Disulfide	10	U	10	1	NA	7/13/10 02:25		208160
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Chlorobenzene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Chloroethane	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Chloroform	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Chloromethane	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Dibromochloromethane	5.0	U	5.0	1	NA	7/13/10 02:25		208160
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/13/10 02:25		208160
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/13/10 02:25		208160
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/13/10 02:25		208160
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Ethylbenzene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
2-Hexanone	10	U	10	1	NA	7/13/10 02:25		208160
Methylene Chloride	5.0	U	5.0	1	NA	7/13/10 02:25		208160
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/13/10 02:25		208160
Styrene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Tetrachloroethene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Toluene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/13/10 02:25		208160
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Trichloroethene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
Vinyl Chloride	5.0	U	5.0	1	NA	7/13/10 02:25		208160
o-Xylene	5.0	U	5.0	1	NA	7/13/10 02:25		208160
m,p-Xylenes	5.0	U	5.0	1	NA	7/13/10 02:25		208160



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1005604-01

**Service Request:** R1003551  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	114	85-122	7/13/10 02:25	
Toluene-d8	108	87-121	7/13/10 02:25	
Dibromofluoromethane	115	89-119	7/13/10 02:25	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: RQ1005662-01

Service Request: R1003551  
 Date Collected: NA  
 Date Received: NA  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot
Acetone	20	U	20	1	NA	7/14/10 13:58		208370
Benzene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Bromodichloromethane	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Bromoform	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Bromomethane	5.0	U	5.0	1	NA	7/14/10 13:58		208370
2-Butanone (MEK)	10	U	10	1	NA	7/14/10 13:58		208370
Carbon Disulfide	10	U	10	1	NA	7/14/10 13:58		208370
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Chlorobenzene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Chloroethane	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Chloroform	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Chloromethane	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Dibromochloromethane	5.0	U	5.0	1	NA	7/14/10 13:58		208370
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/14/10 13:58		208370
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/14/10 13:58		208370
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/14/10 13:58		208370
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Ethylbenzene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
2-Hexanone	10	U	10	1	NA	7/14/10 13:58		208370
Methylene Chloride	5.0	U	5.0	1	NA	7/14/10 13:58		208370
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/14/10 13:58		208370
Styrene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Tetrachloroethene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Toluene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/14/10 13:58		208370
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Trichloroethene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
Vinyl Chloride	5.0	U	5.0	1	NA	7/14/10 13:58		208370
o-Xylene	5.0	U	5.0	1	NA	7/14/10 13:58		208370
m,p-Xylenes	5.0	U	5.0	1	NA	7/14/10 13:58		208370

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1005662-01

**Service Request:** R1003551  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** Percent  
**Basis:** NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	85-122	7/14/10 13:58	
Toluene-d8	106	87-121	7/14/10 13:58	
Dibromofluoromethane	112	89-119	7/14/10 13:58	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water

Service Request: R1003551  
Date Analyzed: 7/7/10 -  
7/15/10

Lab Control Sample Summary  
General Chemistry Parameters

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample R1003551-LCS1			% Rec	% Rec Limits
		Result	Spike Amount			
Carbon, Total Organic (TOC)	SM20 5310 C	9.61	10.0	96	86 - 117	
Chloride	300.0	1.97	2.00	98	90 - 110	
Nitrate as Nitrogen	300.0	0.951	1.00	95	90 - 110	
Sulfate	300.0	1.87	2.00	93	90 - 110	

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water

Service Request: R1003551  
Date Analyzed: 7/ 8/10 -  
7/19/10

Lab Control Sample Summary  
General Chemistry Parameters

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample R1003551-LCS2			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	9.71	10.0	97	86 - 117
Chloride	300.0	1.90	2.00	95	90 - 110
Nitrate as Nitrogen	300.0	0.978	1.00	98	90 - 110
Sulfate	300.0	1.94	2.00	97	90 - 110

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water

Service Request: R1003551  
Date Analyzed: 7/9/10

Lab Control Sample Summary  
Chloride

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample R1003551-LCS3			% Rec Limits
		Result	Spike Amount	% Rec	
Chloride	300.0	1.98	2.00	99	90 - 110

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water

Service Request: R1003551  
Date Analyzed: 7/16/10

Lab Control Sample Summary  
Inorganic Parameters

Units: µg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample R1003551-LCS			% Rec Limits
		Result	Spike Amount	% Rec	
Iron, Dissolved	6010B	983	1000	98	80 - 120
Manganese, Dissolved	6010B	495	500	99	80 - 120

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water

**Service Request:** R1003551  
**Date Analyzed:** 7/12/10

**Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Units:** µg/L

**Basis:** NA

**Analysis Lot:** 208123

**Lab Control Sample  
 RQ1005593-02**

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Acetone	18.5	20.0	93	59 - 140
Benzene	20.0	20.0	100	78 - 121
Bromodichloromethane	21.7	20.0	108	80 - 125
Bromoform	20.1	20.0	101	73 - 132
Bromomethane	21.6	20.0	108	57 - 144
2-Butanone (MEK)	18.7	20.0	93	60 - 133
Carbon Disulfide	21.9	20.0	109	59 - 138
Carbon Tetrachloride	22.9	20.0	115	69 - 135
Chlorobenzene	20.1	20.0	101	80 - 121
Chloroethane	23.4	20.0	117	71 - 130
Chloroform	22.6	20.0	113	78 - 125
Chloromethane	23.5	20.0	118	62 - 133
Dibromochloromethane	20.0	20.0	100	78 - 133
1,1-Dichloroethane	21.7	20.0	109	76 - 122
1,2-Dichloroethane	20.5	20.0	103	78 - 126
1,1-Dichloroethene	23.9	20.0	119	72 - 129
cis-1,2-Dichloroethene	22.0	20.0	110	78 - 122
trans-1,2-Dichloroethene	21.4	20.0	107	75 - 121
1,2-Dichloropropane	21.6	20.0	108	80 - 123
cis-1,3-Dichloropropene	19.3	20.0	96	77 - 125
trans-1,3-Dichloropropene	18.4	20.0	92	69 - 127
Ethylbenzene	20.3	20.0	102	78 - 123
2-Hexanone	16.3	20.0	81	61 - 131
Methylene Chloride	22.1	20.0	110	75 - 125
4-Methyl-2-pentanone (MIBK)	16.1	20.0	80	61 - 132
Styrene	19.8	20.0	99	80 - 132
1,1,2,2-Tetrachloroethane	17.6	20.0	88	72 - 131
Tetrachloroethene	20.6	20.0	103	72 - 131
Toluene	20.5	20.0	103	78 - 122
1,1,1-Trichloroethane	22.7	20.0	113	72 - 128
1,1,2-Trichloroethane	18.7	20.0	94	80 - 122
Trichloroethene	21.9	20.0	109	74 - 127

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water

Service Request: R1003551  
Date Analyzed: 7/12/10

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L  
Basis: NA  
Analysis Lot: 208123

Lab Control Sample  
RQ1005593-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	26.3	20.0	131	71 - 136
o-Xylene	20.3	20.0	102	79 - 126
m,p-Xylenes	41.3	40.0	103	79 - 126

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water

Service Request: R1003551  
 Date Analyzed: 7/13/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 208160

Analyte Name	Lab Control Sample RQ1005604-02			Duplicate Lab Control Sample RQ1005604-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Acetone	21.7	20.0	109	20.6	20.0	103	59 - 140	5	30
Benzene	18.3	20.0	92	19.4	20.0	97	78 - 121	6	30
Bromodichloromethane	19.6	20.0	98	19.6	20.0	98	80 - 125	0	30
Bromoform	19.5	20.0	98	18.8	20.0	94	73 - 132	4	30
Bromomethane	16.7	20.0	84	17.6	20.0	88	57 - 144	5	30
2-Butanone (MEK)	19.7	20.0	98	18.6	20.0	93	60 - 133	5	30
Carbon Disulfide	21.6	20.0	108	19.7	20.0	98	59 - 138	9	30
Carbon Tetrachloride	18.5	20.0	93	19.6	20.0	98	69 - 135	6	30
Chlorobenzene	17.1	20.0	85	18.5	20.0	93	80 - 121	8	30
Chloroethane	18.9	20.0	95	19.4	20.0	97	71 - 130	3	30
Chloroform	19.3	20.0	96	20.3	20.0	102	78 - 125	5	30
Chloromethane	19.0	20.0	95	20.5	20.0	102	62 - 133	7	30
Dibromochloromethane	18.5	20.0	92	19.0	20.0	95	78 - 133	3	30
1,1-Dichloroethane	18.9	20.0	95	19.9	20.0	99	76 - 122	5	30
1,2-Dichloroethane	20.5	20.0	103	21.0	20.0	105	78 - 126	2	30
1,1-Dichloroethene	19.6	20.0	98	20.2	20.0	101	72 - 129	3	30
cis-1,2-Dichloroethene	18.7	20.0	93	20.0	20.0	100	78 - 122	7	30
trans-1,2-Dichloroethene	18.2	20.0	91	19.0	20.0	95	75 - 121	4	30
1,2-Dichloropropane	20.1	20.0	100	20.2	20.0	101	80 - 123	0	30
cis-1,3-Dichloropropene	17.8	20.0	89	18.5	20.0	92	77 - 125	4	30
trans-1,3-Dichloropropene	17.0	20.0	85	17.5	20.0	87	69 - 127	2	30
Ethylbenzene	16.6	20.0	83	17.8	20.0	89	78 - 123	7	30
2-Hexanone	18.8	20.0	94	16.8	20.0	84	61 - 131	11	30
Methylene Chloride	20.2	20.0	101	20.9	20.0	104	75 - 125	3	30
4-Methyl-2-pentanone (MIBK)	18.4	20.0	92	17.4	20.0	87	61 - 132	6	30
Styrene	16.6	20.0	83	17.1	20.0	85	80 - 132	3	30
1,1,2,2-Tetrachloroethane	14.6	20.0	73	14.4	20.0	72	72 - 131	2	30
Tetrachloroethene	16.4	20.0	82	17.4	20.0	87	72 - 131	6	30
Toluene	17.0	20.0	85	17.7	20.0	88	78 - 122	4	30
1,1,1-Trichloroethane	18.5	20.0	93	20.3	20.0	101	72 - 128	9	30
1,1,2-Trichloroethane	17.3	20.0	86	17.5	20.0	88	80 - 122	1	30
Trichloroethene	21.0	20.0	105	22.4	20.0	112	74 - 127	6	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water

**Service Request:** R1003551  
**Date Analyzed:** 7/13/10

**Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Units:** µg/L  
**Basis:** NA

**Analysis Lot:** 208160

Analyte Name	Lab Control Sample RQ1005604-02			Duplicate Lab Control Sample RQ1005604-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Vinyl Chloride	20.9	20.0	105	22.1	20.0	111	71 - 136	6	30
o-Xylene	17.3	20.0	86	17.9	20.0	89	79 - 126	3	30
m,p-Xylenes	33.4	40.0	83	34.4	40.0	86	79 - 126	3	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water

**Service Request:** R1003551  
**Date Analyzed:** 7/14/10

**Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Units:** µg/L  
**Basis:** NA

**Analysis Lot:** 208370

**Lab Control Sample  
 RQ1005662-02**

<b>Analyte Name</b>	<b>Result</b>	<b>Spike Amount</b>	<b>% Rec</b>	<b>% Rec Limits</b>
Acetone	19.4	20.0	97	59 - 140
Benzene	20.4	20.0	102	78 - 121
Bromodichloromethane	20.9	20.0	104	80 - 125
Bromoform	19.9	20.0	100	73 - 132
Bromomethane	18.6	20.0	93	57 - 144
2-Butanone (MEK)	19.8	20.0	99	60 - 133
Carbon Disulfide	23.2	20.0	116	59 - 138
Carbon Tetrachloride	23.0	20.0	115	69 - 135
Chlorobenzene	19.8	20.0	99	80 - 121
Chloroethane	21.9	20.0	109	71 - 130
Chloroform	21.4	20.0	107	78 - 125
Chloromethane	24.3	20.0	121	62 - 133
Dibromochloromethane	19.7	20.0	98	78 - 133
1,1-Dichloroethane	21.2	20.0	106	76 - 122
1,2-Dichloroethane	21.6	20.0	108	78 - 126
1,1-Dichloroethene	22.2	20.0	111	72 - 129
cis-1,2-Dichloroethene	21.0	20.0	105	78 - 122
trans-1,2-Dichloroethene	20.3	20.0	102	75 - 121
1,2-Dichloropropane	20.6	20.0	103	80 - 123
cis-1,3-Dichloropropene	20.7	20.0	103	77 - 125
trans-1,3-Dichloropropene	19.3	20.0	97	69 - 127
Ethylbenzene	19.0	20.0	95	78 - 123
2-Hexanone	17.9	20.0	90	61 - 131
Methylene Chloride	21.4	20.0	107	75 - 125
4-Methyl-2-pentanone (MIBK)	18.1	20.0	90	61 - 132
Styrene	18.6	20.0	93	80 - 132
1,1,2,2-Tetrachloroethane	16.9	20.0	84	72 - 131
Tetrachloroethene	19.9	20.0	100	72 - 131
Toluene	19.5	20.0	98	78 - 122
1,1,1-Trichloroethane	21.3	20.0	106	72 - 128
1,1,2-Trichloroethane	18.2	20.0	91	80 - 122
Trichloroethene	21.0	20.0	105	74 - 127

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells July 2010  
Sample Matrix: Water

Service Request: R1003551  
Date Analyzed: 7/14/10

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L  
Basis: NA  
Analysis Lot: 208370

Lab Control Sample  
RQ1005662-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	25.1	20.0	125	71 - 136
o-Xylene	19.1	20.0	95	79 - 126
m,p-Xylenes	38.5	40.0	96	79 - 126

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

SR #

CAS Contact

Project Name		Project Number		Report CC		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Leica		801-303-1092		06811		PRESERVATIVE	
Project Manager		Company Address		FAX#		NUMBER OF CONTAINERS	
Bob McPeak		Energy Solutions Inc		203-797-8994		GC/MS VOAs <input checked="" type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> CLP	
100 Mill Plain Rd 3rd Floor Box 106		Danbury, CT		Wayne Degalier		GC/MS SVOAs <input type="checkbox"/> 8270 <input type="checkbox"/> 625 <input type="checkbox"/> CLP	
Sample's Signature		Sampler's Printed Name		DATE		PESTICIDES <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602	
Wayne Degalier		Wayne Degalier		7/10/08		PCBs <input type="checkbox"/> 8082 <input type="checkbox"/> 608 <input type="checkbox"/> CLP	
CLIENT SAMPLE ID		FOR OFFICE USE ONLY		SAMPLING TIME		METALS, TOTAL (List in comments below)	
MW 10		LAB ID		DATE		METALS, DISSOLVED (List in comments below)	
MW 14		-001,002		08:00		Chloride	
MW 14A		003,004		08:15		Sulfate	
MW 5		005,006		08:35		Nitrate	
MW 5A		007,008		08:40		TOC	
MW 6		009,010		08:50		Dissolved FF	
MW 6A		011,012		09:10		Dissolved MN	
MW 16R		013,014		09:20			
MW 16A		015,016		10:05			
MW 11A		017,018		10:30			
		019,020		10:45			
REMARKS/ALTERNATE DESCRIPTION:							
All Samples Taken 7/7/10							
I Made changes on glass for Date and W.D.							
SPECIAL INSTRUCTIONS/COMMENTS							
Metals							
Some In Lab Filtering Required							
TURNAROUND REQUIREMENTS		RUSH (SURCHARGES APPLY)		REPORT REQUIREMENTS		INVOICE INFORMATION	
24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 5 day <input type="checkbox"/>		STANDARD <input checked="" type="checkbox"/>		I. Results Only <input type="checkbox"/>		PO#	
REQUESTED FAX DATE		REQUESTED REPORT DATE		II. Results + CC Summaries (LCS, DUP, MSMSD as required) <input checked="" type="checkbox"/>		BILL TO:	
				III. Results + CC and Calibration Summaries <input type="checkbox"/>			
				IV. Data Validation Report with Raw Data <input type="checkbox"/>			
				V. Specialized Forms / Custom Rep <input type="checkbox"/>			
				Edit: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		R1003551 Leica Energy Solutions, Inc.	
RECEIVED BY		RECEIVED BY		RELINQUISHED BY		RELINQUISHED BY	
Signature: Wayne Degalier		Signature: M. L. Carr		Signature: M. L. Carr		Signature: M. L. Carr	
Printed Name: Wayne Degalier		Printed Name: M. L. Carr		Printed Name: M. L. Carr		Printed Name: M. L. Carr	
Firm: ENVIROSITE		Firm: CAS		Firm: CAS		Firm: CAS	
Date/Time: 7/7/10 13:00		Date/Time: 7/6/10 15:15		Date/Time: 7/6/10 15:15		Date/Time: 7/6/10 15:15	

Project Name		Project Number		Report CC		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager		Company/Address		PRESERVATIVE		NUMBER OF CONTAINERS	
Leica		Energy Solutions, Inc		GC/MS VOAS <input type="checkbox"/> CLP		GC/MS VOAS <input type="checkbox"/> CLP	
100 Mill Plain Rd and Floor Box 106		Danbury, CT 06811		GC/MS SVOAS <input type="checkbox"/> CLP		GC/MS SVOAS <input type="checkbox"/> CLP	
801-303-1092		FAX# 203-797-8994		PESTICIDES <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602		PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 <input type="checkbox"/> CLP	
Wayne Degolier		Sampler's Printed Name Wayne Degolier		GC VOAS <input type="checkbox"/> CLP		PCBS <input type="checkbox"/> 8082 <input type="checkbox"/> 608 <input type="checkbox"/> CLP	
CLIENT SAMPLE ID		FOR OFFICE USE ONLY		SAMPLING DATE		MATRIX	
MW 24A	021.002	021.002	7/7/10	12:00	H2O	4	✓
MW 24	023.024	023.024	7/7/10	12:15		4	✓
Temp Blank			7/7/10			1	
Trip Blank	005		7/7/10			1	
REMARKS/ALTERNATE DESCRIPTION		PRESERVATIVE KEY		METALS, TOTAL (List in comments below)		METALS, DISSOLVED (List in comments below)	
All Samples Taken 7/7/10		0. NONE 1. HCL 2. HNO3 3. H2SO4 4. NaOH 5. Zn. Acetate 6. MeOH 7. NaHSO4 8. Other		Chloride		Dissolved Fe	
I Made changes on glass for DATE and MD,				NITrate		Dissolved MN	
				Sulfate			
				TOC			

SPECIAL INSTRUCTIONS/COMMENTS		TURNAROUND REQUIREMENTS		REPORT REQUIREMENTS		INVOICE INFORMATION	
Metals		RUSH (SURCHARGES APPLY) 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 5 day <input type="checkbox"/>		I. Results Only <input type="checkbox"/>		PO#	
Some In Lab Filterings Required		STANDARD <input checked="" type="checkbox"/>		II. Results + CC Summaries (LCS, DUP, MS/MSD as required) <input checked="" type="checkbox"/>		BILL TO:	
		REQUESTED FAX DATE		III. Results + CC and Calibration Summaries <input type="checkbox"/>			
		REQUESTED REPORT DATE		IV. Data Validation Report with Raw Data <input type="checkbox"/>			
				V. Specialized Forms / Custom Report <input type="checkbox"/>			
				Edata <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		R1003551 Energy Solutions, Inc. Leica	
See QAPP <input type="checkbox"/>		RECEIVED BY: [Signature]		RELINQUISHED BY: [Signature]		Barcode	
SAMPLE RECEIPT: CONDITION/COOLER TEMP: 5.8 2.3°C		CUSTODY SEALS: Y N		Signature		Printed Name	
RELINQUISHED BY: [Signature]		RELINQUISHED BY: [Signature]		Printed Name		Firm	
Wayne Degolier		Wayne Degolier		Printed Name		Firm	
Energy Solutions		Energy Solutions		Printed Name		Firm	
7/7/10 13:00		7/7/10 13:00		Printed Name		Firm	
Date/Time		Date/Time		Printed Name		Firm	

### Cooler Receipt And Preservation Check Form

Project/Client Leica Submission Number R10-3551

Cooler received on 7/6/10 by: DFW COURIER:  CAS  UPS  FEDEX  VELOCITY  CLIENT

1. Were custody seals on outside of cooler?  YES  NO
  2. Were custody papers properly filled out (ink, signed, etc.)?  YES  NO
  3. Did all bottles arrive in good condition (unbroken)?  YES  NO @ 7/10
  4. Did any VOA vials have significant\* air bubbles?  YES  NO N/A 3 Trip Blank vials
  5. Were ~~Ice~~ or Ice packs present?  YES  NO
  6. Where did the bottles originate? CAS/ROC, CLIENT
  7. Temperature of cooler(s) upon receipt: 5.8° 2.3°
- Is the temperature within 0° - 6° C?:  Yes  Yes  Yes  Yes  Yes
- If No, Explain Below No No No No No

Date/Time Temperatures Taken: 7/6/10/1546

Thermometer ID: IR GUN#3 / IR ~~GUN#4~~ Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: \_\_\_\_\_  
 PC Secondary Review: KB 7/7/10

Cooler Breakdown: Date: 7/7/10 by: DFW

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)?  YES  NO
  2. Did all bottle labels and tags agree with custody papers?  YES  NO
  3. Were correct containers used for the tests indicated?  YES  NO
  4. Air Samples: Cassettes / Tubes Intact  Canisters Pressurized  Tedlar® Bags Inflated  N/A
- Explain any discrepancies: \_\_\_\_\_

pH	Reagent	YES NO		Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
		YES	NO						
≥12	NaOH								
≤2	HNO <sub>3</sub>								
≤2	H <sub>2</sub> SO <sub>4</sub>			<u>10092187B</u>	<u>4/11</u>				
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>4109100</u>	<u>5/11</u>				

Yes = All samples OK  
 No = Samples were preserved at lab as listed  
 PM OK to Adjust:

Bottle lot numbers: 9-356-002, 0-075-001, 052410-24  
 Other Comments: \_\_\_\_\_

PC Secondary Review: KB 7/23/10  
 H:\SMODOCS\Cooler Receipt 2.doc

\*significant air bubbles are greater than 5-6 mm



July 19, 2010

Service Request No: R1003586

Mr. Robert McPeak  
Energy Solutions, Inc.  
100 Mill Plain Rd  
2nd Floor Mailbox 106  
Danbury, CT 06811

**Laboratory Results for: Leica Wells July 2010**

Dear Mr. McPeak:

Enclosed are the results of the sample(s) submitted to our laboratory on July 7, 2010. For your reference, these analyses have been assigned our service request number **R1003586**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 134. You may also contact me via email at KBunker@caslab.com.

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Karen Bunker  
Project Manager

Page 1 of 41

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Energy Solutions  
Project: Leica Wells 7/2010  
Sample Matrix: Water

Service Request No.: R1003586  
Date Received: 7/7/2010

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

Sample Receipt

Thirteen (13) groundwater samples were collected by the client between 7/2-3/2010 and received for analysis at Columbia Analytical Services on 7/7/10 via CAS Courier. The samples were received in good condition. The cooler receipt temperature was 3°C, within the guidelines of 0-6°C. One vial for each of the locations MW-22 and MW-22A were received broken. There was sufficient volume for analysis however.

Volatile Organics

Thirteen (13) water samples were analyzed for Volatile Organic compounds by GC/MS method 8260B.

The Initial and Continuing Calibration Criteria were met.

Batch QC is included in the report. All Laboratory Control Sample (LCS) recoveries for target compounds were within QC limits.

Hits above the calibration range of the standards are flagged as "E", estimated. The sample is then repeated at the appropriate dilution for the hit. Both sets of data are included in the report. The subsequent hit is flagged as "D".

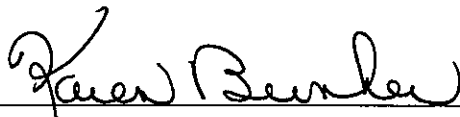
All Surrogate recoveries are within acceptance limits.

All Laboratory Method Blanks were free from contamination.

The samples were analyzed within the 14 day holding time for the method. All vials are checked for preservation after the analysis in order to maintain the integrity of the sample. All vials were found to be preserved to a pH of <2.

No problems were encountered during the analysis of these samples.

Approved by



Date

7/19/10

## CASE NARRATIVE

This report contains analytical results for the following samples:  
Service Request Number: R1003586

<u>Lab ID</u>	<u>Client ID</u>
R1003586-001	MW-27
R1003586-002	MW-25
R1003586-003	MW-25A
R1003586-004	MW-26
R1003586-005	MW-28
R1003586-006	MW-29A
R1003586-007	MW-28A
R1003586-008	MW-26A
R1003586-009	MW-27A
R1003586-010	MW-22A
R1003586-011	MW-22
R1003586-012	MW-18A
R1003586-013	MW-18

## REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$  Difference between two GC columns).
- X See Case Narrative for discussion.



### CAS/Rochester Lab ID # for State Certifications<sup>1</sup>

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at [www.caslab.com](http://www.caslab.com).

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-27  
 Lab Code: R1003586-001

Service Request: R1003586  
 Date Collected: 7/ 2/10 1235  
 Date Received: 7/ 7/10

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/10/10 01:53		207946	
Benzene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Bromoform	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Bromomethane	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 01:53		207946	
Carbon Disulfide	10	U	10	1	NA	7/10/10 01:53		207946	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Chloroethane	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Chloroform	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Chloromethane	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Ethylbenzene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
2-Hexanone	10	U	10	1	NA	7/10/10 01:53		207946	
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 01:53		207946	
Styrene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Toluene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Trichloroethene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
Vinyl Chloride	5.0	U	5.0	1	NA	7/10/10 01:53		207946	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-27  
**Lab Code:** R1003586-001

**Service Request:** R1003586  
**Date Collected:** 7/ 2/10 1235  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/10/10 01:53		207946	
m,p-Xylenes	5.0	U	5.0	1	NA	7/10/10 01:53		207946	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	105	85-122	7/10/10 01:53		
Toluene-d8	102	87-121	7/10/10 01:53		
Dibromofluoromethane	105	89-119	7/10/10 01:53		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-25  
 Lab Code: R1003586-002

Service Request: R1003586  
 Date Collected: 7/ 2/10 1345  
 Date Received: 7/ 7/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis	
							Lot	Lot Note
Acetone	20	U	20	1	NA	7/10/10 02:21		207946
Benzene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Bromoform	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Bromomethane	5.0	U	5.0	1	NA	7/10/10 02:21		207946
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 02:21		207946
Carbon Disulfide	10	U	10	1	NA	7/10/10 02:21		207946
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Chloroethane	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Chloroform	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Chloromethane	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 02:21		207946
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 02:21		207946
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 02:21		207946
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 02:21		207946
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Ethylbenzene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
2-Hexanone	10	U	10	1	NA	7/10/10 02:21		207946
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 02:21		207946
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 02:21		207946
Styrene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Toluene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 02:21		207946
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Trichloroethene	5.0	U	5.0	1	NA	7/10/10 02:21		207946
Vinyl Chloride	5.0	U	5.0	1	NA	7/10/10 02:21		207946

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-25  
**Lab Code:** R1003586-002

**Service Request:** R1003586  
**Date Collected:** 7/ 2/10 1345  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/10/10 02:21			207946
m,p-Xylenes	5.0	U	5.0	1	NA	7/10/10 02:21			207946

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	103	85-122	7/10/10 02:21		
Toluene-d8	102	87-121	7/10/10 02:21		
Dibromofluoromethane	106	89-119	7/10/10 02:21		

**Comments:** \_\_\_\_\_



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-25A  
 Lab Code: R1003586-003

Service Request: R1003586  
 Date Collected: 7/ 2/10 1400  
 Date Received: 7/ 7/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/10/10 02:48		207946	
Benzene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Bromoform	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Bromomethane	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 02:48		207946	
Carbon Disulfide	10	U	10	1	NA	7/10/10 02:48		207946	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Chloroethane	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Chloroform	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Chloromethane	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Ethylbenzene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
2-Hexanone	10	U	10	1	NA	7/10/10 02:48		207946	
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 02:48		207946	
Styrene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Toluene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Trichloroethene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
Vinyl Chloride	14		5.0	1	NA	7/10/10 02:48		207946	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-25A  
**Lab Code:** R1003586-003

**Service Request:** R1003586  
**Date Collected:** 7/ 2/10 1400  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/10/10 02:48		207946	
m,p-Xylenes	5.0	U	5.0	1	NA	7/10/10 02:48		207946	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	99	85-122	7/10/10 02:48		
Toluene-d8	97	87-121	7/10/10 02:48		
Dibromofluoromethane	101	89-119	7/10/10 02:48		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-26  
 Lab Code: R1003586-004

Service Request: R1003586  
 Date Collected: 7/ 2/10 14:15  
 Date Received: 7/ 7/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/10/10 03:15		207946	
Benzene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Bromoform	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Bromomethane	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 03:15		207946	
Carbon Disulfide	10	U	10	1	NA	7/10/10 03:15		207946	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Chloroethane	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Chloroform	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Chloromethane	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Ethylbenzene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
2-Hexanone	10	U	10	1	NA	7/10/10 03:15		207946	
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 03:15		207946	
Styrene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Toluene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Trichloroethene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
Vinyl Chloride	5.0	U	5.0	1	NA	7/10/10 03:15		207946	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-26  
**Lab Code:** R1003586-004

**Service Request:** R1003586  
**Date Collected:** 7/ 2/10 14:15  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/10/10 03:15		207946	
m,p-Xylenes	5.0	U	5.0	1	NA	7/10/10 03:15		207946	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	102	85-122	7/10/10 03:15		
Toluene-d8	99	87-121	7/10/10 03:15		
Dibromofluoromethane	104	89-119	7/10/10 03:15		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-28  
 Lab Code: R1003586-005

Service Request: R1003586  
 Date Collected: 7/ 2/10 1530  
 Date Received: 7/ 7/10

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/10/10 03:42		207946	
Benzene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Bromoform	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Bromomethane	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 03:42		207946	
Carbon Disulfide	10	U	10	1	NA	7/10/10 03:42		207946	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Chloroethane	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Chloroform	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Chloromethane	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
cis-1,2-Dichloroethene	27		5.0	1	NA	7/10/10 03:42		207946	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Ethylbenzene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
2-Hexanone	10	U	10	1	NA	7/10/10 03:42		207946	
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 03:42		207946	
Styrene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Toluene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Trichloroethene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
Vinyl Chloride	5.0	U	5.0	1	NA	7/10/10 03:42		207946	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-28  
**Lab Code:** R1003586-005

**Service Request:** R1003586  
**Date Collected:** 7/ 2/10 1530  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/10/10 03:42		207946	
m,p-Xylenes	5.0	U	5.0	1	NA	7/10/10 03:42		207946	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	101	85-122	7/10/10 03:42		
Toluene-d8	100	87-121	7/10/10 03:42		
Dibromofluoromethane	105	89-119	7/10/10 03:42		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-29A  
 Lab Code: R1003586-006

Service Request: R1003586  
 Date Collected: 7/ 3/10 1300  
 Date Received: 7/ 7/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/10/10 04:09		207946	
Benzene	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Bromoform	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Bromomethane	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 04:09		207946	
Carbon Disulfide	10	U	10	1	NA	7/10/10 04:09		207946	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Chloroethane	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Chloroform	9.4		5.0	1	NA	7/10/10 04:09		207946	
Chloromethane	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Ethylbenzene	10		5.0	1	NA	7/10/10 04:09		207946	
2-Hexanone	10	U	10	1	NA	7/10/10 04:09		207946	
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 04:09		207946	
Styrene	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Toluene	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Trichloroethene	5.0	U	5.0	1	NA	7/10/10 04:09		207946	
Vinyl Chloride	5.0	U	5.0	1	NA	7/10/10 04:09		207946	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-29A  
**Lab Code:** R1003586-006

**Service Request:** R1003586  
**Date Collected:** 7/ 3/10 1300  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	19		5.0	1	NA	7/10/10 04:09		207946	
m,p-Xylenes	16		5.0	1	NA	7/10/10 04:09		207946	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	105	85-122	7/10/10 04:09		
Toluene-d8	102	87-121	7/10/10 04:09		
Dibromofluoromethane	106	89-119	7/10/10 04:09		

**Comments:** \_\_\_\_\_



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-28A  
**Lab Code:** R1003586-007

**Service Request:** R1003586  
**Date Collected:** 7/ 3/10 1315  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/10/10 04:36		207946	
Benzene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Bromoform	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Bromomethane	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 04:36		207946	
Carbon Disulfide	10	U	10	1	NA	7/10/10 04:36		207946	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Chloroethane	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Chloroform	7.6		5.0	1	NA	7/10/10 04:36		207946	
Chloromethane	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Ethylbenzene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
2-Hexanone	10	U	10	1	NA	7/10/10 04:36		207946	
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 04:36		207946	
Styrene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Toluene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Trichloroethene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
Vinyl Chloride	5.0	U	5.0	1	NA	7/10/10 04:36		207946	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-28A  
**Lab Code:** R1003586-007

**Service Request:** R1003586  
**Date Collected:** 7/ 3/10 1315  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/10/10 04:36		207946	
m,p-Xylenes	5.0	U	5.0	1	NA	7/10/10 04:36		207946	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	100	85-122	7/10/10 04:36		
Toluene-d8	98	87-121	7/10/10 04:36		
Dibromofluoromethane	101	89-119	7/10/10 04:36		

**Comments:** \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-26A  
**Lab Code:** R1003586-008

**Service Request:** R1003586  
**Date Collected:** 7/ 3/10 1330  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis	
							Lot	Lot Note
Acetone	20	U	20	1	NA	7/10/10 05:03		207946
Benzene	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Bromoform	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Bromomethane	5.0	U	5.0	1	NA	7/10/10 05:03		207946
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 05:03		207946
Carbon Disulfide	10	U	10	1	NA	7/10/10 05:03		207946
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Chloroethane	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Chloroform	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Chloromethane	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 05:03		207946
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 05:03		207946
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 05:03		207946
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 05:03		207946
cis-1,2-Dichloroethene	710	E	5.0	1	NA	7/10/10 05:03		207946
trans-1,2-Dichloroethene	7.1		5.0	1	NA	7/10/10 05:03		207946
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 05:03		207946
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 05:03		207946
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Ethylbenzene	5.0	U	5.0	1	NA	7/10/10 05:03		207946
2-Hexanone	10	U	10	1	NA	7/10/10 05:03		207946
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 05:03		207946
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 05:03		207946
Styrene	5.0	U	5.0	1	NA	7/10/10 05:03		207946
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Toluene	5.0	U	5.0	1	NA	7/10/10 05:03		207946
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 05:03		207946
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Trichloroethene	5.0	U	5.0	1	NA	7/10/10 05:03		207946
Vinyl Chloride	590	E	5.0	1	NA	7/10/10 05:03		207946

**Comments:** \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-26A  
**Lab Code:** R1003586-008

**Service Request:** R1003586  
**Date Collected:** 7/ 3/10 1330  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/10/10 05:03			207946
m,p-Xylenes	5.0	U	5.0	1	NA	7/10/10 05:03			207946

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	102	85-122	7/10/10 05:03		
Toluene-d8	100	87-121	7/10/10 05:03		
Dibromofluoromethane	103	89-119	7/10/10 05:03		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-26A  
 Lab Code: R1003586-008  
 Run Type: Dilution

Service Request: R1003586  
 Date Collected: 7/ 3/10 1330  
 Date Received: 7/ 7/10

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	100	U	100	5	NA	7/13/10 14:29		208268	
Benzene	25	U	25	5	NA	7/13/10 14:29		208268	
Bromodichloromethane	25	U	25	5	NA	7/13/10 14:29		208268	
Bromoform	25	U	25	5	NA	7/13/10 14:29		208268	
Bromomethane	25	U	25	5	NA	7/13/10 14:29		208268	
2-Butanone (MEK)	50	U	50	5	NA	7/13/10 14:29		208268	
Carbon Disulfide	50	U	50	5	NA	7/13/10 14:29		208268	
Carbon Tetrachloride	25	U	25	5	NA	7/13/10 14:29		208268	
Chlorobenzene	25	U	25	5	NA	7/13/10 14:29		208268	
Chloroethane	25	U	25	5	NA	7/13/10 14:29		208268	
Chloroform	25	U	25	5	NA	7/13/10 14:29		208268	
Chloromethane	25	U	25	5	NA	7/13/10 14:29		208268	
Dibromochloromethane	25	U	25	5	NA	7/13/10 14:29		208268	
1,1-Dichloroethane	25	U	25	5	NA	7/13/10 14:29		208268	
1,2-Dichloroethane	25	U	25	5	NA	7/13/10 14:29		208268	
1,1-Dichloroethene	25	U	25	5	NA	7/13/10 14:29		208268	
cis-1,2-Dichloroethene	680	D	25	5	NA	7/13/10 14:29		208268	
trans-1,2-Dichloroethene	25	U	25	5	NA	7/13/10 14:29		208268	
1,2-Dichloropropane	25	U	25	5	NA	7/13/10 14:29		208268	
cis-1,3-Dichloropropene	25	U	25	5	NA	7/13/10 14:29		208268	
trans-1,3-Dichloropropene	25	U	25	5	NA	7/13/10 14:29		208268	
Ethylbenzene	25	U	25	5	NA	7/13/10 14:29		208268	
2-Hexanone	50	U	50	5	NA	7/13/10 14:29		208268	
Methylene Chloride	25	U	25	5	NA	7/13/10 14:29		208268	
4-Methyl-2-pentanone (MIBK)	50	U	50	5	NA	7/13/10 14:29		208268	
Styrene	25	U	25	5	NA	7/13/10 14:29		208268	
1,1,2,2-Tetrachloroethane	25	U	25	5	NA	7/13/10 14:29		208268	
Tetrachloroethene	25	U	25	5	NA	7/13/10 14:29		208268	
Toluene	25	U	25	5	NA	7/13/10 14:29		208268	
1,1,1-Trichloroethane	25	U	25	5	NA	7/13/10 14:29		208268	
1,1,2-Trichloroethane	25	U	25	5	NA	7/13/10 14:29		208268	
Trichloroethene	25	U	25	5	NA	7/13/10 14:29		208268	
Vinyl Chloride	590	D	25	5	NA	7/13/10 14:29		208268	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-26A  
**Lab Code:** R1003586-008  
**Run Type:** Dilution

**Service Request:** R1003586  
**Date Collected:** 7/ 3/10 1330  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed		Extraction Analysis	
						Lot	Lot	Lot	Note
o-Xylene	25	U	25	5	NA	7/13/10	14:29	208268	
m,p-Xylenes	25	U	25	5	NA	7/13/10	14:29	208268	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Toluene-d8	96	87-121	7/13/10	14:29	
Dibromofluoromethane	105	89-119	7/13/10	14:29	

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-27A  
 Lab Code: R1003586-009

Service Request: R1003586  
 Date Collected: 7/ 3/10 1430  
 Date Received: 7/ 7/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/10/10 05:30		207946	
Benzene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Bromoform	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Bromomethane	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 05:30		207946	
Carbon Disulfide	10	U	10	1	NA	7/10/10 05:30		207946	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Chloroethane	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Chloroform	7.7		5.0	1	NA	7/10/10 05:30		207946	
Chloromethane	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Ethylbenzene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
2-Hexanone	10	U	10	1	NA	7/10/10 05:30		207946	
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 05:30		207946	
Styrene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Toluene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Trichloroethene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
Vinyl Chloride	5.0	U	5.0	1	NA	7/10/10 05:30		207946	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-27A  
**Lab Code:** R1003586-009

**Service Request:** R1003586  
**Date Collected:** 7/ 3/10 1430  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/10/10 05:30		207946	
m,p-Xylenes	5.0	U	5.0	1	NA	7/10/10 05:30		207946	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	103	85-122	7/10/10 05:30		
Toluene-d8	100	87-121	7/10/10 05:30		
Dibromofluoromethane	102	89-119	7/10/10 05:30		

**Comments:** \_\_\_\_\_



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-22A  
**Lab Code:** R1003586-010

**Service Request:** R1003586  
**Date Collected:** 7/ 3/10 1445  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/10/10 05:57		207946	
Benzene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Bromoform	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Bromomethane	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 05:57		207946	
Carbon Disulfide	10	U	10	1	NA	7/10/10 05:57		207946	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Chloroethane	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Chloroform	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Chloromethane	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Ethylbenzene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
2-Hexanone	10	U	10	1	NA	7/10/10 05:57		207946	
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 05:57		207946	
Styrene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Toluene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Trichloroethene	5.0	U	5.0	1	NA	7/10/10 05:57		207946	
Vinyl Chloride	5.0	U	5.0	1	NA	7/10/10 05:57		207946	

**Comments:**

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-22A  
**Lab Code:** R1003586-010

**Service Request:** R1003586  
**Date Collected:** 7/ 3/10 1445  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/10/10 05:57			207946
m,p-Xylenes	5.0	U	5.0	1	NA	7/10/10 05:57			207946

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	99	85-122	7/10/10 05:57		
Toluene-d8	98	87-121	7/10/10 05:57		
Dibromofluoromethane	100	89-119	7/10/10 05:57		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-22  
 Lab Code: R1003586-011

Service Request: R1003586  
 Date Collected: 7/ 3/10 1455  
 Date Received: 7/ 7/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/10/10 06:24		207946	
Benzene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Bromoform	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Bromomethane	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 06:24		207946	
Carbon Disulfide	10	U	10	1	NA	7/10/10 06:24		207946	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Chloroethane	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Chloroform	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Chloromethane	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Ethylbenzene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
2-Hexanone	10	U	10	1	NA	7/10/10 06:24		207946	
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 06:24		207946	
Styrene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Toluene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Trichloroethene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
Vinyl Chloride	5.0	U	5.0	1	NA	7/10/10 06:24		207946	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-22  
**Lab Code:** R1003586-011

**Service Request:** R1003586  
**Date Collected:** 7/ 3/10 1455  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/10/10 06:24		207946	
m,p-Xylenes	5.0	U	5.0	1	NA	7/10/10 06:24		207946	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	102	85-122	7/10/10 06:24		
Toluene-d8	100	87-121	7/10/10 06:24		
Dibromofluoromethane	102	89-119	7/10/10 06:24		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-18A  
 Lab Code: R1003586-012

Service Request: R1003586  
 Date Collected: 7/ 3/10 1530  
 Date Received: 7/ 7/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
Acetone	20	U	20	1	NA	7/10/10 06:51		207946	
Benzene	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Bromodichloromethane	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Bromoform	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Bromomethane	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
2-Butanone (MEK)	10	U	10	1	NA	7/10/10 06:51		207946	
Carbon Disulfide	10	U	10	1	NA	7/10/10 06:51		207946	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Chlorobenzene	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Chloroethane	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Chloroform	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Chloromethane	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Dibromochloromethane	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
cis-1,2-Dichloroethene	140		5.0	1	NA	7/10/10 06:51		207946	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Ethylbenzene	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
2-Hexanone	10	U	10	1	NA	7/10/10 06:51		207946	
Methylene Chloride	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/10/10 06:51		207946	
Styrene	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Tetrachloroethene	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Toluene	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/10/10 06:51		207946	
Trichloroethene	83		5.0	1	NA	7/10/10 06:51		207946	
Vinyl Chloride	21		5.0	1	NA	7/10/10 06:51		207946	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** MW-18A  
**Lab Code:** R1003586-012

**Service Request:** R1003586  
**Date Collected:** 7/ 3/10 1530  
**Date Received:** 7/ 7/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis		
							Lot	Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/10/10 06:51			207946
m,p-Xylenes	5.0	U	5.0	1	NA	7/10/10 06:51			207946

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	103	85-122	7/10/10 06:51		
Toluene-d8	102	87-121	7/10/10 06:51		
Dibromofluoromethane	106	89-119	7/10/10 06:51		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-18  
 Lab Code: R1003586-013

Service Request: R1003586  
 Date Collected: 7/ 3/10 1600  
 Date Received: 7/ 7/10  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/13/10 14:56		208268	
Benzene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Bromodichloromethane	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Bromoform	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Bromomethane	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
2-Butanone (MEK)	10	U	10	1	NA	7/13/10 14:56		208268	
Carbon Disulfide	10	U	10	1	NA	7/13/10 14:56		208268	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Chlorobenzene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Chloroethane	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Chloroform	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Chloromethane	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Dibromochloromethane	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Ethylbenzene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
2-Hexanone	10	U	10	1	NA	7/13/10 14:56		208268	
Methylene Chloride	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/13/10 14:56		208268	
Styrene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Tetrachloroethene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Toluene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Trichloroethene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
Vinyl Chloride	5.0	U	5.0	1	NA	7/13/10 14:56		208268	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: MW-18  
 Lab Code: R1003586-013

Service Request: R1003586  
 Date Collected: 7/ 3/10 1600  
 Date Received: 7/ 7/10  
 Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	7/13/10 14:56		208268	
m,p-Xylenes	5.0	U	5.0	1	NA	7/13/10 14:56		208268	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	102	85-122	7/13/10 14:56		
Toluene-d8	97	87-121	7/13/10 14:56		
Dibromofluoromethane	107	89-119	7/13/10 14:56		

Comments:



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1005565-01

**Service Request:** R1003586  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/9/10 23:37		207946	
Benzene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Bromodichloromethane	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Bromoform	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Bromomethane	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
2-Butanone (MEK)	10	U	10	1	NA	7/9/10 23:37		207946	
Carbon Disulfide	10	U	10	1	NA	7/9/10 23:37		207946	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Chlorobenzene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Chloroethane	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Chloroform	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Chloromethane	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Dibromochloromethane	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Ethylbenzene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
2-Hexanone	10	U	10	1	NA	7/9/10 23:37		207946	
Methylene Chloride	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/9/10 23:37		207946	
Styrene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Tetrachloroethene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Toluene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Trichloroethene	5.0	U	5.0	1	NA	7/9/10 23:37		207946	
Vinyl Chloride	5.0	U	5.0	1	NA	7/9/10 23:37		207946	

**Comments:**

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1005565-01

**Service Request:** R1003586  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis	
							Lot	Lot
o-Xylene	5.0	U	5.0	1	NA	7/9/10 23:37		207946
m,p-Xylenes	5.0	U	5.0	1	NA	7/9/10 23:37		207946

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	103	85-122	7/9/10 23:37		
Toluene-d8	102	87-121	7/9/10 23:37		
Dibromofluoromethane	106	89-119	7/9/10 23:37		

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells July 2010  
 Sample Matrix: Water  
 Sample Name: Method Blank  
 Lab Code: RQ1005638-01

Service Request: R1003586  
 Date Collected: NA  
 Date Received: NA  
 Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	7/13/10 12:40		208268	
Benzene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Bromodichloromethane	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Bromoform	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Bromomethane	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
2-Butanone (MEK)	10	U	10	1	NA	7/13/10 12:40		208268	
Carbon Disulfide	10	U	10	1	NA	7/13/10 12:40		208268	
Carbon Tetrachloride	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Chlorobenzene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Chloroethane	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Chloroform	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Chloromethane	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Dibromochloromethane	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
1,1-Dichloroethane	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
1,2-Dichloroethane	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
1,1-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
1,2-Dichloropropane	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Ethylbenzene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
2-Hexanone	10	U	10	1	NA	7/13/10 12:40		208268	
Methylene Chloride	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	7/13/10 12:40		208268	
Styrene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Tetrachloroethene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Toluene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Trichloroethene	5.0	U	5.0	1	NA	7/13/10 12:40		208268	
Vinyl Chloride	5.0	U	5.0	1	NA	7/13/10 12:40		208268	

Comments:

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1005638-01

**Service Request:** R1003586  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Analysis	
							Lot	Lot
o-Xylene	5.0	U	5.0	1	NA	7/13/10 12:40		208268
m,p-Xylenes	5.0	U	5.0	1	NA	7/13/10 12:40		208268

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	98	85-122	7/13/10 12:40		
Toluene-d8	93	87-121	7/13/10 12:40		
Dibromofluoromethane	99	89-119	7/13/10 12:40		

**Comments:** \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water

**Service Request:** R1003586  
**Date Analyzed:** 7/9/10

**Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Units:** µg/L  
**Basis:** NA

**Analysis Lot:** 207946

Analyte Name	Lab Control Sample RQ1005565-02			% Rec Limits
	Result	Expected	% Rec	
Acetone	16.7	20.0	83	59 - 140
Benzene	19.4	20.0	97	78 - 121
Bromodichloromethane	19.9	20.0	99	80 - 125
Bromoform	17.8	20.0	89	73 - 132
Bromomethane	21.4	20.0	107	57 - 144
2-Butanone (MEK)	19.3	20.0	97	60 - 133
Carbon Disulfide	21.1	20.0	105	59 - 138
Carbon Tetrachloride	19.2	20.0	96	69 - 135
Chlorobenzene	18.8	20.0	94	80 - 121
Chloroethane	20.9	20.0	104	71 - 130
Chloroform	20.8	20.0	104	78 - 125
Chloromethane	19.5	20.0	97	62 - 133
Dibromochloromethane	19.5	20.0	97	78 - 133
1,1-Dichloroethane	20.7	20.0	103	76 - 122
1,2-Dichloroethane	21.3	20.0	106	78 - 126
1,1-Dichloroethene	19.9	20.0	99	72 - 129
cis-1,2-Dichloroethene	19.2	20.0	96	78 - 122
trans-1,2-Dichloroethene	19.3	20.0	96	75 - 121
1,2-Dichloropropane	19.8	20.0	99	80 - 123
cis-1,3-Dichloropropene	18.4	20.0	92	77 - 125
trans-1,3-Dichloropropene	18.3	20.0	91	69 - 127
Ethylbenzene	19.3	20.0	96	78 - 123
2-Hexanone	17.0	20.0	85	61 - 131
Methylene Chloride	19.8	20.0	99	75 - 125
4-Methyl-2-pentanone (MIBK)	17.1	20.0	85	61 - 132
Styrene	18.4	20.0	92	80 - 132
1,1,2,2-Tetrachloroethane	17.0	20.0	85	72 - 131
Tetrachloroethene	18.4	20.0	92	72 - 131
Toluene	18.1	20.0	90	78 - 122
1,1,1-Trichloroethane	20.7	20.0	104	72 - 128
1,1,2-Trichloroethane	18.7	20.0	93	80 - 122
Trichloroethene	19.3	20.0	96	74 - 127
Vinyl Chloride	21.0	20.0	105	71 - 136
o-Xylene	18.2	20.0	91	79 - 126
m,p-Xylenes	36.8	40.0	92	79 - 126

**Comments:** \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells July 2010  
**Sample Matrix:** Water

**Service Request:** R1003586  
**Date Analyzed:** 7/13/10

**Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Units:** µg/L  
**Basis:** NA

**Analysis Lot:** 208268

Analyte Name	Lab Control Sample RQ1005638-02			% Rec Limits
	Result	Expected	% Rec	
Acetone	13.9	20.0	69	59 - 140
Benzene	20.1	20.0	100	78 - 121
Bromodichloromethane	20.2	20.0	101	80 - 125
Bromoform	18.4	20.0	92	73 - 132
Bromomethane	20.0	20.0	100	57 - 144
2-Butanone (MEK)	17.5	20.0	88	60 - 133
Carbon Disulfide	21.4	20.0	107	59 - 138
Carbon Tetrachloride	20.9	20.0	104	69 - 135
Chlorobenzene	18.9	20.0	95	80 - 121
Chloroethane	20.7	20.0	104	71 - 130
Chloroform	20.5	20.0	102	78 - 125
Chloromethane	18.5	20.0	92	62 - 133
Dibromochloromethane	19.9	20.0	100	78 - 133
1,1-Dichloroethane	20.4	20.0	102	76 - 122
1,2-Dichloroethane	20.5	20.0	102	78 - 126
1,1-Dichloroethene	19.8	20.0	99	72 - 129
cis-1,2-Dichloroethene	18.4	20.0	92	78 - 122
trans-1,2-Dichloroethene	18.5	20.0	93	75 - 121
1,2-Dichloropropane	19.7	20.0	98	80 - 123
cis-1,3-Dichloropropene	18.9	20.0	95	77 - 125
trans-1,3-Dichloropropene	18.8	20.0	94	69 - 127
Ethylbenzene	19.7	20.0	99	78 - 123
2-Hexanone	16.7	20.0	83	61 - 131
Methylene Chloride	19.0	20.0	95	75 - 125
4-Methyl-2-pentanone (MIBK)	16.1	20.0	80	61 - 132
Styrene	17.9	20.0	90	80 - 132
1,1,2,2-Tetrachloroethane	16.4	20.0	82	72 - 131
Tetrachloroethene	20.1	20.0	100	72 - 131
Toluene	17.7	20.0	89	78 - 122
1,1,1-Trichloroethane	20.7	20.0	104	72 - 128
1,1,2-Trichloroethane	18.3	20.0	91	80 - 122
Trichloroethene	18.9	20.0	94	74 - 127
Vinyl Chloride	21.0	20.0	105	71 - 136
o-Xylene	18.3	20.0	92	79 - 126
m,p-Xylenes	37.5	40.0	94	79 - 126

**Comments:** \_\_\_\_\_



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

One Mustard St., Suite 250 • Rochester, NY 14609-0859(585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-8475 PAGE 1 OF 2

SR # \_\_\_\_\_  
CAS Contact \_\_\_\_\_

Project Name		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)			
Leica		Report CC					
Project Manager		Report CC					
Bob McPeak							
Company/Address							
Energy Solutions Inc							
100 Mill Plain Rd and Floor Box 106							
Danbury, CT							
Phone #		FAX#					
801-303-1092		203-797-8994					
Sampler's Signature		Sampler's Printed Name					
Wayne DeGoller		Wayne DeGoller					
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	TIME	MATRIX	NUMBER OF CONTAINERS	PRESERVATIVE	REMARKS/ALTERNATE DESCRIPTION
MW 27	-001	7/2/10	12:35	H <sub>2</sub> O	1	GCMS VOAs <input checked="" type="checkbox"/> CLP	
MW 25	-002	7/2/10	13:45		1	GCMS SVOAs <input checked="" type="checkbox"/> CLP	
MW 25A	-003	7/2/10	14:00		1	GCMS VOAs <input checked="" type="checkbox"/> CLP	
MW 26	-004	7/2/10	14:15		1	GCMS SVOAs <input checked="" type="checkbox"/> CLP	
MW 28	-005	7/2/10	15:30		1	GCMS VOAs <input checked="" type="checkbox"/> CLP	
MW 29A	-006	7/3/10	13:00		1	GCMS SVOAs <input checked="" type="checkbox"/> CLP	
MW 28A	-007	7/3/10	13:15		1	GCMS VOAs <input checked="" type="checkbox"/> CLP	
MW 26A	-008	7/3/10	13:30		1	GCMS SVOAs <input checked="" type="checkbox"/> CLP	
MW 27A	-009	7/3/10	14:30		1	GCMS VOAs <input checked="" type="checkbox"/> CLP	
MW 22A	-010	7/3/10	14:45		1	GCMS SVOAs <input checked="" type="checkbox"/> CLP	

SPECIAL INSTRUCTIONS/COMMENTS		TURNAROUND REQUIREMENTS		REPORT REQUIREMENTS		INVOICE INFORMATION	
Metals		<input type="checkbox"/> RUSH (SURCHARGES APPLY) <input checked="" type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 5 day <input checked="" type="checkbox"/> STANDARD REQUESTED FAX DATE _____ REQUESTED REPORT DATE _____		<input checked="" type="checkbox"/> I. Results Only <input checked="" type="checkbox"/> II. Results + QC Summaries (LCS, DUP, MS/MSD as required) <input type="checkbox"/> III. Results + QC and Calibration Summaries <input type="checkbox"/> IV. Data Validation Report with Raw Data <input type="checkbox"/> V. Specialized Forms / Custom Report		PO# _____ BILL TO: _____ <b>R1003586</b> Energy Solutions, Inc. Leica	

RECEIVED BY		RECEIVED BY	
Signature: <i>Wayne DeGoller</i>	Signature: <i>Wayne DeGoller</i>	Printed Name: Wayne DeGoller	Printed Name: Wayne DeGoller
Date/Time: 7/2/10 15:40	Date/Time: 7/2/10 16:20	Firm: CAS	Firm: CAS



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

www.caslab.com One Mustard St., Suite 250 • Rochester, NY 14609-0859(585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-8475 PAGE 2 OF 2

SR #

CAS Contact

Project Name <b>Loica</b>		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager <b>Bob McPeak</b>		Report CC		PRESERVATIVE	
Company/Address <b>Energy Solutions Inc 100 Mill Plain Rd and Floor Box 106 Danbury, CT 06811</b>		FAX# <b>801-303-1092</b>		PRELIMINARY TESTS (List in comments below) METALS, TOTAL METALS, DISSOLVED (List in comments below)	
Phone # <b>801-303-1092</b>		Sampler's Printed Name <b>Wayne DeGobler</b>		PCBs <input type="checkbox"/> 8082 <input type="checkbox"/> 608 <input type="checkbox"/> CLP PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 <input type="checkbox"/> CLP GC VOAs <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 GCMS SVOAs <input type="checkbox"/> 8270 <input type="checkbox"/> 625 <input type="checkbox"/> CLP GCMS VOAs <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> CLP	
Sampler's Signature <i>Wayne DeGobler</i>		SAMPLING DATE		NUMBER OF CONTAINERS	
FOR OFFICE USE ONLY		SAMPLING TIME		MATRIX	
CLIENT SAMPLE ID	LAB ID	DATE	TIME		
MW 22	-011	7/3/10	14:55	1	A20
MW 18A	-012	7/3/10	15:30	1	
MW 18	-013	7/3/10	16:00	1	
SPECIAL INSTRUCTIONS/COMMENTS <b>Metals</b>		TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 5 day <input type="checkbox"/> STANDARD <input checked="" type="checkbox"/> REQUESTED FAX DATE REQUESTED REPORT DATE		REPORT REQUIREMENTS I. Results Only <input type="checkbox"/> II. Results + QC Summaries (LCS, DUP, MS/MSD as required) <input checked="" type="checkbox"/> III. Results + QC and Calibration Summaries <input type="checkbox"/> IV. Data Validation Report with Raw Data <input type="checkbox"/> V. Specialized Forms / Custom F <input type="checkbox"/> Edata <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
RECEIVED BY <i>Wayne DeGobler</i> Signature <b>Wayne DeGobler</b> Printed Name <b>EMPRESIS</b> Firm Date/Time <b>7/2/10 15:40</b>		RECEIVED BY <i>Bob McPeak</i> Signature <b>Bob McPeak</b> Printed Name <b>CAS</b> Firm Date/Time <b>7/2/10 16:20</b>		RECEIVED BY <i>Bob McPeak</i> Signature <b>Bob McPeak</b> Printed Name <b>CAS</b> Firm Date/Time <b>7/2/10 16:20</b>	
CUSTODY SEALS: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		CUSTODY SEALS: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		CUSTODY SEALS: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
SAMPLE RECEIPT: CONDITION/COOLER TEMP: <b>3°C</b>		SAMPLE RECEIPT: CONDITION/COOLER TEMP: <b>3°C</b>		SAMPLE RECEIPT: CONDITION/COOLER TEMP: <b>3°C</b>	
RECEIVED BY		RECEIVED BY		RECEIVED BY	
RELINQUISHED BY		RELINQUISHED BY		RELINQUISHED BY	
Signature <i>Wayne DeGobler</i>		Signature <i>Bob McPeak</i>		Signature <i>Bob McPeak</i>	
Printed Name <b>Wayne DeGobler</b>		Printed Name <b>Bob McPeak</b>		Printed Name <b>Bob McPeak</b>	
Firm <b>EMPRESIS</b>		Firm <b>CAS</b>		Firm <b>CAS</b>	
Date/Time <b>7/2/10 15:40</b>		Date/Time <b>7/2/10 15:40</b>		Date/Time <b>7/2/10 16:20</b>	
SPECIAL INSTRUCTIONS/COMMENTS		TURNAROUND REQUIREMENTS		REPORT REQUIREMENTS	
Metals		RUSH (SURCHARGES APPLY)		I. Results Only	
		24 hr 48 hr 5 day		II. Results + QC Summaries (LCS, DUP, MS/MSD as required)	
		STANDARD		III. Results + QC and Calibration Summaries	
		REQUESTED FAX DATE		IV. Data Validation Report with Raw Data	
		REQUESTED REPORT DATE		V. Specialized Forms / Custom F	
				Edata Yes No	
				RELINQUISHED BY	
				Signature	
				Printed Name	
				Firm	
				Date/Time	

**R1003586**  
Energy Solutions, Inc.





### Cooler Receipt And Preservation Check Form

Project/Client Leica Submission Number R10-3586

Cooler received on 7/7/10 by: BD COURIER: CAS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES  NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES  NO
3. Did all bottles arrive in good condition (unbroken)? YES  NO  \*
4. Did any VOA vials have significant\* air bubbles? YES  NO  N/A
5. Were ~~Ice~~ or Ice packs present? YES  NO
6. Where did the bottles originate? CAS/ROC, CLIENT
7. Temperature of cooler(s) upon receipt: 3°

Is the temperature within 0° - 6° C?:  Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 7/7 @ 1630

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: \_\_\_\_\_  
 PC Secondary Review: KB 7/8/10

Cooler Breakdown: Date: 7/8/10 by: BD

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)?  YES NO
2. Did all bottle labels and tags agree with custody papers?  YES NO
3. Were correct containers used for the tests indicated?  YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated  N/A

Explain any discrepancies: \_\_\_\_\_

pH	Reagent	YES NO		Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
		YES	NO							
≥12	NaOH									No = Samples were preserved at lab as listed
≤2	HNO <sub>3</sub>									
≤2	H <sub>2</sub> SO <sub>4</sub>									
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid						PM OK to Adjust:
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet				
	Zn Aceta	-	-							
	HCl	*	*	4109100	5/11					

Bottle lot numbers: 0-075-001

Other Comments: \* 1 VOA vial for MW22 + MW 22A were rec'd broken.

PC Secondary Review: KB 7/19/10

\*significant air bubbles are greater than 5-6 mm

October 21, 2010

Service Request No: R1005354

Mr. Robert McPeak  
Energy Solutions, Inc.  
100 Mill Plain Rd  
2nd Floor Mailbox 106  
Danbury, CT 06811

**Laboratory Results for: Leica Wells 9/30/10-10/2/10**

Dear Mr. McPeak:

Enclosed are the results of the sample(s) submitted to our laboratory between September 29, 2010 and October 4, 2010. For your reference, these analyses have been assigned our service request number **R1005354**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 134. You may also contact me via email at [KBunker@caslab.com](mailto:KBunker@caslab.com).

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Karen Bunker  
Project Manager

Page 1 of 126

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Energy Solutions  
Project: Leica Wells 9/2010  
Sample Matrix: Water

Service Request No.: R1005354  
Date Received: 9/29/2010

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

**Sample Receipt**

Twenty-four (24) groundwater samples including two (2) Trip Blanks were collected by the client between 9/29/10-10/2/10 and received for analysis at Columbia Analytical Services on 9/29/10, 10/1/10 and 10/4/10 via CAS Courier. The samples were received in good condition. The cooler receipt temperatures ranged from 2-3°C, within the guidelines of 0-6°C. Sample location MW6 (CAS Submission # R1005354-005) had insufficient volume for all parameters except Volatiles and TOC.

**Volatile Organics**

Twenty (20) water samples were analyzed for Volatile Organic compounds by GC/MS method 8260B.

The Initial and Continuing Calibration Criteria were met.

Site QC is included in the report for location MW 24 (CAS Submission # R1005354). All Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recoveries were within QC limits except for Bromoform and Dibromochloromethane. All Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) recoveries for target compounds were within QC limits. All Relative Percent Difference (RPD) calculations were acceptable. The exceedences are flagged as “\*”.

Hits above the calibration range of the standards are flagged as “E”, estimated. The sample is then repeated at the appropriate dilution for the hit. Both sets of data are included in the report. The subsequent hit is flagged as “D”.

All Surrogate recoveries are within acceptance limits.

All Laboratory Method Blanks and Trip Blanks were free from contamination.

The samples were analyzed within the 14 day holding time for the method. All vials are checked for preservation after the analysis in order to maintain the integrity of the sample. All vials were found to be preserved to a pH of <2.

No problems were encountered during the analysis of these samples.

**Inorganics**

Nine (9) water samples were analyzed for Dissolved Iron and Manganese, and IC compounds: Chloride, Nitrate, and Sulfate. Ten (10) water samples were analyzed for TOC. All Method numbers are noted on the Data Form 1's of the report. The soluble locations were filtered in the laboratory.

All Initial and Continuing Calibration Criteria was met for these analyses.

Approved by Keen Benlee Date 10/22/10

Site QC is included in the report locations MW 11A (CAS Submission #R1005354-001) for Chloride, MW 24A (CAS Submission # R1005354-018) for Nitrate and Sulfate, MW 24 (CAS Submission # R1005354-020) for TOC and MW 16A (CAS Submission # R1005354-004) for metals. All Matrix Spike (MS) recoveries were within QC limits except for Chloride. All Relative Percent Difference (RPD) calculations were within limits. All Laboratory Control Sample recoveries were within QC acceptance limits. The exceedence is flagged as “\*”.

All Laboratory Method Blanks were free from contamination.

All holding times were met for these analyses.

No problems were encountered with these analyses.

Approved by Karen Beutler Date 10/22/10

## CASE NARRATIVE

This report contains analytical results for the following samples:  
Service Request Number: R1005354

<u>Lab ID</u>	<u>Client ID</u>
R1005354-001	MW 11A
R1005354-002	MW 11A Dissolved
R1005354-003	MW 16A
R1005354-004	MW 16A Dissolved
R1005354-005	MW 6
R1005354-006	MW 6A
R1005354-007	MW 6A Dissolved
R1005354-008	MW 5
R1005354-009	MW 5 Dissolved
R1005354-010	MW 5A
R1005354-011	MW 5A Dissolved
R1005354-012	MW 16R
R1005354-013	MW 16R Dissolved
R1005354-014	Trip Blank
R1005354-015	MW 22A
R1005354-016	MW 14A
R1005354-017	MW 14A Dissolved
R1005354-018	MW 24A
R1005354-019	MW 24A Dissolved
R1005354-020	MW 24
R1005354-021	MW 24 Dissolved
R1005354-022	MW 18
R1005354-023	MW 18A
R1005354-024	MW 27
R1005354-025	MW 26
R1005354-026	MW 25
R1005354-027	MW 25A
R1005354-028	MW 28
R1005354-029	MW 26A
R1005354-030	MW 27A
R1005354-031	MW 28A
R1005354-032	MW 29A
R1005354-033	TRIP BLANK

## REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$  Difference between two GC columns).
- X See Case Narrative for discussion.



### CAS/Rochester Lab ID # for State Certifications<sup>1</sup>

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at [www.caslab.com](http://www.caslab.com).

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** MW 11A  
**Lab Code:** R1005354-001

**Service Request:** R1005354  
**Date Collected:** 9/29/10 0800  
**Date Received:** 9/29/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	4.0		mg/L	1.0	1	NA	10/13/10 00:24	
Chloride	300.0	96.0		mg/L	4.0	20	NA	9/30/10 16:50	
Nitrate as Nitrogen	300.0	0.50	U	mg/L	0.50	10	NA	9/30/10 11:50	
Sulfate	300.0	80.1		mg/L	2.0	10	NA	9/30/10 11:50	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10 0800  
 Date Received: 9/29/10  
 Date Analyzed: 10/6/10 19:00

Sample Name: MW 11A  
 Lab Code: R1005354-001

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7554.D

Analysis Lot: 219572  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	190		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	230	E	5.0	
95-47-6	o-Xylene	5.0	U	5.0	



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/29/10 0800  
**Date Received:** 9/29/10  
**Date Analyzed:** 10/6/10 19:00

**Sample Name:** MW 11A  
**Lab Code:** R1005354-001

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7554.D

**Analysis Lot:** 219572  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	10/6/10 19:00	
Toluene-d8	95	87-121	10/6/10 19:00	
Dibromofluoromethane	99	89-119	10/6/10 19:00	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10 0800  
 Date Received: 9/29/10  
 Date Analyzed: 10/5/10 14:41

Sample Name: MW 11A  
 Lab Code: R1005354-001  
 Run Type: Dilution

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7510.D

Analysis Lot: 219404  
 Instrument Name: R-MS-07  
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	50	U	50	
71-43-2	Benzene	13	U	13	
75-27-4	Bromodichloromethane	13	U	13	
75-25-2	Bromoform	13	U	13	
74-83-9	Bromomethane	13	U	13	
78-93-3	2-Butanone (MEK)	25	U	25	
75-15-0	Carbon Disulfide	25	U	25	
56-23-5	Carbon Tetrachloride	13	U	13	
108-90-7	Chlorobenzene	13	U	13	
75-00-3	Chloroethane	13	U	13	
67-66-3	Chloroform	13	U	13	
74-87-3	Chloromethane	13	U	13	
124-48-1	Dibromochloromethane	13	U	13	
75-34-3	1,1-Dichloroethane	13	U	13	
107-06-2	1,2-Dichloroethane	13	U	13	
75-35-4	1,1-Dichloroethene	13	U	13	
156-59-2	cis-1,2-Dichloroethene	180	D	13	
156-60-5	trans-1,2-Dichloroethene	13	U	13	
78-87-5	1,2-Dichloropropane	13	U	13	
10061-01-5	cis-1,3-Dichloropropene	13	U	13	
10061-02-6	trans-1,3-Dichloropropene	13	U	13	
100-41-4	Ethylbenzene	13	U	13	
591-78-6	2-Hexanone	25	U	25	
75-09-2	Methylene Chloride	13	U	13	
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U	25	
100-42-5	Styrene	13	U	13	
79-34-5	1,1,2,2-Tetrachloroethane	13	U	13	
127-18-4	Tetrachloroethene	13	U	13	
108-88-3	Toluene	13	U	13	
71-55-6	1,1,1-Trichloroethane	13	U	13	
79-00-5	1,1,2-Trichloroethane	13	U	13	
79-01-6	Trichloroethene	13	U	13	
75-01-4	Vinyl Chloride	210	D	13	
95-47-6	o-Xylene	13	U	13	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/29/10 0800  
**Date Received:** 9/29/10  
**Date Analyzed:** 10/5/10 14:41

**Sample Name:** MW 11A  
**Lab Code:** R1005354-001  
**Run Type:** Dilution

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7510.D

**Analysis Lot:** 219404  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	13	U	13	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	10/5/10 14:41	
Toluene-d8	94	87-121	10/5/10 14:41	
Dibromofluoromethane	98	89-119	10/5/10 14:41	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: MW 11A Dissolved  
Lab Code: R1005354-002

Service Request: R1005354  
Date Collected: 9/29/10 0800  
Date Received: 9/29/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	260		µg/L	100	1	10/ 4/10	10/6/10 00:13	
Manganese, Dissolved	6010B	66		µg/L	10	1	10/ 4/10	10/6/10 00:13	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: MW 16A  
Lab Code: R1005354-003

Service Request: R1005354  
Date Collected: 9/29/10 0815  
Date Received: 9/29/10

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	3.4	mg/L	1.0	1	NA	10/13/10 00:43	
Chloride	300.0	219	mg/L	8.0	40	NA	9/30/10 16:38	
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	9/30/10 11:26	
Sulfate	300.0	90.2	mg/L	2.0	10	NA	9/30/10 11:26	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10 0815  
 Date Received: 9/29/10  
 Date Analyzed: 10/5/10 15:19

Sample Name: MW 16A  
 Lab Code: R1005354-003

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7511.D

Analysis Lot: 219404  
 Instrument Name: R-MS-07  
 Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	100	U	100	
71-43-2	Benzene	25	U	25	
75-27-4	Bromodichloromethane	25	U	25	
75-25-2	Bromoform	25	U	25	
74-83-9	Bromomethane	25	U	25	
78-93-3	2-Butanone (MEK)	50	U	50	
75-15-0	Carbon Disulfide	50	U	50	
56-23-5	Carbon Tetrachloride	25	U	25	
108-90-7	Chlorobenzene	25	U	25	
75-00-3	Chloroethane	25	U	25	
67-66-3	Chloroform	25	U	25	
74-87-3	Chloromethane	25	U	25	
124-48-1	Dibromochloromethane	25	U	25	
75-34-3	1,1-Dichloroethane	100		25	
107-06-2	1,2-Dichloroethane	25	U	25	
75-35-4	1,1-Dichloroethene	25	U	25	
156-59-2	cis-1,2-Dichloroethene	850		25	
156-60-5	trans-1,2-Dichloroethene	25	U	25	
78-87-5	1,2-Dichloropropane	25	U	25	
10061-01-5	cis-1,3-Dichloropropene	25	U	25	
10061-02-6	trans-1,3-Dichloropropene	25	U	25	
100-41-4	Ethylbenzene	25	U	25	
591-78-6	2-Hexanone	50	U	50	
75-09-2	Methylene Chloride	25	U	25	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	U	50	
100-42-5	Styrene	25	U	25	
79-34-5	1,1,2,2-Tetrachloroethane	25	U	25	
127-18-4	Tetrachloroethene	25	U	25	
108-88-3	Toluene	25	U	25	
71-55-6	1,1,1-Trichloroethane	48		25	
79-00-5	1,1,2-Trichloroethane	25	U	25	
79-01-6	Trichloroethene	380		25	
75-01-4	Vinyl Chloride	250		25	
95-47-6	o-Xylene	25	U	25	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/29/10 0815  
**Date Received:** 9/29/10  
**Date Analyzed:** 10/5/10 15:19

**Sample Name:** MW 16A  
**Lab Code:** R1005354-003

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7511.D

**Analysis Lot:** 219404  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 5

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	25 U	25	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85-122	10/5/10 15:19	
Toluene-d8	98	87-121	10/5/10 15:19	
Dibromofluoromethane	100	89-119	10/5/10 15:19	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** MW 16A Dissolved  
**Lab Code:** R1005354-004

**Service Request:** R1005354  
**Date Collected:** 9/29/10 0815  
**Date Received:** 9/29/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	240	µg/L	100	1	10/ 4/10	10/6/10 00:19	
Manganese, Dissolved	6010B	72	µg/L	10	1	10/ 4/10	10/6/10 00:19	



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: MW 6  
Lab Code: R1005354-005

Service Request: R1005354  
Date Collected: 9/29/10 0830  
Date Received: 9/29/10

Basis: NA

Total Organic Carbon (TOC), Persulfate-Ultraviolet or Heated-Persulfate Oxidation 20th Ed.

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	5.3	mg/L	1.0	1	NA	10/13/10 01:02	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10 0830  
 Date Received: 9/29/10  
 Date Analyzed: 10/5/10 18:30

Sample Name: MW 6  
 Lab Code: R1005354-005

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7516.D

Analysis Lot: 219404  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	74		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	17		5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/29/10 0830  
**Date Received:** 9/29/10  
**Date Analyzed:** 10/5/10 18:30

**Sample Name:** MW 6  
**Lab Code:** R1005354-005

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7516.D

**Analysis Lot:** 219404  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85-122	10/5/10 18:30	
Toluene-d8	91	87-121	10/5/10 18:30	
Dibromofluoromethane	102	89-119	10/5/10 18:30	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** MW 6A  
**Lab Code:** R1005354-006

**Service Request:** R1005354  
**Date Collected:** 9/29/10 0845  
**Date Received:** 9/29/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	6.1	mg/L	1.0	1	NA	10/16/10 03:34	
Chloride	300.0	32.8	mg/L	2.0	10	NA	9/30/10 12:14	
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	9/30/10 12:14	
Sulfate	300.0	98.6	mg/L	2.0	10	NA	9/30/10 12:14	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10 0845  
 Date Received: 9/29/10  
 Date Analyzed: 10/5/10 15:57

Sample Name: MW 6A  
 Lab Code: R1005354-006

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7512.D

Analysis Lot: 219404  
 Instrument Name: R-MS-07  
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	50	U	50	
71-43-2	Benzene	13	U	13	
75-27-4	Bromodichloromethane	13	U	13	
75-25-2	Bromoform	13	U	13	
74-83-9	Bromomethane	13	U	13	
78-93-3	2-Butanone (MEK)	25	U	25	
75-15-0	Carbon Disulfide	25	U	25	
56-23-5	Carbon Tetrachloride	13	U	13	
108-90-7	Chlorobenzene	13	U	13	
75-00-3	Chloroethane	13	U	13	
67-66-3	Chloroform	13	U	13	
74-87-3	Chloromethane	13	U	13	
124-48-1	Dibromochloromethane	13	U	13	
75-34-3	1,1-Dichloroethane	13	U	13	
107-06-2	1,2-Dichloroethane	13	U	13	
75-35-4	1,1-Dichloroethene	13	U	13	
156-59-2	cis-1,2-Dichloroethene	410		13	
156-60-5	trans-1,2-Dichloroethene	13	U	13	
78-87-5	1,2-Dichloropropane	13	U	13	
10061-01-5	cis-1,3-Dichloropropene	13	U	13	
10061-02-6	trans-1,3-Dichloropropene	13	U	13	
100-41-4	Ethylbenzene	13	U	13	
591-78-6	2-Hexanone	25	U	25	
75-09-2	Methylene Chloride	13	U	13	
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U	25	
100-42-5	Styrene	13	U	13	
79-34-5	1,1,2,2-Tetrachloroethane	13	U	13	
127-18-4	Tetrachloroethene	13	U	13	
108-88-3	Toluene	13	U	13	
71-55-6	1,1,1-Trichloroethane	13	U	13	
79-00-5	1,1,2-Trichloroethane	13	U	13	
79-01-6	Trichloroethene	13	U	13	
75-01-4	Vinyl Chloride	400		13	
95-47-6	o-Xylene	13	U	13	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/29/10 0845  
**Date Received:** 9/29/10  
**Date Analyzed:** 10/5/10 15:57

**Sample Name:** MW 6A  
**Lab Code:** R1005354-006

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7512.D

**Analysis Lot:** 219404  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	13	U	13	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	10/5/10 15:57	
Toluene-d8	92	87-121	10/5/10 15:57	
Dibromofluoromethane	101	89-119	10/5/10 15:57	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: MW 6A Dissolved  
Lab Code: R1005354-007

Service Request: R1005354  
Date Collected: 9/29/10 0845  
Date Received: 9/29/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	3280	µg/L	100	1	10/ 4/10	10/6/10 01:01	
Manganese, Dissolved	6010B	63	µg/L	10	1	10/ 4/10	10/6/10 01:01	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: MW 5  
Lab Code: R1005354-008

Service Request: R1005354  
Date Collected: 9/29/10 0910  
Date Received: 9/29/10

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	11.6	mg/L	1.0	1	NA	10/16/10 03:53	
Chloride	300.0	41.5	mg/L	2.0	10	NA	9/30/10 11:38	
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	9/30/10 11:38	
Sulfate	300.0	12.9	mg/L	2.0	10	NA	9/30/10 11:38	



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/29/10 09:10  
**Date Received:** 9/29/10  
**Date Analyzed:** 10/5/10 19:08

**Sample Name:** MW 5  
**Lab Code:** R1005354-008

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7517.D

**Analysis Lot:** 219404  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Collected: 9/29/10 0910  
Date Received: 9/29/10  
Date Analyzed: 10/5/10 19:08

Sample Name: MW 5  
Lab Code: R1005354-008

Units: µg/L  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
Data File Name: H7517.D

Analysis Lot: 219404  
Instrument Name: R-MS-07  
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	10/5/10 19:08	
Toluene-d8	99	87-121	10/5/10 19:08	
Dibromofluoromethane	101	89-119	10/5/10 19:08	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: MW 5 Dissolved  
Lab Code: R1005354-009

Service Request: R1005354  
Date Collected: 9/29/10 0910  
Date Received: 9/29/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	1180	µg/L	100	1	10/ 4/10	10/6/10 01:08	
Manganese, Dissolved	6010B	277	µg/L	10	1	10/ 4/10	10/6/10 01:08	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** MW 5A  
**Lab Code:** R1005354-010

**Service Request:** R1005354  
**Date Collected:** 9/29/10 0925  
**Date Received:** 9/29/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	135		mg/L	10	10	NA	10/16/10 04:45	
Chloride	300.0	82.9		mg/L	2.0	10	NA	9/30/10 11:14	
Nitrate as Nitrogen	300.0	0.50	U	mg/L	0.50	10	NA	9/30/10 11:14	
Sulfate	300.0	13.2		mg/L	2.0	10	NA	9/30/10 11:14	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10 0925  
 Date Received: 9/29/10  
 Date Analyzed: 10/5/10 19:46

Sample Name: MW 5A  
 Lab Code: R1005354-010

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7518.D

Analysis Lot: 219404  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	45		10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	15		5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/29/10 0925  
**Date Received:** 9/29/10  
**Date Analyzed:** 10/5/10 19:46

**Sample Name:** MW 5A  
**Lab Code:** R1005354-010

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7518.D

**Analysis Lot:** 219404  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	10/5/10 19:46	
Toluene-d8	92	87-121	10/5/10 19:46	
Dibromofluoromethane	100	89-119	10/5/10 19:46	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** MW 5A Dissolved  
**Lab Code:** R1005354-011

**Service Request:** R1005354  
**Date Collected:** 9/29/10 0925  
**Date Received:** 9/29/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	11000		µg/L	100	1	10/ 4/10	10/6/10 01:14	
Manganese, Dissolved	6010B	49		µg/L	10	1	10/ 4/10	10/6/10 01:14	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** MW 16R  
**Lab Code:** R1005354-012

**Service Request:** R1005354  
**Date Collected:** 9/29/10 1000  
**Date Received:** 9/29/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	12.6		mg/L	1.0	1	NA	10/16/10 05:04	
Chloride	300.0	835		mg/L	40	200	NA	9/30/10 17:26	
Nitrate as Nitrogen	300.0	0.50	U	mg/L	0.50	10	NA	9/30/10 12:02	
Sulfate	300.0	7.3		mg/L	2.0	10	NA	9/30/10 12:02	



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10 1000  
 Date Received: 9/29/10  
 Date Analyzed: 10/5/10 16:35

Sample Name: MW 16R  
 Lab Code: R1005354-012

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7513.D

Analysis Lot: 219404  
 Instrument Name: R-MS-07  
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	40	U	40	
71-43-2	Benzene	10	U	10	
75-27-4	Bromodichloromethane	10	U	10	
75-25-2	Bromoform	10	U	10	
74-83-9	Bromomethane	10	U	10	
78-93-3	2-Butanone (MEK)	20	U	20	
75-15-0	Carbon Disulfide	20	U	20	
56-23-5	Carbon Tetrachloride	10	U	10	
108-90-7	Chlorobenzene	10	U	10	
75-00-3	Chloroethane	330		10	
67-66-3	Chloroform	10	U	10	
74-87-3	Chloromethane	10	U	10	
124-48-1	Dibromochloromethane	10	U	10	
75-34-3	1,1-Dichloroethane	89		10	
107-06-2	1,2-Dichloroethane	10	U	10	
75-35-4	1,1-Dichloroethene	10	U	10	
156-59-2	cis-1,2-Dichloroethene	10	U	10	
156-60-5	trans-1,2-Dichloroethene	10	U	10	
78-87-5	1,2-Dichloropropane	10	U	10	
10061-01-5	cis-1,3-Dichloropropene	10	U	10	
10061-02-6	trans-1,3-Dichloropropene	10	U	10	
100-41-4	Ethylbenzene	70		10	
591-78-6	2-Hexanone	20	U	20	
75-09-2	Methylene Chloride	10	U	10	
108-10-1	4-Methyl-2-pentanone (MIBK)	20	U	20	
100-42-5	Styrene	10	U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10	U	10	
127-18-4	Tetrachloroethene	10	U	10	
108-88-3	Toluene	10	U	10	
71-55-6	1,1,1-Trichloroethane	10	U	10	
79-00-5	1,1,2-Trichloroethane	10	U	10	
79-01-6	Trichloroethene	10	U	10	
75-01-4	Vinyl Chloride	10	U	10	
95-47-6	o-Xylene	100		10	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/29/10 1000  
**Date Received:** 9/29/10  
**Date Analyzed:** 10/5/10 16:35

**Sample Name:** MW 16R  
**Lab Code:** R1005354-012

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7513.D

**Analysis Lot:** 219404  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 2

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	140		10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	10/5/10 16:35	
Toluene-d8	96	87-121	10/5/10 16:35	
Dibromofluoromethane	101	89-119	10/5/10 16:35	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** MW 16R Dissolved  
**Lab Code:** R1005354-013

**Service Request:** R1005354  
**Date Collected:** 9/29/10 1000  
**Date Received:** 9/29/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	870		µg/L	100	1	10/ 4/10	10/6/10 01:20	
Manganese, Dissolved	6010B	129		µg/L	10	1	10/ 4/10	10/6/10 01:20	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10  
 Date Received: 9/29/10  
 Date Analyzed: 10/5/10 20:23

Sample Name: Trip Blank  
 Lab Code: R1005354-014

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7519.D

Analysis Lot: 219404  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/29/10  
**Date Received:** 9/29/10  
**Date Analyzed:** 10/5/10 20:23

**Sample Name:** Trip Blank  
**Lab Code:** R1005354-014

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7519.D

**Analysis Lot:** 219404  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	10/5/10 20:23	
Toluene-d8	94	87-121	10/5/10 20:23	
Dibromofluoromethane	101	89-119	10/5/10 20:23	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/30/10 1400  
 Date Received: 10/ 1/10  
 Date Analyzed: 10/6/10 03:47

Sample Name: MW 22A  
 Lab Code: R1005354-015

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7531.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	8.0	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/30/10 1400  
**Date Received:** 10/ 1/10  
**Date Analyzed:** 10/6/10 03:47

**Sample Name:** MW 22A  
**Lab Code:** R1005354-015

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7531.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	10/6/10 03:47	
Toluene-d8	97	87-121	10/6/10 03:47	
Dibromofluoromethane	101	89-119	10/6/10 03:47	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: MW 14A  
Lab Code: R1005354-016

Service Request: R1005354  
Date Collected: 9/30/10 1500  
Date Received: 10/ 1/10

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	2.9	mg/L	1.0	1	NA	10/16/10 09:13	
Chloride	300.0	17.3	mg/L	2.0	10	NA	10/1/10 21:49	
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	10/1/10 21:49	
Sulfate	300.0	34.9	mg/L	2.0	10	NA	10/1/10 21:49	



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/30/10 1500  
 Date Received: 10/ 1/10  
 Date Analyzed: 10/6/10 04:25

Sample Name: MW 14A  
 Lab Code: R1005354-016

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7532.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.9		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	6.8		5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Collected: 9/30/10 1500  
Date Received: 10/ 1/10  
Date Analyzed: 10/6/10 04:25

Sample Name: MW 14A  
Lab Code: R1005354-016

Units: µg/L  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
Data File Name: H7532.D

Analysis Lot: 219449  
Instrument Name: R-MS-07  
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85-122	10/6/10 04:25	
Toluene-d8	91	87-121	10/6/10 04:25	
Dibromofluoromethane	103	89-119	10/6/10 04:25	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: MW 14A Dissolved  
Lab Code: R1005354-017

Service Request: R1005354  
Date Collected: 9/30/10 1500  
Date Received: 10/ 1/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	1120	µg/L	100	1	10/ 4/10	10/6/10 16:53	
Manganese, Dissolved	6010B	65	µg/L	10	1	10/ 4/10	10/6/10 16:53	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** MW 24A  
**Lab Code:** R1005354-018

**Service Request:** R1005354  
**Date Collected:** 9/30/10 1700  
**Date Received:** 10/ 1/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	120	mg/L	10	10	NA	10/18/10 15:26	
Chloride	300.0	222	mg/L	8.0	40	NA	10/4/10 15:17	
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	10/1/10 22:25	
Sulfate	300.0	7.2	mg/L	2.0	10	NA	10/1/10 22:25	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/30/10 1700  
 Date Received: 10/ 1/10  
 Date Analyzed: 10/6/10 05:03

Sample Name: MW 24A  
 Lab Code: R1005354-018

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7533.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	38		20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	200	E	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	27		5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	39		5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	23		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	27		5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/30/10 1700  
**Date Received:** 10/ 1/10  
**Date Analyzed:** 10/6/10 05:03

**Sample Name:** MW 24A  
**Lab Code:** R1005354-018

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7533.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	10/6/10 05:03	
Toluene-d8	97	87-121	10/6/10 05:03	
Dibromofluoromethane	101	89-119	10/6/10 05:03	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/30/10 1700  
 Date Received: 10/ 1/10  
 Date Analyzed: 10/6/10 17:44

Sample Name: MW 24A  
 Lab Code: R1005354-018  
 Run Type: Dilution

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7552.D

Analysis Lot: 219572  
 Instrument Name: R-MS-07  
 Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	45 D	40	
71-43-2	Benzene	10 U	10	
75-27-4	Bromodichloromethane	10 U	10	
75-25-2	Bromoform	10 U	10	
74-83-9	Bromomethane	10 U	10	
78-93-3	2-Butanone (MEK)	220 D	20	
75-15-0	Carbon Disulfide	20 U	20	
56-23-5	Carbon Tetrachloride	10 U	10	
108-90-7	Chlorobenzene	10 U	10	
75-00-3	Chloroethane	24 D	10	
67-66-3	Chloroform	10 U	10	
74-87-3	Chloromethane	10 U	10	
124-48-1	Dibromochloromethane	10 U	10	
75-34-3	1,1-Dichloroethane	35 D	10	
107-06-2	1,2-Dichloroethane	10 U	10	
75-35-4	1,1-Dichloroethene	10 U	10	
156-59-2	cis-1,2-Dichloroethene	21 D	10	
156-60-5	trans-1,2-Dichloroethene	10 U	10	
78-87-5	1,2-Dichloropropane	10 U	10	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	
10061-02-6	trans-1,3-Dichloropropene	10 U	10	
100-41-4	Ethylbenzene	10 U	10	
591-78-6	2-Hexanone	20 U	20	
75-09-2	Methylene Chloride	10 U	10	
108-10-1	4-Methyl-2-pentanone (MIBK)	20 U	20	
100-42-5	Styrene	10 U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	
127-18-4	Tetrachloroethene	10 U	10	
108-88-3	Toluene	10 U	10	
71-55-6	1,1,1-Trichloroethane	10 U	10	
79-00-5	1,1,2-Trichloroethane	10 U	10	
79-01-6	Trichloroethene	10 U	10	
75-01-4	Vinyl Chloride	24 D	10	
95-47-6	o-Xylene	10 U	10	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/30/10 1700  
**Date Received:** 10/ 1/10  
**Date Analyzed:** 10/6/10 17:44

**Sample Name:** MW 24A  
**Lab Code:** R1005354-018  
**Run Type:** Dilution

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7552.D

**Analysis Lot:** 219572  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 2

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	10	U	10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	10/6/10 17:44	
Toluene-d8	92	87-121	10/6/10 17:44	
Dibromofluoromethane	102	89-119	10/6/10 17:44	



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: MW 24A Dissolved  
Lab Code: R1005354-019

Service Request: R1005354  
Date Collected: 9/30/10 1700  
Date Received: 10/ 1/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	2060	µg/L	100	1	10/ 4/10	10/6/10 17:00	
Manganese, Dissolved	6010B	132	µg/L	10	1	10/ 4/10	10/6/10 17:00	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** MW 24  
**Lab Code:** R1005354-020

**Service Request:** R1005354  
**Date Collected:** 9/30/10 1645  
**Date Received:** 10/ 1/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1590	mg/L	100	100	NA	10/16/10 05:39	
Chloride	300.0	286	mg/L	20	100	NA	10/4/10 15:29	
Nitrate as Nitrogen	300.0	0.50 U	mg/L	0.50	10	NA	10/1/10 21:37	
Sulfate	300.0	2.0 U	mg/L	2.0	10	NA	10/1/10 21:37	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/30/10 1645  
 Date Received: 10/ 1/10  
 Date Analyzed: 10/5/10 14:03

Sample Name: MW 24  
 Lab Code: R1005354-020

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7509.D

Analysis Lot: 219404  
 Instrument Name: R-MS-07  
 Dilution Factor: 20

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	400	U	400	
71-43-2	Benzene	120		100	
75-27-4	Bromodichloromethane	100	U	100	
75-25-2	Bromoform	100	U	100	
74-83-9	Bromomethane	100	U	100	
78-93-3	2-Butanone (MEK)	2300		200	
75-15-0	Carbon Disulfide	200	U	200	
56-23-5	Carbon Tetrachloride	100	U	100	
108-90-7	Chlorobenzene	100	U	100	
75-00-3	Chloroethane	270		100	
67-66-3	Chloroform	100	U	100	
74-87-3	Chloromethane	100	U	100	
124-48-1	Dibromochloromethane	100	U	100	
75-34-3	1,1-Dichloroethane	420		100	
107-06-2	1,2-Dichloroethane	100	U	100	
75-35-4	1,1-Dichloroethene	100	U	100	
156-59-2	cis-1,2-Dichloroethene	100	U	100	
156-60-5	trans-1,2-Dichloroethene	100	U	100	
78-87-5	1,2-Dichloropropane	100	U	100	
10061-01-5	cis-1,3-Dichloropropene	100	U	100	
10061-02-6	trans-1,3-Dichloropropene	100	U	100	
100-41-4	Ethylbenzene	100	U	100	
591-78-6	2-Hexanone	200	U	200	
75-09-2	Methylene Chloride	100	U	100	
108-10-1	4-Methyl-2-pentanone (MIBK)	200	U	200	
100-42-5	Styrene	100	U	100	
79-34-5	1,1,2,2-Tetrachloroethane	100	U	100	
127-18-4	Tetrachloroethene	100	U	100	
108-88-3	Toluene	100	U	100	
71-55-6	1,1,1-Trichloroethane	100	U	100	
79-00-5	1,1,2-Trichloroethane	100	U	100	
79-01-6	Trichloroethene	100	U	100	
75-01-4	Vinyl Chloride	150		100	
95-47-6	o-Xylene	100	U	100	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/30/10 1645  
**Date Received:** 10/ 1/10  
**Date Analyzed:** 10/5/10 14:03

**Sample Name:** MW 24  
**Lab Code:** R1005354-020

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7509.D

**Analysis Lot:** 219404  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 20

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	100	U	100	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	10/5/10 14:03	
Toluene-d8	100	87-121	10/5/10 14:03	
Dibromofluoromethane	99	89-119	10/5/10 14:03	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** MW 24 Dissolved  
**Lab Code:** R1005354-021

**Service Request:** R1005354  
**Date Collected:** 9/30/10 1645  
**Date Received:** 10/ 1/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	32000	µg/L	100	1	10/ 4/10	10/6/10 17:06	
Manganese, Dissolved	6010B	134	µg/L	10	1	10/ 4/10	10/6/10 17:06	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/30/10 1715  
 Date Received: 10/ 1/10  
 Date Analyzed: 10/6/10 05:40

Sample Name: MW 18  
 Lab Code: R1005354-022

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7534.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/30/10 1715  
**Date Received:** 10/ 1/10  
**Date Analyzed:** 10/6/10 05:40

**Sample Name:** MW 18  
**Lab Code:** R1005354-022

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7534.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	10/6/10 05:40	
Toluene-d8	97	87-121	10/6/10 05:40	
Dibromofluoromethane	102	89-119	10/6/10 05:40	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/30/10 1725  
**Date Received:** 10/ 1/10  
**Date Analyzed:** 10/6/10 06:18

**Sample Name:** MW 18A  
**Lab Code:** R1005354-023

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7535.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	170		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	100		5.0	
75-01-4	Vinyl Chloride	13		5.0	
95-47-6	o-Xylene	5.0	U	5.0	



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/30/10 1725  
**Date Received:** 10/ 1/10  
**Date Analyzed:** 10/6/10 06:18

**Sample Name:** MW 18A  
**Lab Code:** R1005354-023

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7535.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	10/6/10 06:18	
Toluene-d8	96	87-121	10/6/10 06:18	
Dibromofluoromethane	99	89-119	10/6/10 06:18	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 10/ 1/10 1000  
 Date Received: 10/ 4/10  
 Date Analyzed: 10/6/10 06:56

Sample Name: MW 27  
 Lab Code: R1005354-024

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7536.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 10/ 1/10 1000  
**Date Received:** 10/ 4/10  
**Date Analyzed:** 10/6/10 06:56

**Sample Name:** MW 27  
**Lab Code:** R1005354-024

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7536.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	10/6/10 06:56	
Toluene-d8	94	87-121	10/6/10 06:56	
Dibromofluoromethane	102	89-119	10/6/10 06:56	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 10/ 1/10 1030  
 Date Received: 10/ 4/10  
 Date Analyzed: 10/6/10 07:33

Sample Name: MW 26  
 Lab Code: R1005354-025

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7537.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 10/ 1/10 1030  
**Date Received:** 10/ 4/10  
**Date Analyzed:** 10/6/10 07:33

**Sample Name:** MW 26  
**Lab Code:** R1005354-025

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7537.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	10/6/10 07:33	
Toluene-d8	89	87-121	10/6/10 07:33	
Dibromofluoromethane	102	89-119	10/6/10 07:33	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 10/ 1/10 1115  
 Date Received: 10/ 4/10  
 Date Analyzed: 10/6/10 08:11

Sample Name: MW 25  
 Lab Code: R1005354-026

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7538.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Collected: 10/ 1/10 1115  
Date Received: 10/ 4/10  
Date Analyzed: 10/6/10 08:11

Sample Name: MW 25  
Lab Code: R1005354-026

Units: µg/L  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
Data File Name: H7538.D

Analysis Lot: 219449  
Instrument Name: R-MS-07  
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	10/6/10 08:11	
Toluene-d8	92	87-121	10/6/10 08:11	
Dibromofluoromethane	103	89-119	10/6/10 08:11	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 10/ 1/10 1130  
 Date Received: 10/ 4/10  
 Date Analyzed: 10/6/10 08:49

Sample Name: MW 25A  
 Lab Code: R1005354-027

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7539.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	7.9		5.0	
95-47-6	o-Xylene	5.0	U	5.0	



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 10/ 1/10 1130  
**Date Received:** 10/ 4/10  
**Date Analyzed:** 10/6/10 08:49

**Sample Name:** MW 25A  
**Lab Code:** R1005354-027

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7539.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	10/6/10 08:49	
Toluene-d8	91	87-121	10/6/10 08:49	
Dibromofluoromethane	102	89-119	10/6/10 08:49	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 10/ 1/10 1400  
 Date Received: 10/ 4/10  
 Date Analyzed: 10/6/10 09:27

Sample Name: MW 28  
 Lab Code: R1005354-028

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7540.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	39	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 10/ 1/10 1400  
**Date Received:** 10/ 4/10  
**Date Analyzed:** 10/6/10 09:27

**Sample Name:** MW 28  
**Lab Code:** R1005354-028

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7540.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	10/6/10 09:27	
Toluene-d8	93	87-121	10/6/10 09:27	
Dibromofluoromethane	98	89-119	10/6/10 09:27	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 10/ 2/10 1300  
 Date Received: 10/ 4/10  
 Date Analyzed: 10/6/10 18:22

Sample Name: MW 26A  
 Lab Code: R1005354-029

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7553.D

Analysis Lot: 219572  
 Instrument Name: R-MS-07  
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	50	U	50	
71-43-2	Benzene	13	U	13	
75-27-4	Bromodichloromethane	13	U	13	
75-25-2	Bromoform	13	U	13	
74-83-9	Bromomethane	13	U	13	
78-93-3	2-Butanone (MEK)	25	U	25	
75-15-0	Carbon Disulfide	25	U	25	
56-23-5	Carbon Tetrachloride	13	U	13	
108-90-7	Chlorobenzene	13	U	13	
75-00-3	Chloroethane	13	U	13	
67-66-3	Chloroform	13	U	13	
74-87-3	Chloromethane	13	U	13	
124-48-1	Dibromochloromethane	13	U	13	
75-34-3	1,1-Dichloroethane	13	U	13	
107-06-2	1,2-Dichloroethane	13	U	13	
75-35-4	1,1-Dichloroethene	13	U	13	
156-59-2	cis-1,2-Dichloroethene	410		13	
156-60-5	trans-1,2-Dichloroethene	13	U	13	
78-87-5	1,2-Dichloropropane	13	U	13	
10061-01-5	cis-1,3-Dichloropropene	13	U	13	
10061-02-6	trans-1,3-Dichloropropene	13	U	13	
100-41-4	Ethylbenzene	13	U	13	
591-78-6	2-Hexanone	25	U	25	
75-09-2	Methylene Chloride	13	U	13	
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U	25	
100-42-5	Styrene	13	U	13	
79-34-5	1,1,2,2-Tetrachloroethane	13	U	13	
127-18-4	Tetrachloroethene	13	U	13	
108-88-3	Toluene	13	U	13	
71-55-6	1,1,1-Trichloroethane	13	U	13	
79-00-5	1,1,2-Trichloroethane	13	U	13	
79-01-6	Trichloroethene	13	U	13	
75-01-4	Vinyl Chloride	480		13	
95-47-6	o-Xylene	13	U	13	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 10/ 2/10 1300  
**Date Received:** 10/ 4/10  
**Date Analyzed:** 10/6/10 18:22

**Sample Name:** MW 26A  
**Lab Code:** R1005354-029

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7553.D

**Analysis Lot:** 219572  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 2.5

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	13 U	13	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	10/6/10 18:22	
Toluene-d8	96	87-121	10/6/10 18:22	
Dibromofluoromethane	100	89-119	10/6/10 18:22	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 10/ 2/10 1315  
 Date Received: 10/ 4/10  
 Date Analyzed: 10/6/10 10:05

Sample Name: MW 27A  
 Lab Code: R1005354-030

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7541.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 10/ 2/10 1315  
**Date Received:** 10/ 4/10  
**Date Analyzed:** 10/6/10 10:05

**Sample Name:** MW 27A  
**Lab Code:** R1005354-030

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7541.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	10/6/10 10:05	
Toluene-d8	93	87-121	10/6/10 10:05	
Dibromofluoromethane	103	89-119	10/6/10 10:05	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 10/2/10 1400  
 Date Received: 10/4/10  
 Date Analyzed: 10/6/10 10:42

Sample Name: MW 28A  
 Lab Code: R1005354-031

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7542.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	11		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	14		5.0	
95-47-6	o-Xylene	5.0	U	5.0	



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Collected: 10/ 2/10 1400  
Date Received: 10/ 4/10  
Date Analyzed: 10/6/10 10:42

Sample Name: MW 28A  
Lab Code: R1005354-031

Units: µg/L  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
Data File Name: H7542.D

Analysis Lot: 219449  
Instrument Name: R-MS-07  
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	10/6/10 10:42	
Toluene-d8	97	87-121	10/6/10 10:42	
Dibromofluoromethane	96	89-119	10/6/10 10:42	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 10/2/10 1415  
**Date Received:** 10/4/10  
**Date Analyzed:** 10/6/10 11:20

**Sample Name:** MW 29A  
**Lab Code:** R1005354-032

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7543.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	12		5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	23		5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 10/ 2/10 1415  
**Date Received:** 10/ 4/10  
**Date Analyzed:** 10/6/10 11:20

**Sample Name:** MW 29A  
**Lab Code:** R1005354-032

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7543.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	16		5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	10/6/10 11:20	
Toluene-d8	102	87-121	10/6/10 11:20	
Dibromofluoromethane	100	89-119	10/6/10 11:20	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 10/2/10  
 Date Received: 10/4/10  
 Date Analyzed: 10/6/10 11:58

Sample Name: TRIP BLANK  
 Lab Code: R1005354-033

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7544.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 10/ 2/10  
**Date Received:** 10/ 4/10  
**Date Analyzed:** 10/6/10 11:58

**Sample Name:** TRIP BLANK  
**Lab Code:** R1005354-033

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7544.D

**Analysis Lot:** 219449  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	10/6/10 11:58	
Toluene-d8	97	87-121	10/6/10 11:58	
Dibromofluoromethane	101	89-119	10/6/10 11:58	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1008370-09

**Service Request:** R1005354  
**Date Collected:** NA  
**Date Received:** NA

**Basis:** NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	300.0	0.20	U	mg/L	0.20	1	NA	9/30/10 10:04	
Nitrate as Nitrogen	300.0	0.050	U	mg/L	0.050	1	NA	9/30/10 10:04	
Sulfate	300.0	0.20	U	mg/L	0.20	1	NA	9/30/10 10:04	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: RQ1008371-11

Service Request: R1005354  
Date Collected: NA  
Date Received: NA  
Basis: NA

Chloride

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	300.0	0.20 U	mg/L	0.20	1	NA	9/30/10 15:38	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1008423-09

**Service Request:** R1005354  
**Date Collected:** NA  
**Date Received:** NA

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	300.0	0.20	U	mg/L	0.20	1	NA	10/1/10 19:49	
Nitrate as Nitrogen	300.0	0.050	U	mg/L	0.050	1	NA	10/1/10 19:49	
Sulfate	300.0	0.20	U	mg/L	0.20	1	NA	10/1/10 19:49	



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1008553-13

**Service Request:** R1005354  
**Date Collected:** NA  
**Date Received:** NA  
  
**Basis:** NA

Chloride

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	300.0	0.20	U	mg/L	0.20	1	NA	10/4/10 11:08	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: RQ1008793-03

Service Request: R1005354  
Date Collected: NA  
Date Received: NA  
Basis: NA

Total Organic Carbon (TOC), Persulfate-Ultraviolet or Heated-Persulfate Oxidation 20th Ed.

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0 U	mg/L	1.0	1	NA	10/12/10 15:38	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: RQ1008982-03

Service Request: R1005354  
Date Collected: NA  
Date Received: NA

Basis: NA

Total Organic Carbon (TOC), Persulfate-Ultraviolet or Heated-Persulfate Oxidation 20th Ed.

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0 U	mg/L	1.0	1	NA	10/15/10 17:48	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: RQ1008985-03

Service Request: R1005354  
Date Collected: NA  
Date Received: NA  
Basis: NA

Total Organic Carbon (TOC), Persulfate-Ultraviolet or Heated-Persulfate Oxidation 20th Ed.

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0 U	mg/L	1.0	1	NA	10/16/10 08:02	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: RQ1009029-03

Service Request: R1005354  
Date Collected: NA  
Date Received: NA  
Basis: NA

Total Organic Carbon (TOC), Persulfate-Ultraviolet or Heated-Persulfate Oxidation 20th Ed.

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0	U	mg/L	1.0	1	NA	10/18/10 14:30	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1008425-01

**Service Request:** R1005354  
**Date Collected:** NA  
**Date Received:** NA  
  
**Basis:** NA

**Inorganic Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	100 U	µg/L	100	1	10/ 4/10	10/6/10 14:08	
Manganese, Dissolved	6010B	10 U	µg/L	10	1	10/ 4/10	10/6/10 14:08	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: RQ1008425-06

Service Request: R1005354  
Date Collected: NA  
Date Received: NA  
Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	100	U	µg/L	100	1	10/ 4/10	10/6/10 14:27	
Manganese, Dissolved	6010B	10	U	µg/L	10	1	10/ 4/10	10/6/10 14:27	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: RQ1008426-01

Service Request: R1005354  
Date Collected: NA  
Date Received: NA  
Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	100 U	µg/L	100	1	10/ 4/10	10/5/10 23:35	
Manganese, Dissolved	6010B	10 U	µg/L	10	1	10/ 4/10	10/5/10 23:35	



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: RQ1008426-07

Service Request: R1005354  
Date Collected: NA  
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010B	100 U	µg/L	100	1	10/ 4/10	10/5/10 23:48	
Manganese, Dissolved	6010B	10 U	µg/L	10	1	10/ 4/10	10/5/10 23:48	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 10/5/10 13:20

Sample Name: Method Blank  
 Lab Code: RQ1008495-04

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7508.D

Analysis Lot: 219404  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 10/5/10 13:20

**Sample Name:** Method Blank  
**Lab Code:** RQ1008495-04

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7508.D

**Analysis Lot:** 219404  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	10/5/10 13:20	
Toluene-d8	98	87-121	10/5/10 13:20	
Dibromofluoromethane	98	89-119	10/5/10 13:20	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 10/6/10 03:10

Sample Name: Method Blank  
 Lab Code: RQ1008503-05

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7530.D

Analysis Lot: 219449  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Collected: NA  
Date Received: NA  
Date Analyzed: 10/6/10 03:10

Sample Name: Method Blank  
Lab Code: RQ1008503-05

Units: µg/L  
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
Data File Name: H7530.D

Analysis Lot: 219449  
Instrument Name: R-MS-07  
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	10/6/10 03:10	
Toluene-d8	98	87-121	10/6/10 03:10	
Dibromofluoromethane	100	89-119	10/6/10 03:10	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 10/6/10 17:06

Sample Name: Method Blank  
 Lab Code: RQ1008524-05

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B  
 Data File Name: H7551.D

Analysis Lot: 219572  
 Instrument Name: R-MS-07  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 10/6/10 17:06

**Sample Name:** Method Blank  
**Lab Code:** RQ1008524-05

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B  
**Data File Name:** H7551.D

**Analysis Lot:** 219572  
**Instrument Name:** R-MS-07  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	10/6/10 17:06	
Toluene-d8	98	87-121	10/6/10 17:06	
Dibromofluoromethane	100	89-119	10/6/10 17:06	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10  
 Date Received: 9/29/10  
 Date Analyzed: 9/30/10

Replicate Sample Summary  
 Chloride

Sample Name: MW 11A  
 Lab Code: R1005354-001

Units: mg/L  
 Basis: NA

Analyte Name	Method	MRL	Sample Result	MW 11ADUP Duplicate Sample		RPD	RPD Limit
				RQ1008371-03 Result	Average		
Chloride	300.0	4.0	96.0	88.1	92.1	9	20

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10  
 Date Received: 9/29/10  
 Date Analyzed: 9/30/10

Matrix Spike Summary  
 Chloride

Sample Name: MW 11A  
 Lab Code: R1005354-001

Units: mg/L  
 Basis: NA

Analytical Method: 300.0

MW 11AMS  
 Matrix Spike  
 RQ1008371-04

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Chloride	96.0	128	40.0	80 *	90 - 110

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/30/10  
 Date Received: 10/1/10  
 Date Analyzed: 10/ 1/10

Replicate Sample Summary  
 General Chemistry Parameters

Sample Name: MW 24A  
 Lab Code: R1005354-018

Units: mg/L  
 Basis: NA

Analyte Name	Method	MRL	Sample Result	MW 24ADUP Duplicate Sample		RPD	RPD Limit
				RQ1008423-01 Result	Average		
Nitrate as Nitrogen	300.0	0.50	0.50 U	0.50 U	NC	NC	20
Sulfate	300.0	2.0	7.2	7.7	7.45	8	20

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/30/10  
 Date Received: 10/1/10  
 Date Analyzed: 10/ 1/10

Matrix Spike Summary  
 General Chemistry Parameters

Sample Name: MW 24A  
 Lab Code: R1005354-018

Units: mg/L  
 Basis: NA

Analytical Method: 300.0

MW 24AMS  
 Matrix Spike  
 RQ1008423-02

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Nitrate as Nitrogen	ND	10.5	10.0	105	90 - 110
Sulfate	7.2	27.1	20.0	100	90 - 110

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Collected:** 9/30/10  
**Date Received:** 10/1/10  
**Date Analyzed:** 10/16/10

**Replicate Sample Summary**

**Total Organic Carbon (TOC), Persulfate-Ultraviolet or Heated-Persulfate Oxidation 20th Ed.**

**Sample Name:** MW 24 **Units:** mg/L  
**Lab Code:** R1005354-020 **Basis:** NA

Analyte Name	Method	MRL	Sample Result	MW 24DUP Duplicate Sample RQ1008982-07		RPD	RPD Limit
				Result	Average		
Carbon, Total Organic (TOC)	SM20 5310 C	100	1590	1510	1550	5	20

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/30/10  
 Date Received: 10/1/10  
 Date Analyzed: 10/16/10

Matrix Spike Summary

Total Organic Carbon (TOC), Persulfate-Ultraviolet or Heated-Persulfate Oxidation 20th Ed.

Sample Name: MW 24  
 Lab Code: R1005354-020

Units: mg/L  
 Basis: NA

Analytical Method: SM20 5310 C

MW 24MS  
 Matrix Spike  
 RQ1008982-08

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	1590	2760	1000	117	62 - 135

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10  
 Date Received: 9/29/10  
 Date Analyzed: 10/ 6/10

Replicate Sample Summary  
 Inorganic Parameters

Sample Name: MW 16A Dissolved  
 Lab Code: R1005354-004

Units: µg/L  
 Basis: NA

Analyte Name	Method	MRL	Sample Result	MW 16A DissolvedDUP Duplicate Sample RQ1008426-03		RPD	RPD Limit
				Result	Average		
Iron, Dissolved	6010B	100	240	260	252	10	20
Manganese, Dissolved	6010B	10	72	75	73.4	4	20

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/29/10  
 Date Received: 9/29/10  
 Date Analyzed: 10/ 6/10

Matrix Spike Summary  
 Inorganic Parameters

Sample Name: MW 16A Dissolved  
 Lab Code: R1005354-004

Units: µg/L  
 Basis: NA

Analytical Method: 6010B  
 Prep Method: EPA 3010A

MW 16A DissolvedMS  
 Matrix Spike  
 RQ1008426-04

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Iron, Dissolved	240	1240	1000	100	75 - 125
Manganese, Dissolved	72	568	500	99	75 - 125

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/30/10  
 Date Received: 10/1/10  
 Date Analyzed: 10/ 5/10

Matrix Spike Summary  
 Volatile Organic Compounds by GC/MS

Sample Name: MW 24  
 Lab Code: R1005354-020

Units: µg/L  
 Basis: NA

Analytical Method: 8260B

Analyte Name	Sample Result	MW 24MS Matrix Spike RQ1008495-05			MW 24DMS Duplicate Matrix Spike RQ1008495-06			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Acetone	ND	1100	1000	110	1170	1000	117	41 - 155	6	30
Benzene	120	1010	1000	89	985	1000	87	79 - 128	2	30
Bromodichloromethane	ND	811	1000	81	778	1000	78	78 - 132	4	30
Bromoform	ND	570	1000	57 *	536	1000	54 *	63 - 133	6	30
Bromomethane	ND	815	1000	82	880	1000	88	39 - 152	8	30
2-Butanone (MEK)	2300	3140	1000	82	3210	1000	89	50 - 140	2	30
Carbon Disulfide	ND	642	1000	64	604	1000	60	34 - 154	6	30
Carbon Tetrachloride	ND	838	1000	84	808	1000	81	73 - 145	4	30
Chlorobenzene	ND	945	1000	94	905	1000	91	80 - 126	4	30
Chloroethane	270	1110	1000	84	1140	1000	87	68 - 141	3	30
Chloroform	ND	928	1000	93	939	1000	94	75 - 134	1	30
Chloromethane	ND	862	1000	86	860	1000	86	56 - 149	<1	30
Dibromochloromethane	ND	687	1000	69 *	664	1000	66 *	71 - 137	3	30
1,1-Dichloroethane	420	1350	1000	92	1380	1000	95	75 - 131	2	30
1,2-Dichloroethane	ND	926	1000	93	908	1000	91	75 - 129	2	30
1,1-Dichloroethene	ND	883	1000	88	889	1000	89	75 - 134	<1	30
cis-1,2-Dichloroethene	ND	932	1000	93	908	1000	91	67 - 138	3	30
trans-1,2-Dichloroethene	ND	860	1000	86	858	1000	86	75 - 129	<1	30
1,2-Dichloropropane	ND	956	1000	96	953	1000	95	79 - 129	<1	30
cis-1,3-Dichloropropene	ND	796	1000	80	766	1000	77	70 - 130	4	30
trans-1,3-Dichloropropene	ND	828	1000	83	795	1000	80	64 - 130	4	30
Ethylbenzene	ND	940	1000	94	911	1000	91	77 - 133	3	30
2-Hexanone	ND	1030	1000	103	1010	1000	101	54 - 139	2	30
Methylene Chloride	ND	847	1000	85	868	1000	87	71 - 131	2	30
4-Methyl-2-pentanone (MIBK)	ND	1070	1000	107	1060	1000	106	57 - 138	<1	30
Styrene	ND	886	1000	89	891	1000	89	38 - 165	<1	30
1,1,2,2-Tetrachloroethane	ND	921	1000	92	888	1000	89	70 - 133	4	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Collected: 9/30/10  
 Date Received: 10/1/10  
 Date Analyzed: 10/ 5/10

Matrix Spike Summary  
 Volatile Organic Compounds by GC/MS

Sample Name: MW 24  
 Lab Code: R1005354-020

Units: µg/L  
 Basis: NA

Analytical Method: 8260B

Analyte Name	Sample Result	MW 24MS Matrix Spike RQ1008495-05			MW 24DMS Duplicate Matrix Spike RQ1008495-06			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Tetrachloroethene	ND	910	1000	91	874	1000	87	73 - 138	4	30
Toluene	ND	999	1000	100	956	1000	96	79 - 128	4	30
1,1,1-Trichloroethane	ND	932	1000	93	931	1000	93	75 - 138	<1	30
1,1,2-Trichloroethane	ND	958	1000	96	935	1000	94	76 - 126	2	30
Trichloroethene	ND	913	1000	91	898	1000	90	70 - 135	2	30
Vinyl Chloride	150	1000	1000	85	959	1000	81	69 - 149	4	30
o-Xylene	ND	915	1000	92	898	1000	90	77 - 133	2	30
m,p-Xylenes	ND	1850	2000	93	1810	2000	91	75 - 134	2	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Analyzed:** 9/30/10

**Lab Control Sample Summary  
 General Chemistry Parameters**

**Units:** mg/L  
**Basis:** NA

Analyte Name	Method	Lab Control Sample RQ1008370-10			% Rec	Limits
		Result	Spike Amount	% Rec		
Chloride	300.0	2.07	2.00	103	90 - 110	
Nitrate as Nitrogen	300.0	1.01	1.00	101	90 - 110	
Sulfate	300.0	2.06	2.00	103	90 - 110	

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Analyzed: 9/30/10

Lab Control Sample Summary  
Chloride

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample RQ1008371-12			% Rec Limits
		Result	Spike Amount	% Rec	
Chloride	300.0	2.10	2.00	105	90 - 110

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Analyzed: 10/ 1/10

Lab Control Sample Summary  
General Chemistry Parameters

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample RQ1008423-10			% Rec Limits
		Result	Spike Amount	% Rec	
Chloride	300.0	2.06	2.00	103	90 - 110
Nitrate as Nitrogen	300.0	1.03	1.00	103	90 - 110
Sulfate	300.0	2.05	2.00	103	90 - 110

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Analyzed: 10/4/10

Lab Control Sample Summary  
Chloride

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample			% Rec
		Result	Spike Amount	Limit	
Chloride	300.0	1.96	2.00	98	90 - 110

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Analyzed: 10/12/10

Lab Control Sample Summary  
Total Organic Carbon (TOC), Persulfate-Ultraviolet or Heated-Persulfate Oxidation 20th Ed.

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	10.2	10.0	102	86 - 117

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Analyzed:** 10/15/10

**Lab Control Sample Summary**  
**Total Organic Carbon (TOC), Persulfate-Ultraviolet or Heated-Persulfate Oxidation 20th Ed.**

**Units:** mg/L  
**Basis:** NA

Analyte Name	Method	Lab Control Sample			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	10.3	10.0	103	86 - 117

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Analyzed: 10/16/10

Lab Control Sample Summary  
Total Organic Carbon (TOC), Persulfate-Ultraviolet or Heated-Persulfate Oxidation 20th Ed.

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	10.4	10.0	104	86 - 117

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Analyzed: 10/18/10

Lab Control Sample Summary  
Total Organic Carbon (TOC), Persulfate-Ultraviolet or Heated-Persulfate Oxidation 20th Ed.

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	10.6	10.0	106	86 - 117

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Analyzed:** 10/ 6/10

**Lab Control Sample Summary  
 Inorganic Parameters**

**Units:** µg/L  
**Basis:** NA

Lab Control Sample					
RQ1008425-02					
Analyte Name	Method	Result	Spike		% Rec Limits
			Amount	% Rec	
Iron, Dissolved	6010B	1000	1000	100	80 - 120
Manganese, Dissolved	6010B	502	500	100	80 - 120

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Analyzed: 10/ 5/10

Lab Control Sample Summary  
Inorganic Parameters

Units: µg/L  
Basis: NA

Lab Control Sample  
RQ1008426-02

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Dissolved	6010B	973	1000	97	80 - 120
Manganese, Dissolved	6010B	492	500	98	80 - 120

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Analyzed: 10/ 5/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 219404

Lab Control Sample  
 RQ1008495-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Acetone	16.7	20.0	83	59 - 140
Benzene	17.3	20.0	86	78 - 121
Bromodichloromethane	19.0	20.0	95	80 - 125
Bromoform	18.6	20.0	93	73 - 132
Bromomethane	20.7	20.0	103	57 - 144
2-Butanone (MEK)	18.0	20.0	90	60 - 133
Carbon Disulfide	23.0	20.0	115	59 - 138
Carbon Tetrachloride	17.2	20.0	86	69 - 135
Chlorobenzene	18.4	20.0	92	80 - 121
Chloroethane	18.2	20.0	91	71 - 130
Chloroform	18.5	20.0	92	78 - 125
Chloromethane	17.5	20.0	88	62 - 133
Dibromochloromethane	19.2	20.0	96	78 - 133
1,1-Dichloroethane	18.5	20.0	93	76 - 122
1,2-Dichloroethane	18.5	20.0	92	78 - 126
1,1-Dichloroethene	18.0	20.0	90	72 - 129
cis-1,2-Dichloroethene	18.2	20.0	91	78 - 122
trans-1,2-Dichloroethene	17.2	20.0	86	75 - 121
1,2-Dichloropropane	19.3	20.0	97	80 - 123
cis-1,3-Dichloropropene	18.1	20.0	90	77 - 125
trans-1,3-Dichloropropene	18.6	20.0	93	69 - 127
Ethylbenzene	18.0	20.0	90	78 - 123
2-Hexanone	18.9	20.0	95	61 - 131
Methylene Chloride	17.2	20.0	86	75 - 125
4-Methyl-2-pentanone (MIBK)	19.0	20.0	95	61 - 132
Styrene	18.1	20.0	91	80 - 132
1,1,2,2-Tetrachloroethane	18.6	20.0	93	72 - 131
Tetrachloroethene	17.6	20.0	88	72 - 131
Toluene	18.0	20.0	90	78 - 122
1,1,1-Trichloroethane	18.4	20.0	92	72 - 128
1,1,2-Trichloroethane	17.9	20.0	90	80 - 122
Trichloroethene	17.7	20.0	88	74 - 127

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 9/30/10-10/2/10  
Sample Matrix: Water

Service Request: R1005354  
Date Analyzed: 10/ 5/10

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L  
Basis: NA

Analysis Lot: 219404

Lab Control Sample  
RQ1008495-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	18.6	20.0	93	71 - 136
o-Xylene	18.1	20.0	90	79 - 126
m,p-Xylenes	36.1	40.0	90	79 - 126

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Analyzed:** 10/ 6/10

**Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Units:** µg/L  
**Basis:** NA

**Analysis Lot:** 219449

Analyte Name	Lab Control Sample RQ1008503-03			Duplicate Lab Control Sample RQ1008503-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Acetone	18.5	20.0	93	19.5	20.0	97	59 - 140	5	30
Benzene	18.2	20.0	91	18.1	20.0	91	78 - 121	<1	30
Bromodichloromethane	19.7	20.0	98	19.5	20.0	97	80 - 125	<1	30
Bromoform	20.3	20.0	102	19.7	20.0	98	73 - 132	3	30
Bromomethane	20.3	20.0	102	20.0	20.0	100	57 - 144	2	30
2-Butanone (MEK)	18.9	20.0	94	19.3	20.0	96	60 - 133	2	30
Carbon Disulfide	23.0	20.0	115	22.9	20.0	115	59 - 138	<1	30
Carbon Tetrachloride	18.0	20.0	90	19.4	20.0	97	69 - 135	8	30
Chlorobenzene	19.3	20.0	96	19.5	20.0	98	80 - 121	1	30
Chloroethane	18.7	20.0	94	18.6	20.0	93	71 - 130	<1	30
Chloroform	19.6	20.0	98	19.3	20.0	96	78 - 125	2	30
Chloromethane	19.3	20.0	97	18.5	20.0	92	62 - 133	5	30
Dibromochloromethane	20.5	20.0	103	20.1	20.0	100	78 - 133	2	30
1,1-Dichloroethane	19.4	20.0	97	18.9	20.0	94	76 - 122	3	30
1,2-Dichloroethane	19.7	20.0	98	19.1	20.0	96	78 - 126	3	30
1,1-Dichloroethene	18.5	20.0	93	19.2	20.0	96	72 - 129	3	30
cis-1,2-Dichloroethene	19.0	20.0	95	18.8	20.0	94	78 - 122	1	30
trans-1,2-Dichloroethene	17.4	20.0	87	17.5	20.0	88	75 - 121	<1	30
1,2-Dichloropropane	20.5	20.0	103	19.5	20.0	98	80 - 123	5	30
cis-1,3-Dichloropropene	18.5	20.0	93	17.2	20.0	86	77 - 125	7	30
trans-1,3-Dichloropropene	19.2	20.0	96	18.0	20.0	90	69 - 127	6	30
Ethylbenzene	18.5	20.0	92	19.6	20.0	98	78 - 123	6	30
2-Hexanone	18.6	20.0	93	20.1	20.0	101	61 - 131	8	30
Methylene Chloride	18.4	20.0	92	17.8	20.0	89	75 - 125	3	30
4-Methyl-2-pentanone (MIBK)	19.7	20.0	99	21.3	20.0	107	61 - 132	8	30
Styrene	18.7	20.0	94	19.4	20.0	97	80 - 132	3	30
1,1,2,2-Tetrachloroethane	17.6	20.0	88	18.1	20.0	91	72 - 131	3	30
Tetrachloroethene	17.4	20.0	87	19.2	20.0	96	72 - 131	10	30
Toluene	18.4	20.0	92	19.4	20.0	97	78 - 122	5	30
1,1,1-Trichloroethane	18.2	20.0	91	19.3	20.0	96	72 - 128	6	30
1,1,2-Trichloroethane	19.7	20.0	98	19.3	20.0	97	80 - 122	2	30
Trichloroethene	19.9	20.0	100	19.8	20.0	99	74 - 127	<1	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Analyzed:** 10/ 6/10

**Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Units:** µg/L

**Basis:** NA

**Analysis Lot:** 219449

Analyte Name	Lab Control Sample RQ1008503-03			Duplicate Lab Control Sample RQ1008503-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Vinyl Chloride	19.5	20.0	97	18.9	20.0	94	71 - 136	3	30
o-Xylene	18.4	20.0	92	19.0	20.0	95	79 - 126	3	30
m,p-Xylenes	35.3	40.0	88	38.5	40.0	96	79 - 126	9	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 9/30/10-10/2/10  
 Sample Matrix: Water

Service Request: R1005354  
 Date Analyzed: 10/ 6/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L  
 Basis: NA

Analysis Lot: 219572

Analyte Name	Lab Control Sample RQ1008524-03			Duplicate Lab Control Sample RQ1008524-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Acetone	17.0	20.0	85	16.5	20.0	83	59 - 140	3	30
Benzene	20.2	20.0	101	17.7	20.0	88	78 - 121	13	30
Bromodichloromethane	20.3	20.0	101	19.1	20.0	95	80 - 125	6	30
Bromoform	20.2	20.0	101	18.9	20.0	94	73 - 132	7	30
Bromomethane	16.8	20.0	84	15.2	20.0	76	57 - 144	10	30
2-Butanone (MEK)	20.0	20.0	100	20.3	20.0	101	60 - 133	1	30
Carbon Disulfide	22.9	20.0	114	23.0	20.0	115	59 - 138	<1	30
Carbon Tetrachloride	21.5	20.0	107	18.1	20.0	90	69 - 135	17	30
Chlorobenzene	20.3	20.0	102	17.8	20.0	89	80 - 121	13	30
Chloroethane	20.8	20.0	104	19.3	20.0	97	71 - 130	7	30
Chloroform	20.2	20.0	101	19.4	20.0	97	78 - 125	4	30
Chloromethane	18.8	20.0	94	17.0	20.0	85	62 - 133	10	30
Dibromochloromethane	20.2	20.0	101	19.6	20.0	98	78 - 133	3	30
1,1-Dichloroethane	20.6	20.0	103	19.9	20.0	99	76 - 122	4	30
1,2-Dichloroethane	20.7	20.0	104	18.7	20.0	94	78 - 126	10	30
1,1-Dichloroethene	20.3	20.0	102	18.8	20.0	94	72 - 129	8	30
cis-1,2-Dichloroethene	19.8	20.0	99	19.2	20.0	96	78 - 122	3	30
trans-1,2-Dichloroethene	19.3	20.0	97	18.0	20.0	90	75 - 121	7	30
1,2-Dichloropropane	21.1	20.0	106	19.0	20.0	95	80 - 123	10	30
cis-1,3-Dichloropropene	19.1	20.0	96	18.2	20.0	91	77 - 125	5	30
trans-1,3-Dichloropropene	19.8	20.0	99	18.4	20.0	92	69 - 127	7	30
Ethylbenzene	21.0	20.0	105	18.4	20.0	92	78 - 123	13	30
2-Hexanone	19.6	20.0	98	19.4	20.0	97	61 - 131	<1	30
Methylene Chloride	18.9	20.0	95	18.6	20.0	93	75 - 125	2	30
4-Methyl-2-pentanone (MIBK)	20.2	20.0	101	20.5	20.0	102	61 - 132	1	30
Styrene	19.7	20.0	99	17.8	20.0	89	80 - 132	10	30
1,1,2,2-Tetrachloroethane	18.9	20.0	95	18.8	20.0	94	72 - 131	<1	30
Tetrachloroethene	20.2	20.0	101	17.8	20.0	89	72 - 131	13	30
Toluene	20.9	20.0	104	18.7	20.0	94	78 - 122	11	30
1,1,1-Trichloroethane	21.2	20.0	106	19.3	20.0	96	72 - 128	10	30
1,1,2-Trichloroethane	19.4	20.0	97	18.7	20.0	93	80 - 122	4	30
Trichloroethene	21.2	20.0	106	18.8	20.0	94	74 - 127	12	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells 9/30/10-10/2/10  
**Sample Matrix:** Water

**Service Request:** R1005354  
**Date Analyzed:** 10/ 6/10

**Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Units:** µg/L

**Basis:** NA

**Analysis Lot:** 219572

Analyte Name	Lab Control Sample RQ1008524-03			Duplicate Lab Control Sample RQ1008524-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Vinyl Chloride	22.0	20.0	110	20.4	20.0	102	71 - 136	8	30
o-Xylene	20.1	20.0	100	17.4	20.0	87	79 - 126	14	30
m,p-Xylenes	41.5	40.0	104	35.0	40.0	88	79 - 126	17	30

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

SR # \_\_\_\_\_  
CAS Contact \_\_\_\_\_

Project Name <b>Leica</b>		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager <b>Bob McPeak</b>		Report CC		PRESERVATIVE	
Company/Address <b>Energysolutions Inc. 100 Mill Plain Rd, 2nd Floor Box 106 Danbury, CT 06811</b>		FAX# <b>801-303-1092</b>		METALS, TOTAL (list in comments below)	
Phone # <b>801-303-1092</b>		Sampler's Printed Name <b>Wayne DeGallier</b>		METALS, DISSOLVED (list in comments below)	
Sampler's Signature <i>Wayne DeGallier</i>		FOR OFFICE USE ONLY		PCBS 8082 <input type="checkbox"/> 8081 <input type="checkbox"/> 808 <input type="checkbox"/> CLP	
CLIENT SAMPLE ID	LAB ID	DATE	SAMPLING TIME	MATRIX	PESTICIDES 8021 <input type="checkbox"/> 601/602 <input type="checkbox"/> CLP
MW11A	001,002	9/29/10	08:00	H <sub>2</sub> O	GC VOAs 8270 <input type="checkbox"/> 625 <input type="checkbox"/> CLP
MW16A	003,004		08:15		GC/MS SVOAs 8260 <input type="checkbox"/> 624 <input type="checkbox"/> CLP
MW6	005		08:30		NUMBER OF CONTAINERS
MW6A	006,007		08:45		4
MW5	008,009		09:10		4
MW5A	010,011		09:25		4
MW16R	012,013		10:00		4
Trip Blank	-				
Temp Blank	-				

- Preservative Key
1. HCL
  2. HNO<sub>3</sub>
  3. H<sub>2</sub>SO<sub>4</sub>
  4. NaOH
  5. Zr. Acetate
  6. MeOH
  7. NaHSO<sub>4</sub>
  8. Other \_\_\_\_\_

REMARKS/  
ALTERNATE DESCRIPTION

Disolved TE  
Disolved MN  
Sulfate  
Nitrate  
TOC  
Chloride  
Short Water

**SPECIAL INSTRUCTIONS/COMMENTS**  
Metals  
Some In Lab Filtering Required.

TURNAROUND REQUIREMENTS  
RUSH (SURCHARGES APPLY)  
24 hr \_\_\_\_\_ 48 hr \_\_\_\_\_ 5 day \_\_\_\_\_  
STANDARD  
REQUESTED FAX DATE \_\_\_\_\_  
REQUESTED REPORT DATE \_\_\_\_\_

REPORT REQUIREMENTS  
I. Results Only \_\_\_\_\_  
II. Results + CC Summaries (LCS, DUP, MS/MSD as required)   
III. Results + CC and Calibration Summaries \_\_\_\_\_  
IV. Data Validation Report with Raw Data \_\_\_\_\_  
V. Specialized Forms / Custom F \_\_\_\_\_  
Edita Yes  No

INVOICE INFORMATION  
PO# \_\_\_\_\_  
BILL TO: \_\_\_\_\_  
**R1005354**  
Leica Energy Solutions, Inc.

RECEIVED BY: *Samuel Ward* Signature  
Printed Name: Samuel Ward  
Firm: CAS  
Date/Time: 9/29/10 / 15:53

RECEIVED BY: *Wayne DeGallier* Signature  
Printed Name: Wayne DeGallier  
Firm: Energysite  
Date/Time: 9/29/10 12:30

CUSTODY SEALS: Y N  
RELINQUISHED BY: \_\_\_\_\_  
Date/Time: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Printed Name: \_\_\_\_\_  
Firm: \_\_\_\_\_  
Date/Time: \_\_\_\_\_

See QAPP

Distribution: White - Return to Originator; Yellow - Lab Copy



**Cooler Receipt And Preservation Check Form**

Project/Client Leica - Energy Solutions Submission Number R-5354

Cooler received on 9/29/10 by: DPW COURIER:  CAS  UPS  FEDEX  VELOCITY  CLIENT

1. Were custody seals on outside of cooler?  YES  NO
2. Were custody papers properly filled out (ink, signed, etc.)?  YES  NO
3. Did all bottles arrive in good condition (unbroken)?  YES  NO
4. Did any VOA vials have significant\* air bubbles?  YES  NO  N/A
5. Were ~~Ice~~ or Ice packs present?  YES  NO
6. Where did the bottles originate? CAS/ROC, CLIENT
7. Temperature of cooler(s) upon receipt: 2.8°

Is the temperature within 0° - 6° C?:  Yes  No  Yes  Yes  Yes

If No, Explain Below  No  No  No  No  No

Date/Time Temperatures Taken: 9/29/10 / 1611

Thermometer ID: IR GUN#3 / IR ~~GUN#4~~ Reading From: Temp Blank / Sample ~~Bottle~~

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: \_\_\_\_\_

PC Secondary Review: KB 9/30/10

Cooler Breakdown: Date: 9/30/10 Time: 1350 by: DPW

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)?  YES  NO
2. Did all bottle labels and tags agree with custody papers?  YES  NO
3. Were correct containers used for the tests indicated?  YES  NO
4. Air Samples: Cassettes / Tubes Intact  Canisters Pressurized  Tedlar® Bags Inflated  N/A

Explain any discrepancies: \_\_\_\_\_

pH	Reagent			Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
		YES	NO						
≥12	NaOH								
≤2	HNO <sub>3</sub>	<input checked="" type="checkbox"/>		<u>30526105C</u>	<u>9/11</u>				
≤2	H <sub>2</sub> SO <sub>4</sub>			<u>W47278D</u>	<u>8/11</u>				
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>411020</u>	<u>9/11</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: \_\_\_\_\_

Bottle lot numbers: 091310-2X, 0-132-002, 0-132-001

Other Comments: \_\_\_\_\_

PC Secondary Review: KB 10/20/10

\*significant air bubbles are greater than 5-6 mm

SR #

CAS Contact

Project Name		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager		Report CC		PRESERVATIVE	
Company/Address		FAX#		NUMBER OF CONTAINERS	
Phone #		Sampler's Printed Name		GC/MS VOAS	
Sampler's Signature		Wayne Degolier		GC/MS SVOAS	
CLIENT SAMPLE ID		FOR OFFICE USE ONLY		GC VOAS	
		LAB ID		8260 □ 624 □ CLP	
		DATE		8270 □ 625 □ CLP	
		TIME		8021 □ 601/602	
		MATRIX		PESTICIDES	
				8081 □ 608 □ CLP	
				PCBs	
				8082 □ 608 □ CLP	
				METALS, TOTAL	
				(List in comments below)	
				METALS, DISSOLVED	
				(List in comments below)	
				Chloride	
				Sulfate	
				Nitrate	
				TOC	
				Dissolved FM	
				Dissolved MN	
MW 22A	-015	9/30/10	14:00	H <sub>2</sub> O	✓
MW 14A	-016	9/30/10	15:00		✓
MW 24A	-018	9/30/10	17:00		✓
MW 24	-020	9/30/10	16:45		✓
MW 18	020	9/30/10	17:15		✓
MW 18A	-023	9/30/10	17:25		✓

SPECIAL INSTRUCTIONS/COMMENTS		TURNAROUND REQUIREMENTS		REPORT REQUIREMENTS		INVOICE INFORMATION	
Metals  Some In Lab Filtering Required.		RUSH (SURCHARGES APPLY)		I. Results Only		PO#	
		24 hr 48 hr 5 day		II. Results + QC Summaries (LCS, DUP, MSMSD as required)		BILL TO:	
See OAPP <input type="checkbox"/>		STANDARD		III. Results + QC and Calibration Summaries		R1005354 Energy Solutions, Inc. Leica	
SAMPLE RECEIPT: CONDITION/COOLER TEMP: 3°C		REQUESTED FAX DATE		IV. Data Validation Report with Raw Data		Barcode	
RECEIVED BY		REQUESTED REPORT DATE		V. Specialized Forms / Custom Rep		RELINQUISHED BY	
RECEIVED BY		CUSTODY SEALS: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>		Edata <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Signature	
RECEIVED BY		RELINQUISHED BY		Firm		Printed Name	
Signature		Signature		Firm		Firm	
Printed Name		Printed Name		Date/Time		Date/Time	
Wayne Degolier		Wayne Degolier		10/1/10 12:30		10/1/10 1355	
Firm		Firm		Date/Time		Date/Time	
EnviroSite		CAS		10/1/10 12:30		10/1/10 1355	
Date/Time		Date/Time		Date/Time		Date/Time	
10/1/10 12:30		10/1/10 12:30		10/1/10 12:30		10/1/10 1355	

Cooler Receipt And Preservation C

R1005354

Energy Solutions, Inc.  
Leica

Project/Client Energy Sols Submission Number



Cooler received on 10/1/10 by: BA COURIER: CAS UPS FEDEX VELOCITY CLIENT

- Were custody seals on outside of cooler? YES NO
- Were custody papers properly filled out (ink, signed, etc.)? YES NO
- Did all bottles arrive in good condition (unbroken)? YES NO
- Did any VOA vials have significant\* air bubbles? YES NO N/A
- Were Ice or Ice packs present? YES NO
- Where did the bottles originate? CAS/ROC, CLIENT
- Temperature of cooler(s) upon receipt: 3

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes  
 If No, Explain Below No No No No No

Date/Time Temperatures Taken: 10/1 @ 1405

Thermometer ID: IR GUN#3 IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples:

PC Secondary Review: UPB/US/10

Cooler Breakdown: Date: 10/1/10 Time: 1500 by: muc

- Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were correct containers used for the tests indicated? YES NO
- Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent			Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
		YES	NO						
≥12	NaOH								
≤2	HNO <sub>3</sub>								
≤2	H <sub>2</sub> SO <sub>4</sub>			<u>WC92228D</u>	<u>8/11</u>				
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-			PM OK to Adjust:			
	HCl	*	*	<u>4110020</u>	<u>8/11</u>				

Yes = All samples OK  
 No = Samples were preserved at lab as listed  
 PM OK to Adjust:

Bottle lot numbers: 091310-2KK, 0-165-002, 0-165-001

Other Comments:

PC Secondary Review: UPB 10/20/10

\*significant air bubbles are greater than 5-6 mm

SR #

CAS Contact

Project Name <b>Leica</b>		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager <b>Bob Mc Peak</b>		Report CC		PRESERVATIVE	
Company/Address <b>Energy Solutions Inc. 100 Mill Plain Rd 2nd Floor Box 106 Danbury, CT 06811</b>		FAX# <b>203-797-8994</b>		NUMBER OF CONTAINERS	
Phone # <b>801-303-1092</b>		Sample's Printed Name <b>Wayne Degobier</b>		G/MS VOAS <input type="checkbox"/> 624 <input type="checkbox"/> CLP G/MS SVOAS <input type="checkbox"/> 8270 <input type="checkbox"/> CLP GC VOAS <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 <input type="checkbox"/> CLP PCBs <input type="checkbox"/> 8082 <input type="checkbox"/> 608 <input type="checkbox"/> CLP METALS, TOTAL (list in comments below) METALS, DISSOLVED (list in comments below)	
Sample's Signature <b>Wayne Degobier</b>		FOR OFFICE USE ONLY		REMARKS/ ALTERNATE DESCRIPTION	
CLIENT SAMPLE ID	LAB ID	DATE	SAMPLING TIME	MATRIX	
MW 27	-024	10/11/10	10:00	H <sub>2</sub> O	
MW 26	-025		10:30		
MW 25	-026		11:15		
MW 25 A	-027		11:30		
MW 28	-028		14:00		
MW 26 A	-029	10/11/10	13:00		
MW 27 A	-020		13:15		
MW 28 A	-031		14:00		
MW 29 A	-032		14:15		
Trip Blank	-033				
SPECIAL INSTRUCTIONS/COMMENTS <b>Metals</b>					
TURNAROUND REQUIREMENTS		REPORT REQUIREMENTS		INVOICE INFORMATION	
RUSH (SURCHARGES APPLY) 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 5 day <input type="checkbox"/> <input checked="" type="checkbox"/> STANDARD REQUESTED FAX DATE _____ REQUESTED REPORT DATE _____		I. Results Only <input checked="" type="checkbox"/> II. Results + QC Summaries (LCS, DUP, MS/MSD as required) <input type="checkbox"/> III. Results + QC and Calibration Summaries <input type="checkbox"/> IV. Data Validation Report with Report <input type="checkbox"/> V. Specialized Forms / Custom Forms Edata <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		PO# _____ BILL TO: _____ <b>R1005354</b> Leica Energy Solutions, Inc.	
RECEIVED BY		RECEIVED BY		RECEIVED BY	
Signature: <b>Wayne Degobier</b> Printed Name: <b>Wayne Degobier</b> Firm: <b>Energy Solutions</b> Date/Time: <b>10/14/10 1130</b>		Signature: <b>[Signature]</b> Printed Name: <b>[Name]</b> Firm: <b>[Firm]</b> Date/Time: <b>10/14/10 1130</b>		Signature: <b>[Signature]</b> Printed Name: <b>[Name]</b> Firm: <b>[Firm]</b> Date/Time: <b>10/14/10 1505</b>	
RECEIVED BY		RECEIVED BY		RECEIVED BY	
Signature: <b>Wayne Degobier</b> Printed Name: <b>Wayne Degobier</b> Firm: <b>Energy Solutions</b> Date/Time: <b>10/14/10 1130</b>		Signature: <b>[Signature]</b> Printed Name: <b>[Name]</b> Firm: <b>[Firm]</b> Date/Time: <b>10/14/10 1505</b>		Signature: <b>[Signature]</b> Printed Name: <b>[Name]</b> Firm: <b>[Firm]</b> Date/Time: <b>10/14/10 1505</b>	

55120

**Cooler Receipt And Preservation ( R1005354**

Energy Solutions, Inc.  
Leica

Project/Client Leica Submission Number \_\_\_\_\_



Cooler received on 10/4/10 by: MCC COURIER: CAS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant\* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 2

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes  
 If No, Explain Below No No No No No

Date/Time Temperatures Taken: 10/4/10 1512

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

**If out of Temperature, note packing/ice condition, Client Approval to Run Samples:** \_\_\_\_\_

PC Secondary Review: KB 10/5/10

Cooler Breakdown: Date: 10/4/10 Time: 1620 by: BD

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

pH	Reagent			Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
		YES	NO						
≥12	NaOH								
≤2	HNO <sub>3</sub>								
≤2	H <sub>2</sub> SO <sub>4</sub>								
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>410020</u>	<u>9/11</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: \_\_\_\_\_

Bottle lot numbers: 0-165-002

Other Comments: \_\_\_\_\_

PC Secondary Review: KB 10/22/10

\*significant air bubbles are greater than 5-6 mm

January 10, 2011

Service Request No: R1007038

Mr. Robert McPeak  
Energy Solutions, Inc.  
100 Mill Plain Rd  
2nd Floor Mailbox 106  
Danbury, CT 06811

**Laboratory Results for: Leica Wells 12/10**

Dear Mr. McPeak:

Enclosed are the results of the sample(s) submitted to our laboratory between December 15, 2010 and December 17, 2010. For your reference, these analyses have been assigned our service request number **R1007038**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 134. You may also contact me via email at KBunker@caslab.com.

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Karen Bunker  
Project Manager



COLUMBIA ANALYTICAL SERVICES, INC.

Client: Energy Solutions  
Project: Leica Wells 12/2010  
Sample Matrix: Water

Service Request No.: R1007038  
Date Received: 12/15/2010

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

**Sample Receipt**

Twenty-one (21) samples including two (2) Trip Blanks were collected by the client on 12/15/10 and 12/17/10 and received for analysis at Columbia Analytical Services on the same day as sampled via CAS Courier. The samples were received in good condition. The cooler receipt temperatures ranged from 1.0-2-2°C, within the guidelines of 0-6°C.

**Volatile Organics**

Twenty-one (21) water samples were analyzed for Volatile Organic compounds by GC/MS method 8260C.

The Initial and Continuing Calibration criteria were met.

Batch QC is included in the report. All Laboratory Control Sample (LCS) recoveries for target compounds were within QC limits.

Hits above the calibration range of the standards are flagged as "E", estimated. The sample is then repeated at the appropriate dilution for the hit. Both sets of data are included in the report. The subsequent hit is flagged as "D".

All Surrogate recoveries are within acceptance limits.

All Laboratory Method Blanks and Trip Blanks were free from contamination.

The samples were analyzed within the 14 day holding time for the method. All vials are checked for preservation after the analysis in order to maintain the integrity of the sample. All vials were found to be preserved to a pH of <2.

No problems were encountered during the analysis of these samples.

**Inorganics**

Ten (10) water samples were analyzed for Dissolved Iron and Manganese, and IC compounds: Chloride, Nitrate, and Sulfate, and TOC. All Method numbers are noted on the Data Form 1's of the report. The soluble locations were filtered in the laboratory.

All Initial and Continuing Calibration Criteria was met for these analyses.

Batch QC is included in the report. All Laboratory Control Sample recoveries were within QC acceptance limits.

All Laboratory Method Blanks were free from contamination.

All holding times were met for these analyses.

No problems were encountered with these analyses.

Approved by Jaeon Bunker Date 1/11/11

## CASE NARRATIVE

This report contains analytical results for the following samples:  
Service Request Number: R1007038

<u>Lab ID</u>	<u>Client ID</u>
R1007038-001	MW 23
R1007038-002	MW 22
R1007038-003	MW 22A
R1007038-004	MW 14
R1007038-005	MW 14 DISSOLVED
R1007038-006	MW 14A
R1007038-007	MW 14A DISSOLVED
R1007038-008	MW 10
R1007038-009	MW 10 DISSOLVED
R1007038-010	MW 5
R1007038-011	MW 5 DISSOLVED
R1007038-012	MW 5A
R1007038-013	MW 5A DISSOLVED
R1007038-014	MW 6
R1007038-015	MW 6 DISSOLVED
R1007038-016	MW 6A
R1007038-017	MW 6A DISSOLVED
R1007038-018	MW 3
R1007038-019	TRIP BLANK
R1007038-020	MW 11A
R1007038-021	MW 16A
R1007038-022	MW 18
R1007038-023	MW 18A
R1007038-024	MW 24
R1007038-025	MW 24 DISSOLVED
R1007038-026	MW 24A
R1007038-027	MW 24A DISSOLVED
R1007038-028	MW 1A
R1007038-029	MW 16R
R1007038-030	MW 16R DISSOLVED
R1007038-031	TRIP BLANK

## REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$  Difference between two GC columns).
- X See Case Narrative for discussion.



### CAS/Rochester Lab ID # for State Certifications<sup>1</sup>

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at [www.caslab.com](http://www.caslab.com).

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 0900  
 Date Received: 12/15/10  
 Date Analyzed: 12/26/10 13:30

Sample Name: MW 23  
 Lab Code: R1007038-001

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3751.D

Analysis Lot: 230267  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 0900  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/26/10 13:30

**Sample Name:** MW 23  
**Lab Code:** R1007038-001

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3751.D

**Analysis Lot:** 230267  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	12/26/10 13:30	
Toluene-d8	99	87-121	12/26/10 13:30	
Dibromofluoromethane	100	89-119	12/26/10 13:30	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 0915  
 Date Received: 12/15/10  
 Date Analyzed: 12/26/10 13:58

Sample Name: MW 22  
 Lab Code: R1007038-002

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3752.D

Analysis Lot: 230267  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	9.1		5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 0915  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/26/10 13:58

**Sample Name:** MW 22  
**Lab Code:** R1007038-002

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3752.D

**Analysis Lot:** 230267  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	12/26/10 13:58	
Toluene-d8	101	87-121	12/26/10 13:58	
Dibromofluoromethane	106	89-119	12/26/10 13:58	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 0930  
 Date Received: 12/15/10  
 Date Analyzed: 12/26/10 14:25

Sample Name: MW 22A  
 Lab Code: R1007038-003

Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3753.D

Analysis Lot: 230267  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	22		5.0	
95-47-6	o-Xylene	5.0	U	5.0	





**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 0930  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/26/10 14:25

**Sample Name:** MW 22A  
**Lab Code:** R1007038-003

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3753.D

**Analysis Lot:** 230267  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85-122	12/26/10 14:25	
Toluene-d8	103	87-121	12/26/10 14:25	
Dibromofluoromethane	105	89-119	12/26/10 14:25	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 14  
**Lab Code:** R1007038-004

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1000  
**Date Received:** 12/15/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	4.0	mg/L	1.0	1	NA	12/17/10 01:03	
Chloride	300.0	32.3	mg/L	2.0	10	NA	12/15/10 19:08	
Nitrate as Nitrogen	300.0	1.0 U	mg/L	1.0	10	NA	12/15/10 19:08	
Sulfate	300.0	213	mg/L	8.0	40	NA	12/20/10 20:57	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 1000  
 Date Received: 12/15/10  
 Date Analyzed: 12/26/10 14:52

Sample Name: MW 14  
 Lab Code: R1007038-004

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3754.D

Analysis Lot: 230267  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	210 E	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	230 E	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1000  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/26/10 14:52

**Sample Name:** MW 14  
**Lab Code:** R1007038-004

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3754.D

**Analysis Lot:** 230267  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85-122	12/26/10 14:52	
Toluene-d8	103	87-121	12/26/10 14:52	
Dibromofluoromethane	108	89-119	12/26/10 14:52	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 1000  
 Date Received: 12/15/10  
 Date Analyzed: 12/27/10 12:40

Sample Name: MW 14  
 Lab Code: R1007038-004  
 Run Type: Dilution

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3770.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	40	U	40	
71-43-2	Benzene	10	U	10	
75-27-4	Bromodichloromethane	10	U	10	
75-25-2	Bromoform	10	U	10	
74-83-9	Bromomethane	10	U	10	
78-93-3	2-Butanone (MEK)	20	U	20	
75-15-0	Carbon Disulfide	20	U	20	
56-23-5	Carbon Tetrachloride	10	U	10	
108-90-7	Chlorobenzene	10	U	10	
75-00-3	Chloroethane	10	U	10	
67-66-3	Chloroform	10	U	10	
74-87-3	Chloromethane	10	U	10	
124-48-1	Dibromochloromethane	10	U	10	
75-34-3	1,1-Dichloroethane	10	U	10	
107-06-2	1,2-Dichloroethane	10	U	10	
75-35-4	1,1-Dichloroethene	10	U	10	
156-59-2	cis-1,2-Dichloroethene	180	D	10	
156-60-5	trans-1,2-Dichloroethene	10	U	10	
78-87-5	1,2-Dichloropropane	10	U	10	
10061-01-5	cis-1,3-Dichloropropene	10	U	10	
10061-02-6	trans-1,3-Dichloropropene	10	U	10	
100-41-4	Ethylbenzene	10	U	10	
591-78-6	2-Hexanone	20	U	20	
75-09-2	Methylene Chloride	10	U	10	
108-10-1	4-Methyl-2-pentanone (MIBK)	20	U	20	
100-42-5	Styrene	10	U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10	U	10	
127-18-4	Tetrachloroethene	10	U	10	
108-88-3	Toluene	10	U	10	
71-55-6	1,1,1-Trichloroethane	10	U	10	
79-00-5	1,1,2-Trichloroethane	10	U	10	
79-01-6	Trichloroethene	10	U	10	
75-01-4	Vinyl Chloride	200	D	10	
95-47-6	o-Xylene	10	U	10	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1000  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/27/10 12:40

**Sample Name:** MW 14  
**Lab Code:** R1007038-004  
**Run Type:** Dilution

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3770.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 2

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	10 U	10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	12/27/10 12:40	
Toluene-d8	101	87-121	12/27/10 12:40	
Dibromofluoromethane	103	89-119	12/27/10 12:40	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 14 DISSOLVED  
**Lab Code:** R1007038-005

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1000  
**Date Received:** 12/15/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	130		µg/L	100	1	12/27/10	12/28/10 14:05	
Manganese, Dissolved	6010C	115		µg/L	10	1	12/27/10	12/28/10 14:05	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 14A  
**Lab Code:** R1007038-006

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1015  
**Date Received:** 12/15/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	2.8		mg/L	1.0	1	NA	12/17/10 02:00	
Chloride	300.0	15.2		mg/L	2.0	10	NA	12/15/10 19:21	
Nitrate as Nitrogen	300.0	1.0	U	mg/L	1.0	10	NA	12/15/10 19:21	
Sulfate	300.0	28.8		mg/L	2.0	10	NA	12/15/10 19:21	



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 10:15  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/26/10 15:19

**Sample Name:** MW 14A  
**Lab Code:** R1007038-006

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3755.D

**Analysis Lot:** 230267  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	16		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	19		5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1015  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/26/10 15:19

**Sample Name:** MW 14A  
**Lab Code:** R1007038-006

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3755.D

**Analysis Lot:** 230267  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	12/26/10 15:19	
Toluene-d8	100	87-121	12/26/10 15:19	
Dibromofluoromethane	104	89-119	12/26/10 15:19	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 14A DISSOLVED  
**Lab Code:** R1007038-007

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1015  
**Date Received:** 12/15/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	230		µg/L	100	1	12/27/10	12/28/10 14:11	
Manganese, Dissolved	6010C	52		µg/L	10	1	12/27/10	12/28/10 14:11	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 10  
**Lab Code:** R1007038-008

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1030  
**Date Received:** 12/15/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	24.7	mg/L	1.0	1	NA	12/17/10 02:18	
Chloride	300.0	24.4	mg/L	2.0	10	NA	12/15/10 19:34	
Nitrate as Nitrogen	300.0	1.0 U	mg/L	1.0	10	NA	12/15/10 19:34	
Sulfate	300.0	7.7	mg/L	2.0	10	NA	12/20/10 21:23	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 1030  
 Date Received: 12/15/10  
 Date Analyzed: 12/26/10 15:47

Sample Name: MW 10  
 Lab Code: R1007038-008

Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3756.D

Analysis Lot: 230267  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	23		5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1030  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/26/10 15:47

**Sample Name:** MW 10  
**Lab Code:** R1007038-008

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3756.D

**Analysis Lot:** 230267  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	12/26/10 15:47	
Toluene-d8	100	87-121	12/26/10 15:47	
Dibromofluoromethane	104	89-119	12/26/10 15:47	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 10 DISSOLVED  
**Lab Code:** R1007038-009

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1030  
**Date Received:** 12/15/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	6830		µg/L	100	1	12/27/10	12/28/10 14:17	
Manganese, Dissolved	6010C	55		µg/L	10	1	12/27/10	12/28/10 14:17	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 5  
**Lab Code:** R1007038-010

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1040  
**Date Received:** 12/15/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	4.5		mg/L	1.0	1	NA	12/17/10 02:37	
Chloride	300.0	6.4		mg/L	2.0	10	NA	12/15/10 19:47	
Nitrate as Nitrogen	300.0	1.0	U	mg/L	1.0	10	NA	12/15/10 19:47	
Sulfate	300.0	16.3		mg/L	2.0	10	NA	12/20/10 22:28	



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 1040  
 Date Received: 12/15/10  
 Date Analyzed: 12/26/10 16:14

Sample Name: MW 5  
 Lab Code: R1007038-010

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3757.D

Analysis Lot: 230267  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1040  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/26/10 16:14

**Sample Name:** MW 5  
**Lab Code:** R1007038-010

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3757.D

**Analysis Lot:** 230267  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	12/26/10 16:14	
Toluene-d8	101	87-121	12/26/10 16:14	
Dibromofluoromethane	105	89-119	12/26/10 16:14	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 5 DISSOLVED  
**Lab Code:** R1007038-011

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1040  
**Date Received:** 12/15/10

**Basis:** NA

**Inorganic Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	12/27/10	12/28/10 14:22	
Manganese, Dissolved	6010C	55		µg/L	10	1	12/27/10	12/28/10 14:22	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 5A  
**Lab Code:** R1007038-012

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1040  
**Date Received:** 12/15/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	85.2		mg/L	4.0	4	NA	12/22/10 19:25	
Chloride	300.0	62.4		mg/L	2.0	10	NA	12/15/10 20:00	
Nitrate as Nitrogen	300.0	1.0	U	mg/L	1.0	10	NA	12/15/10 20:00	
Sulfate	300.0	6.5		mg/L	2.0	10	NA	12/20/10 23:08	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 1040  
 Date Received: 12/15/10  
 Date Analyzed: 12/26/10 16:41

Sample Name: MW 5A  
 Lab Code: R1007038-012

Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3758.D

Analysis Lot: 230267  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	58		10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1040  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/26/10 16:41

**Sample Name:** MW 5A  
**Lab Code:** R1007038-012

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3758.D

**Analysis Lot:** 230267  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85-122	12/26/10 16:41	
Toluene-d8	102	87-121	12/26/10 16:41	
Dibromofluoromethane	105	89-119	12/26/10 16:41	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 5A DISSOLVED  
**Lab Code:** R1007038-013

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1040  
**Date Received:** 12/15/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	5050		µg/L	100	1	12/27/10	12/28/10 14:28	
Manganese, Dissolved	6010C	56		µg/L	10	1	12/27/10	12/28/10 14:28	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 6  
**Lab Code:** R1007038-014

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1050  
**Date Received:** 12/15/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	6.9	mg/L	1.0	1	NA	12/21/10 23:59	
Chloride	300.0	11.4	mg/L	2.0	10	NA	12/15/10 20:39	
Nitrate as Nitrogen	300.0	1.0 U	mg/L	1.0	10	NA	12/15/10 20:39	
Sulfate	300.0	273	mg/L	8.0	40	NA	12/20/10 21:10	



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 1050  
 Date Received: 12/15/10  
 Date Analyzed: 12/27/10 12:12

Sample Name: MW 6  
 Lab Code: R1007038-014

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3769.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	92		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	21		5.0	
75-01-4	Vinyl Chloride	31		5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1050  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/27/10 12:12

**Sample Name:** MW 6  
**Lab Code:** R1007038-014

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3769.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	12/27/10 12:12	
Toluene-d8	99	87-121	12/27/10 12:12	
Dibromofluoromethane	102	89-119	12/27/10 12:12	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 6 DISSOLVED  
**Lab Code:** R1007038-015

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1050  
**Date Received:** 12/15/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	12/27/10	12/28/10 14:34	
Manganese, Dissolved	6010C	19		µg/L	10	1	12/27/10	12/28/10 14:34	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 6A  
**Lab Code:** R1007038-016

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1050  
**Date Received:** 12/15/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	6.9	mg/L	1.0	1	NA	12/17/10 04:11	
Chloride	300.0	16.0	mg/L	2.0	10	NA	12/15/10 21:18	
Nitrate as Nitrogen	300.0	1.0 U	mg/L	1.0	10	NA	12/15/10 21:18	
Sulfate	300.0	62.8	mg/L	2.0	10	NA	12/15/10 21:18	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 1050  
 Date Received: 12/15/10  
 Date Analyzed: 12/27/10 13:07

Sample Name: MW 6A  
 Lab Code: R1007038-016

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3771.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	50	U	50	
71-43-2	Benzene	13	U	13	
75-27-4	Bromodichloromethane	13	U	13	
75-25-2	Bromoform	13	U	13	
74-83-9	Bromomethane	13	U	13	
78-93-3	2-Butanone (MEK)	25	U	25	
75-15-0	Carbon Disulfide	25	U	25	
56-23-5	Carbon Tetrachloride	13	U	13	
108-90-7	Chlorobenzene	13	U	13	
75-00-3	Chloroethane	13	U	13	
67-66-3	Chloroform	13	U	13	
74-87-3	Chloromethane	13	U	13	
124-48-1	Dibromochloromethane	13	U	13	
75-34-3	1,1-Dichloroethane	13	U	13	
107-06-2	1,2-Dichloroethane	13	U	13	
75-35-4	1,1-Dichloroethene	13	U	13	
156-59-2	cis-1,2-Dichloroethene	500		13	
156-60-5	trans-1,2-Dichloroethene	13	U	13	
78-87-5	1,2-Dichloropropane	13	U	13	
10061-01-5	cis-1,3-Dichloropropene	13	U	13	
10061-02-6	trans-1,3-Dichloropropene	13	U	13	
100-41-4	Ethylbenzene	13	U	13	
591-78-6	2-Hexanone	25	U	25	
75-09-2	Methylene Chloride	13	U	13	
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U	25	
100-42-5	Styrene	13	U	13	
79-34-5	1,1,2,2-Tetrachloroethane	13	U	13	
127-18-4	Tetrachloroethene	13	U	13	
108-88-3	Toluene	13	U	13	
71-55-6	1,1,1-Trichloroethane	13	U	13	
79-00-5	1,1,2-Trichloroethane	13	U	13	
79-01-6	Trichloroethene	13	U	13	
75-01-4	Vinyl Chloride	380		13	
95-47-6	o-Xylene	13	U	13	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1050  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/27/10 13:07

**Sample Name:** MW 6A  
**Lab Code:** R1007038-016

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3771.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	13	U	13	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	12/27/10 13:07	
Toluene-d8	99	87-121	12/27/10 13:07	
Dibromofluoromethane	103	89-119	12/27/10 13:07	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 6A DISSOLVED  
**Lab Code:** R1007038-017

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1050  
**Date Received:** 12/15/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	1010		µg/L	100	1	12/27/10	12/28/10 14:50	
Manganese, Dissolved	6010C	210		µg/L	10	1	12/27/10	12/28/10 14:50	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 1100  
 Date Received: 12/15/10  
 Date Analyzed: 12/27/10 14:02

Sample Name: MW 3  
 Lab Code: R1007038-018

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3773.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1100  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/27/10 14:02

**Sample Name:** MW 3  
**Lab Code:** R1007038-018

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3773.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85-122	12/27/10 14:02	
Toluene-d8	96	87-121	12/27/10 14:02	
Dibromofluoromethane	99	89-119	12/27/10 14:02	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10  
 Date Received: 12/15/10  
 Date Analyzed: 12/27/10 14:29

Sample Name: TRIP BLANK  
 Lab Code: R1007038-019

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3774.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/27/10 14:29

**Sample Name:** TRIP BLANK  
**Lab Code:** R1007038-019

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3774.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	12/27/10 14:29	
Toluene-d8	102	87-121	12/27/10 14:29	
Dibromofluoromethane	104	89-119	12/27/10 14:29	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 1115  
 Date Received: 12/15/10  
 Date Analyzed: 12/27/10 14:56

Sample Name: MW 11A  
 Lab Code: R1007038-020

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3775.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	50	U	50	
71-43-2	Benzene	13	U	13	
75-27-4	Bromodichloromethane	13	U	13	
75-25-2	Bromoform	13	U	13	
74-83-9	Bromomethane	13	U	13	
78-93-3	2-Butanone (MEK)	25	U	25	
75-15-0	Carbon Disulfide	25	U	25	
56-23-5	Carbon Tetrachloride	13	U	13	
108-90-7	Chlorobenzene	13	U	13	
75-00-3	Chloroethane	13	U	13	
67-66-3	Chloroform	13	U	13	
74-87-3	Chloromethane	13	U	13	
124-48-1	Dibromochloromethane	13	U	13	
75-34-3	1,1-Dichloroethane	13	U	13	
107-06-2	1,2-Dichloroethane	13	U	13	
75-35-4	1,1-Dichloroethene	13	U	13	
156-59-2	cis-1,2-Dichloroethene	350		13	
156-60-5	trans-1,2-Dichloroethene	13	U	13	
78-87-5	1,2-Dichloropropane	13	U	13	
10061-01-5	cis-1,3-Dichloropropene	13	U	13	
10061-02-6	trans-1,3-Dichloropropene	13	U	13	
100-41-4	Ethylbenzene	13	U	13	
591-78-6	2-Hexanone	25	U	25	
75-09-2	Methylene Chloride	13	U	13	
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U	25	
100-42-5	Styrene	13	U	13	
79-34-5	1,1,2,2-Tetrachloroethane	13	U	13	
127-18-4	Tetrachloroethene	13	U	13	
108-88-3	Toluene	13	U	13	
71-55-6	1,1,1-Trichloroethane	13	U	13	
79-00-5	1,1,2-Trichloroethane	13	U	13	
79-01-6	Trichloroethene	13	U	13	
75-01-4	Vinyl Chloride	310		13	
95-47-6	o-Xylene	13	U	13	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1115  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/27/10 14:56

**Sample Name:** MW 11A  
**Lab Code:** R1007038-020

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3775.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	13	U	13	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85-122	12/27/10 14:56	
Toluene-d8	102	87-121	12/27/10 14:56	
Dibromofluoromethane	106	89-119	12/27/10 14:56	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/15/10 1120  
 Date Received: 12/15/10  
 Date Analyzed: 12/27/10 13:34

Sample Name: MW 16A  
 Lab Code: R1007038-021

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3772.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	100	U	100	
71-43-2	Benzene	25	U	25	
75-27-4	Bromodichloromethane	25	U	25	
75-25-2	Bromoform	25	U	25	
74-83-9	Bromomethane	25	U	25	
78-93-3	2-Butanone (MEK)	50	U	50	
75-15-0	Carbon Disulfide	50	U	50	
56-23-5	Carbon Tetrachloride	25	U	25	
108-90-7	Chlorobenzene	25	U	25	
75-00-3	Chloroethane	25	U	25	
67-66-3	Chloroform	25	U	25	
74-87-3	Chloromethane	25	U	25	
124-48-1	Dibromochloromethane	25	U	25	
75-34-3	1,1-Dichloroethane	91		25	
107-06-2	1,2-Dichloroethane	25	U	25	
75-35-4	1,1-Dichloroethene	25	U	25	
156-59-2	cis-1,2-Dichloroethene	740		25	
156-60-5	trans-1,2-Dichloroethene	25	U	25	
78-87-5	1,2-Dichloropropane	25	U	25	
10061-01-5	cis-1,3-Dichloropropene	25	U	25	
10061-02-6	trans-1,3-Dichloropropene	25	U	25	
100-41-4	Ethylbenzene	25	U	25	
591-78-6	2-Hexanone	50	U	50	
75-09-2	Methylene Chloride	25	U	25	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	U	50	
100-42-5	Styrene	25	U	25	
79-34-5	1,1,2,2-Tetrachloroethane	25	U	25	
127-18-4	Tetrachloroethene	25	U	25	
108-88-3	Toluene	25	U	25	
71-55-6	1,1,1-Trichloroethane	44		25	
79-00-5	1,1,2-Trichloroethane	25	U	25	
79-01-6	Trichloroethene	110		25	
75-01-4	Vinyl Chloride	190		25	
95-47-6	o-Xylene	25	U	25	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/15/10 1120  
**Date Received:** 12/15/10  
**Date Analyzed:** 12/27/10 13:34

**Sample Name:** MW 16A  
**Lab Code:** R1007038-021

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3772.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 5

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	25 U	25	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85-122	12/27/10 13:34	
Toluene-d8	103	87-121	12/27/10 13:34	
Dibromofluoromethane	107	89-119	12/27/10 13:34	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/17/10 0900  
 Date Received: 12/17/10  
 Date Analyzed: 12/27/10 15:24

Sample Name: MW 18  
 Lab Code: R1007038-022

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3776.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/17/10 0900  
**Date Received:** 12/17/10  
**Date Analyzed:** 12/27/10 15:24

**Sample Name:** MW 18  
**Lab Code:** R1007038-022

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3776.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	12/27/10 15:24	
Toluene-d8	99	87-121	12/27/10 15:24	
Dibromofluoromethane	104	89-119	12/27/10 15:24	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/17/10 0900  
 Date Received: 12/17/10  
 Date Analyzed: 12/27/10 15:51

Sample Name: MW 18A  
 Lab Code: R1007038-023

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3777.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	190		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	190		5.0	
75-01-4	Vinyl Chloride	21		5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/17/10 0900  
**Date Received:** 12/17/10  
**Date Analyzed:** 12/27/10 15:51

**Sample Name:** MW 18A  
**Lab Code:** R1007038-023

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3777.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	12/27/10 15:51	
Toluene-d8	98	87-121	12/27/10 15:51	
Dibromofluoromethane	102	89-119	12/27/10 15:51	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 24  
**Lab Code:** R1007038-024

**Service Request:** R1007038  
**Date Collected:** 12/17/10 1000  
**Date Received:** 12/17/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	881	mg/L	40	40	NA	12/30/10 16:05	
Chloride	300.0	267	mg/L	8.0	40	NA	12/20/10 18:33	
Nitrate as Nitrogen	300.0	1.0 U	mg/L	1.0	10	NA	12/17/10 22:19	
Sulfate	300.0	2.0 U	mg/L	2.0	10	NA	12/17/10 22:19	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/17/10 1000  
 Date Received: 12/17/10  
 Date Analyzed: 12/29/10 00:25

Sample Name: MW 24  
 Lab Code: R1007038-024

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3848.D

Analysis Lot: 230556  
 Instrument Name: R-MS-08  
 Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	300		200	
71-43-2	Benzene	170		50	
75-27-4	Bromodichloromethane	50	U	50	
75-25-2	Bromoform	50	U	50	
74-83-9	Bromomethane	50	U	50	
78-93-3	2-Butanone (MEK)	930		100	
75-15-0	Carbon Disulfide	100	U	100	
56-23-5	Carbon Tetrachloride	50	U	50	
108-90-7	Chlorobenzene	50	U	50	
75-00-3	Chloroethane	98		50	
67-66-3	Chloroform	50	U	50	
74-87-3	Chloromethane	50	U	50	
124-48-1	Dibromochloromethane	50	U	50	
75-34-3	1,1-Dichloroethane	840		50	
107-06-2	1,2-Dichloroethane	50	U	50	
75-35-4	1,1-Dichloroethene	50	U	50	
156-59-2	cis-1,2-Dichloroethene	67		50	
156-60-5	trans-1,2-Dichloroethene	50	U	50	
78-87-5	1,2-Dichloropropane	50	U	50	
10061-01-5	cis-1,3-Dichloropropene	50	U	50	
10061-02-6	trans-1,3-Dichloropropene	50	U	50	
100-41-4	Ethylbenzene	200		50	
591-78-6	2-Hexanone	100	U	100	
75-09-2	Methylene Chloride	50	U	50	
108-10-1	4-Methyl-2-pentanone (MIBK)	100	U	100	
100-42-5	Styrene	50	U	50	
79-34-5	1,1,2,2-Tetrachloroethane	50	U	50	
127-18-4	Tetrachloroethene	50	U	50	
108-88-3	Toluene	900		50	
71-55-6	1,1,1-Trichloroethane	50	U	50	
79-00-5	1,1,2-Trichloroethane	50	U	50	
79-01-6	Trichloroethene	50	U	50	
75-01-4	Vinyl Chloride	1100		50	
95-47-6	o-Xylene	50	U	50	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/17/10 1000  
**Date Received:** 12/17/10  
**Date Analyzed:** 12/29/10 00:25

**Sample Name:** MW 24  
**Lab Code:** R1007038-024

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3848.D

**Analysis Lot:** 230556  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 10

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	370		50	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85-122	12/29/10 00:25	
Toluene-d8	101	87-121	12/29/10 00:25	
Dibromofluoromethane	103	89-119	12/29/10 00:25	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water  
Sample Name: MW 24 DISSOLVED  
Lab Code: R1007038-025

Service Request: R1007038  
Date Collected: 12/17/10 1000  
Date Received: 12/17/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	21200		µg/L	100	1	12/27/10	12/28/10 14:56	
Manganese, Dissolved	6010C	117		µg/L	10	1	12/27/10	12/28/10 14:56	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 24A  
**Lab Code:** R1007038-026

**Service Request:** R1007038  
**Date Collected:** 12/17/10 1015  
**Date Received:** 12/17/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	95	mg/L	10	10	NA	12/22/10 20:02	
Chloride	300.0	228	mg/L	8.0	40	NA	12/20/10 18:46	
Nitrate as Nitrogen	300.0	1.0 U	mg/L	1.0	10	NA	12/17/10 23:00	
Sulfate	300.0	16.2	mg/L	2.0	10	NA	12/17/10 23:00	



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/17/10 1015  
 Date Received: 12/17/10  
 Date Analyzed: 12/28/10 23:58

Sample Name: MW 24A  
 Lab Code: R1007038-026

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3847.D

Analysis Lot: 230556  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	21		20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	93		10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	12		5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	27		5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	16		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	40		5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/17/10 1015  
**Date Received:** 12/17/10  
**Date Analyzed:** 12/28/10 23:58

**Sample Name:** MW 24A  
**Lab Code:** R1007038-026

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3847.D

**Analysis Lot:** 230556  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85-122	12/28/10 23:58	
Toluene-d8	100	87-121	12/28/10 23:58	
Dibromofluoromethane	103	89-119	12/28/10 23:58	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water  
Sample Name: MW 24A DISSOLVED  
Lab Code: R1007038-027

Service Request: R1007038  
Date Collected: 12/17/10 1015  
Date Received: 12/17/10

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	12500		µg/L	100	1	12/27/10	12/28/10 15:02	
Manganese, Dissolved	6010C	191		µg/L	10	1	12/27/10	12/28/10 15:02	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/17/10 0930  
 Date Received: 12/17/10  
 Date Analyzed: 12/27/10 17:13

Sample Name: MW 1A  
 Lab Code: R1007038-028

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3780.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	7.1	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/17/10 0930  
**Date Received:** 12/17/10  
**Date Analyzed:** 12/27/10 17:13

**Sample Name:** MW 1A  
**Lab Code:** R1007038-028

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3780.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85-122	12/27/10 17:13	
Toluene-d8	98	87-121	12/27/10 17:13	
Dibromofluoromethane	100	89-119	12/27/10 17:13	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 16R  
**Lab Code:** R1007038-029

**Service Request:** R1007038  
**Date Collected:** 12/17/10 09:45  
**Date Received:** 12/17/10

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	14.4		mg/L	1.0	1	NA	12/22/10 08:26	
Chloride	300.0	399		mg/L	20	100	NA	12/20/10 18:59	
Nitrate as Nitrogen	300.0	1.0	U	mg/L	1.0	10	NA	12/17/10 23:13	
Sulfate	300.0	7.1		mg/L	2.0	10	NA	12/17/10 23:13	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/17/10 0945  
**Date Received:** 12/17/10  
**Date Analyzed:** 12/29/10 00:53

**Sample Name:** MW 16R  
**Lab Code:** R1007038-029

**Units:** µg/L  
**Basis:** NA

## Volatile Organic Compounds by GC/MS

**Analytical Method:** 8260C  
**Data File Name:** L3849.D

**Analysis Lot:** 230556  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	50	U	50	
71-43-2	Benzene	13	U	13	
75-27-4	Bromodichloromethane	13	U	13	
75-25-2	Bromoform	13	U	13	
74-83-9	Bromomethane	13	U	13	
78-93-3	2-Butanone (MEK)	25	U	25	
75-15-0	Carbon Disulfide	25	U	25	
56-23-5	Carbon Tetrachloride	13	U	13	
108-90-7	Chlorobenzene	13	U	13	
75-00-3	Chloroethane	320		13	
67-66-3	Chloroform	13	U	13	
74-87-3	Chloromethane	13	U	13	
124-48-1	Dibromochloromethane	13	U	13	
75-34-3	1,1-Dichloroethane	98		13	
107-06-2	1,2-Dichloroethane	13	U	13	
75-35-4	1,1-Dichloroethene	13	U	13	
156-59-2	cis-1,2-Dichloroethene	13	U	13	
156-60-5	trans-1,2-Dichloroethene	13	U	13	
78-87-5	1,2-Dichloropropane	13	U	13	
10061-01-5	cis-1,3-Dichloropropene	13	U	13	
10061-02-6	trans-1,3-Dichloropropene	13	U	13	
100-41-4	Ethylbenzene	42		13	
591-78-6	2-Hexanone	25	U	25	
75-09-2	Methylene Chloride	13	U	13	
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U	25	
100-42-5	Styrene	13	U	13	
79-34-5	1,1,2,2-Tetrachloroethane	13	U	13	
127-18-4	Tetrachloroethene	13	U	13	
108-88-3	Toluene	13	U	13	
71-55-6	1,1,1-Trichloroethane	13	U	13	
79-00-5	1,1,2-Trichloroethane	13	U	13	
79-01-6	Trichloroethene	13	U	13	
75-01-4	Vinyl Chloride	13	U	13	
95-47-6	o-Xylene	56		13	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/17/10 0945  
**Date Received:** 12/17/10  
**Date Analyzed:** 12/29/10 00:53

**Sample Name:** MW 16R  
**Lab Code:** R1007038-029

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3849.D

**Analysis Lot:** 230556  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	93		13	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85-122	12/29/10 00:53	
Toluene-d8	101	87-121	12/29/10 00:53	
Dibromofluoromethane	103	89-119	12/29/10 00:53	



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** MW 16R DISSOLVED  
**Lab Code:** R1007038-030

**Service Request:** R1007038  
**Date Collected:** 12/17/10 0945  
**Date Received:** 12/17/10

**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	400		µg/L	100	1	12/27/10	12/28/10 15:08	
Manganese, Dissolved	6010C	58		µg/L	10	1	12/27/10	12/28/10 15:08	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: 12/17/10  
 Date Received: 12/17/10  
 Date Analyzed: 12/27/10 18:08

Sample Name: TRIP BLANK  
 Lab Code: R1007038-031

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3782.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** 12/17/10  
**Date Received:** 12/17/10  
**Date Analyzed:** 12/27/10 18:08

**Sample Name:** TRIP BLANK  
**Lab Code:** R1007038-031

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3782.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	12/27/10 18:08	
Toluene-d8	101	87-121	12/27/10 18:08	
Dibromofluoromethane	103	89-119	12/27/10 18:08	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1007038-MB1

Service Request: R1007038  
Date Collected: NA  
Date Received: NA  
Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0	U	mg/L	1.0	1	NA	12/17/10 00:07	
Chloride	300.0	0.20	U	mg/L	0.20	1	NA	12/15/10 17:49	
Nitrate as Nitrogen	300.0	0.10	U	mg/L	0.10	1	NA	12/15/10 17:49	
Sulfate	300.0	0.20	U	mg/L	0.20	1	NA	12/15/10 17:49	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** R1007038-MB2

**Service Request:** R1007038  
**Date Collected:** NA  
**Date Received:** NA

**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0	U	mg/L	1.0	1	NA	12/21/10 17:09	
Chloride	300.0	0.20	U	mg/L	0.20	1	NA	12/20/10 10:49	
Nitrate as Nitrogen	300.0	0.10	U	mg/L	0.10	1	NA	12/17/10 21:52	
Sulfate	300.0	0.20	U	mg/L	0.20	1	NA	12/17/10 21:52	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** R1007038-MB3

**Service Request:** R1007038  
**Date Collected:** NA  
**Date Received:** NA

**Basis:** NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0 U	mg/L	1.0	1	NA	12/22/10 03:25	
Sulfate	300.0	0.20 U	mg/L	0.20	1	NA	12/20/10 19:39	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** R1007038-MB4

**Service Request:** R1007038  
**Date Collected:** NA  
**Date Received:** NA  
**Basis:** NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0 U	mg/L	1.0	1	NA	12/22/10 16:54	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1007038-MB5

Service Request: R1007038  
Date Collected: NA  
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0 U	mg/L	1.0	1	NA	12/30/10 15:27	



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** R1007038-MB1

**Service Request:** R1007038  
**Date Collected:** NA  
**Date Received:** NA  
**Basis:** NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	12/27/10	12/28/10 13:41	
Manganese, Dissolved	6010C	10	U	µg/L	10	1	12/27/10	12/28/10 13:41	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1007038-MB2

Service Request: R1007038  
Date Collected: NA  
Date Received: NA  
Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	12/27/10	12/28/10 13:53	
Manganese, Dissolved	6010C	10	U	µg/L	10	1	12/27/10	12/28/10 13:53	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water  
Sample Name: Method Blank  
Lab Code: R1007038-MB3

Service Request: R1007038  
Date Collected: NA  
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	12/27/10	12/28/10 13:59	
Manganese, Dissolved	6010C	10	U	µg/L	10	1	12/27/10	12/28/10 13:59	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 12/26/10 10:47

Sample Name: Method Blank  
 Lab Code: RQ1011599-03

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3745.D

Analysis Lot: 230267  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 12/26/10 10:47

**Sample Name:** Method Blank  
**Lab Code:** RQ1011599-03

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3745.D

**Analysis Lot:** 230267  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	12/26/10 10:47	
Toluene-d8	102	87-121	12/26/10 10:47	
Dibromofluoromethane	100	89-119	12/26/10 10:47	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 12/27/10 11:45

Sample Name: Method Blank  
 Lab Code: RQ1011624-03

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3768.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 12/27/10 11:45

**Sample Name:** Method Blank  
**Lab Code:** RQ1011624-03

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3768.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	12/27/10 11:45	
Toluene-d8	98	87-121	12/27/10 11:45	
Dibromofluoromethane	100	89-119	12/27/10 11:45	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 12/28/10 23:03

Sample Name: Method Blank  
 Lab Code: RQ1011677-03

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3845.D

Analysis Lot: 230556  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 12/28/10 23:03

**Sample Name:** Method Blank  
**Lab Code:** RQ1011677-03

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3845.D

**Analysis Lot:** 230556  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	12/28/10 23:03	
Toluene-d8	99	87-121	12/28/10 23:03	
Dibromofluoromethane	103	89-119	12/28/10 23:03	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Analyzed: 12/15/10 -  
 12/17/10

Lab Control Sample Summary  
 General Chemistry Parameters

Units: mg/L  
 Basis: NA

Analyte Name	Method	Lab Control Sample R1007038-LCS1			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	10.0	10.0	100	86 - 117
Chloride	300.0	1.90	2.00	95	90 - 110
Nitrate as Nitrogen	300.0	0.959	1.00	96	90 - 110
Sulfate	300.0	2.08	2.00	104	90 - 110

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Energy Solutions  
**Project:** Leica Wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007038  
**Date Analyzed:** 12/17/10 -  
 12/21/10

**Lab Control Sample Summary  
 General Chemistry Parameters**

**Units:** mg/L  
**Basis:** NA

Analyte Name	Method	Lab Control Sample R1007038-LCS2			% Rec	Limits
		Result	Spike Amount	% Rec		
Carbon, Total Organic (TOC)	SM20 5310 C	9.84	10.0	98	86 - 117	
Chloride	300.0	1.93	2.00	97	90 - 110	
Nitrate as Nitrogen	300.0	0.977	1.00	98	90 - 110	
Sulfate	300.0	1.95	2.00	97	90 - 110	

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water

Service Request: R1007038  
Date Analyzed: 12/20/10 -  
12/22/10

Lab Control Sample Summary  
General Chemistry Parameters

Units: mg/L  
Basis: NA

Lab Control Sample					
R1007038-LCS3					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	10.3	10.0	103	86 - 117
Sulfate	300.0	2.03	2.00	102	90 - 110

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water

Service Request: R1007038  
Date Analyzed: 12/22/10

Lab Control Sample Summary  
General Chemistry Parameters

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample R1007038-LCS4			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	10.0	10.0	100	86 - 117

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water

Service Request: R1007038  
Date Analyzed: 12/30/10

Lab Control Sample Summary  
General Chemistry Parameters

Units: mg/L  
Basis: NA

Analyte Name	Method	Lab Control Sample		% Rec	% Rec Limits
		Result	Spike Amount		
Carbon, Total Organic (TOC)	SM20 5310 C	10.6	10.0	106	86 - 117

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water

Service Request: R1007038  
Date Analyzed: 12/28/10

Lab Control Sample Summary  
Inorganic Parameters

Units: µg/L  
Basis: NA

Lab Control Sample  
R1007038-LCS

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Dissolved	6010C	998	1000	100	80 - 120
Manganese, Dissolved	6010C	489	500	98	80 - 120

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Analyzed: 12/26/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L  
 Basis: NA

Analysis Lot: 230267

Lab Control Sample  
 RQ1011599-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Acetone	18.5	20.0	92	59 - 140
Benzene	19.2	20.0	96	78 - 121
Bromodichloromethane	19.9	20.0	100	80 - 125
Bromoform	20.1	20.0	100	73 - 132
Bromomethane	17.9	20.0	89	57 - 144
2-Butanone (MEK)	18.2	20.0	91	60 - 133
Carbon Disulfide	20.2	20.0	101	59 - 138
Carbon Tetrachloride	18.6	20.0	93	69 - 135
Chlorobenzene	19.4	20.0	97	80 - 121
Chloroethane	21.1	20.0	105	71 - 130
Chloroform	19.5	20.0	97	78 - 125
Chloromethane	21.1	20.0	106	62 - 133
Dibromochloromethane	20.7	20.0	104	78 - 133
1,1-Dichloroethane	20.3	20.0	102	76 - 122
1,2-Dichloroethane	19.4	20.0	97	78 - 126
1,1-Dichloroethene	19.0	20.0	95	72 - 129
cis-1,2-Dichloroethene	19.5	20.0	97	78 - 122
trans-1,2-Dichloroethene	18.9	20.0	95	75 - 121
1,2-Dichloropropane	19.2	20.0	96	80 - 123
cis-1,3-Dichloropropene	19.9	20.0	99	77 - 125
trans-1,3-Dichloropropene	20.1	20.0	101	69 - 127
Ethylbenzene	20.2	20.0	101	78 - 123
2-Hexanone	19.0	20.0	95	61 - 131
Methylene Chloride	19.4	20.0	97	75 - 125
4-Methyl-2-pentanone (MIBK)	19.7	20.0	98	61 - 132
Styrene	18.9	20.0	95	80 - 132
1,1,2,2-Tetrachloroethane	17.8	20.0	89	72 - 131
Tetrachloroethene	20.0	20.0	100	72 - 131
Toluene	19.9	20.0	99	78 - 122
1,1,1-Trichloroethane	18.3	20.0	91	72 - 128
1,1,2-Trichloroethane	19.9	20.0	100	80 - 122
Trichloroethene	18.3	20.0	91	74 - 127

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water

Service Request: R1007038  
Date Analyzed: 12/26/10

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L  
Basis: NA

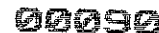
Analysis Lot: 230267

Lab Control Sample  
RQ1011599-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	22.5	20.0	113	71 - 136
o-Xylene	20.2	20.0	101	79 - 126
m,p-Xylenes	39.9	40.0	100	79 - 126

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Analyzed: 12/27/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L  
 Basis: NA

Analysis Lot: 230366

Lab Control Sample  
 RQ1011624-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Acetone	19.1	20.0	95	59 - 140
Benzene	19.2	20.0	96	78 - 121
Bromodichloromethane	19.9	20.0	99	80 - 125
Bromoform	19.8	20.0	99	73 - 132
Bromomethane	17.2	20.0	86	57 - 144
2-Butanone (MEK)	17.2	20.0	86	60 - 133
Carbon Disulfide	19.9	20.0	99	59 - 138
Carbon Tetrachloride	19.3	20.0	97	69 - 135
Chlorobenzene	19.1	20.0	95	80 - 121
Chloroethane	21.6	20.0	108	71 - 130
Chloroform	19.7	20.0	98	78 - 125
Chloromethane	21.7	20.0	109	62 - 133
Dibromochloromethane	20.5	20.0	102	78 - 133
1,1-Dichloroethane	20.7	20.0	103	76 - 122
1,2-Dichloroethane	20.0	20.0	100	78 - 126
1,1-Dichloroethene	19.7	20.0	98	72 - 129
cis-1,2-Dichloroethene	19.6	20.0	98	78 - 122
trans-1,2-Dichloroethene	19.3	20.0	96	75 - 121
1,2-Dichloropropane	19.4	20.0	97	80 - 123
cis-1,3-Dichloropropene	19.5	20.0	98	77 - 125
trans-1,3-Dichloropropene	19.8	20.0	99	69 - 127
Ethylbenzene	19.7	20.0	99	78 - 123
2-Hexanone	19.1	20.0	96	61 - 131
Methylene Chloride	19.9	20.0	99	75 - 125
4-Methyl-2-pentanone (MIBK)	19.0	20.0	95	61 - 132
Styrene	18.6	20.0	93	80 - 132
1,1,2,2-Tetrachloroethane	17.4	20.0	87	72 - 131
Tetrachloroethene	20.4	20.0	102	72 - 131
Toluene	20.0	20.0	100	78 - 122
1,1,1-Trichloroethane	18.7	20.0	94	72 - 128
1,1,2-Trichloroethane	19.9	20.0	100	80 - 122
Trichloroethene	19.1	20.0	96	74 - 127

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water

Service Request: R1007038  
Date Analyzed: 12/27/10

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L  
Basis: NA

Analysis Lot: 230366

Lab Control Sample  
RQ1011624-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	23.6	20.0	118	71 - 136
o-Xylene	19.6	20.0	98	79 - 126
m,p-Xylenes	39.7	40.0	99	79 - 126

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica Wells 12/10  
 Sample Matrix: Water

Service Request: R1007038  
 Date Analyzed: 12/28/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 230556

Lab Control Sample  
 RQ1011677-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Acetone	17.4	20.0	87	59 - 140
Benzene	18.7	20.0	93	78 - 121
Bromodichloromethane	19.9	20.0	99	80 - 125
Bromoform	19.4	20.0	97	73 - 132
Bromomethane	17.5	20.0	88	57 - 144
2-Butanone (MEK)	17.2	20.0	86	60 - 133
Carbon Disulfide	18.7	20.0	94	59 - 138
Carbon Tetrachloride	19.1	20.0	95	69 - 135
Chlorobenzene	19.1	20.0	96	80 - 121
Chloroethane	22.4	20.0	112	71 - 130
Chloroform	18.9	20.0	94	78 - 125
Chloromethane	20.3	20.0	102	62 - 133
Dibromochloromethane	19.9	20.0	99	78 - 133
1,1-Dichloroethane	19.5	20.0	97	76 - 122
1,2-Dichloroethane	20.6	20.0	103	78 - 126
1,1-Dichloroethene	18.4	20.0	92	72 - 129
cis-1,2-Dichloroethene	18.8	20.0	94	78 - 122
trans-1,2-Dichloroethene	18.3	20.0	92	75 - 121
1,2-Dichloropropane	19.3	20.0	96	80 - 123
cis-1,3-Dichloropropene	18.9	20.0	95	77 - 125
trans-1,3-Dichloropropene	19.5	20.0	98	69 - 127
Ethylbenzene	19.9	20.0	99	78 - 123
2-Hexanone	18.5	20.0	92	61 - 131
Methylene Chloride	18.5	20.0	93	75 - 125
4-Methyl-2-pentanone (MIBK)	19.8	20.0	99	61 - 132
Styrene	18.5	20.0	93	80 - 132
1,1,2,2-Tetrachloroethane	18.1	20.0	90	72 - 131
Tetrachloroethene	19.5	20.0	98	72 - 131
Toluene	19.5	20.0	98	78 - 122
1,1,1-Trichloroethane	18.4	20.0	92	72 - 128
1,1,2-Trichloroethane	19.1	20.0	95	80 - 122
Trichloroethene	18.9	20.0	95	74 - 127

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica Wells 12/10  
Sample Matrix: Water

Service Request: R1007038  
Date Analyzed: 12/28/10

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L  
Basis: NA

Analysis Lot: 230556

Lab Control Sample  
RQ1011677-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	23.5	20.0	118	71 - 136
o-Xylene	19.7	20.0	98	79 - 126
m,p-Xylenes	39.0	40.0	98	79 - 126

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

SR #

CAS Contact

Project Name		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager		Report CC		PRESERVATIVE	
Company/Address		Report CC		PRESERVATIVE	
100 Mill Plain Rd 2nd Floor Box 106		Report CC		PRESERVATIVE	
Danbury, CT 06811		Report CC		PRESERVATIVE	
Phone #		Report CC		PRESERVATIVE	
801-303-1092		Report CC		PRESERVATIVE	
Fax #		Report CC		PRESERVATIVE	
203-797-8994		Report CC		PRESERVATIVE	
Sampler's Printed Name		Report CC		PRESERVATIVE	
Wayne Degalier		Report CC		PRESERVATIVE	
Wayne Degalier		Report CC		PRESERVATIVE	
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS
MW 23	-001	12/15/10	09:00	H <sub>2</sub> O	1
MW 22	002	12/15/10	09:15		1
MW 22 A	003		09:30		1
MW 14	-004, 005		10:00		4
MW 14 A	-006, 007		10:15		4
MW 10	-008, 009		10:30		4
MW 5	-010, 011		10:40		4
MW 5 A	-012, 013		10:40		4
MW 6	-014, 015		10:50		4
MW 6 A	-016, 017		10:50		4


  

SPECIAL INSTRUCTIONS/COMMENTS	TURNAROUND REQUIREMENTS	REPORT REQUIREMENTS	INVOICE INFORMATION
Metals  <b>Some In Lab Filterings Required</b>	RUSH (SURCHARGES APPLY) 24 hr _____ 48 hr _____ 5 day _____	I. Results Only _____ II. Results + CC Summaries (LCS, DUP, MS/MSD as required) <input checked="" type="checkbox"/> III. Results + CC and Calibration Summaries _____ IV. Data Validation Report with Raw Data _____ V. Specialized Forms / Custom Report _____	PO# _____ BILL TO: _____ SERVICE REQUEST # _____
	REQUESTED FAX DATE _____	Edata <input checked="" type="checkbox"/> Yes _____ No _____	RECEIVED BY _____
	REQUESTED REPORT DATE _____	RELINQUISHED BY _____	RECEIVED BY _____
	See QAPP <input type="checkbox"/>	Signature _____ Printed Name _____ Firm _____ Date/Time _____	Signature _____ Printed Name _____ Firm _____ Date/Time _____

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	REMARKS/ALTERNATE DESCRIPTION
MW 23	-001	12/15/10	09:00	H <sub>2</sub> O	1	Discolored Fe
MW 22	002	12/15/10	09:15		1	Discolored Mn
MW 22 A	003		09:30		1	TBC
MW 14	-004, 005		10:00		4	Nitrate
MW 14 A	-006, 007		10:15		4	Sulfate
MW 10	-008, 009		10:30		4	Chloride
MW 5	-010, 011		10:40		4	(List in comments below)
MW 5 A	-012, 013		10:40		4	METALS, DISSOLVED (List in comments below)
MW 6	-014, 015		10:50		4	METALS, TOTAL (List in comments below)
MW 6 A	-016, 017		10:50		4	PCBS <input type="checkbox"/> 608 <input type="checkbox"/> CLP PCBS <input type="checkbox"/> 8081 <input type="checkbox"/> 608 <input type="checkbox"/> CLP PESTICIDES <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 GC VOAS <input type="checkbox"/> 8270 <input type="checkbox"/> 625 <input type="checkbox"/> CLP GCMS SVOAS <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> CLP GCMS VOAS <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> CLP

SR # \_\_\_\_\_  
CAS Contact \_\_\_\_\_

Project Name <b>LEICA</b> Project Manager <b>Bob McPeak</b> Company/Address <b>EnergySolutions</b> <b>100 Mill Plain Rd and Floor Box 106</b> <b>Danbury, CT 06811</b> Phone # <b>801-303-1092</b> FAX# <b>203-797-8994</b> Sampler's Signature <i>Wayne Degalier</i> Sampler's Printed Name <b>Wayne Degalier</b>	Project Number Report CC ANALYSIS REQUESTED (Include Method Number and Container Preservative) PRESERVATIVE METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below) METALS, 608 CLP PCBs 8082 8081 608 CLP PESTICIDES 8021 601/602 GC VOAS 8270 625 CLP GCMS SVOAS 8260 624 CLP GCMS VOAS 8260 624 CLP	NUMBER OF CONTAINERS MATRIX SAMPLING DATE TIME FOR OFFICE USE ONLY LAB ID CLIENT SAMPLE ID MW 3 Trip Blank Temp Blank MW 11A MW 16A	ANALYSIS REQUESTED (Include Method Number and Container Preservative) PRESERVATIVE METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below) METALS, 608 CLP PCBs 8082 8081 608 CLP PESTICIDES 8021 601/602 GC VOAS 8270 625 CLP GCMS SVOAS 8260 624 CLP GCMS VOAS 8260 624 CLP	PRESERVATIVE KEY 0. NONE 1. HCL 2. HNO3 3. H2SO4 4. NaOH 5. Zn Acetate 6. MeOH 7. NaHSO4 8. Other _____ REMARKS/ ALTERNATE DESCRIPTION	SPECIAL INSTRUCTIONS/COMMENTS <b>Metals</b> See QAPP <input type="checkbox"/> SAMPLE RECEIPT: CONDITION/COOLER TEMP: <b>22C</b> RECEIVED BY Signature: <i>Wayne Degalier</i> Printed Name: <b>Wayne Degalier</b> Firm: <b>EnergySolutions</b> Date/Time: <b>12/15/10 12:00</b> RECEIVED BY Signature: <i>Frank Senack</i> Printed Name: <b>Frank Senack</b> Firm: <b>ACS</b> Date/Time: <b>12/15/10 12:00</b> CUSTODY SEALS: Y (N) RELINQUISHED BY Signature: <i>Frank Senack</i> Printed Name: <b>Frank Senack</b> Firm: <b>ACS</b> Date/Time: <b>12/15/10 14:45</b>	TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 24 hr 48 hr 5 day STANDARD REQUESTED FAX DATE REQUESTED REPORT DATE RECEIVED BY Signature: <i>Samuel Ward</i> Printed Name: <b>Samuel Ward</b> Firm: <b>ACS</b> Date/Time: <b>12/15/10/1445</b>	REPORT REQUIREMENTS I. Results Only II. Results + CC Summaries (LCS, DUP, MSMSD as required) III. Results + CC and Calibration Summaries IV. Data Validation Report with Raw Data V. Specialized Forms / Custom Reports Edata <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No RELINQUISHED BY Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	INVOICE INFORMATION FOF# _____ BILL TO: _____ <b>R1007038</b> Leica Energy Solutions, Inc. 
---	---	---	--	---	--	---	--	--

**Cooler Receipt And Preservation Check Form**

Project/Client Leica Folder Number R1007038

Cooler received on 12/15/10 by: ORW COURIER: ~~CAS~~ UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES ~~NO~~
  2. Were custody papers properly filled out (ink, signed, etc.)? ~~YES~~ NO
  3. Did all bottles arrive in good condition (unbroken)? ~~YES~~ NO
  4. Did VOA vials, Alkalinity, or Sulfide have significant\* air bubbles? YES ~~NO~~ N/A
  5. Were ~~Ice~~ or Ice packs present? ~~YES~~ NO
  6. Where did the bottles originate? ~~CAS/ROC~~, CLIENT
  7. Temperature of cooler(s) upon receipt: 2.2°
- Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes
- If No, Explain Below No No No No No

Date/Time Temperatures Taken: 12/15/10/1452

Thermometer ID: IR GUN#3 / IR ~~GUN#4~~ Reading From: Temp ~~Blank~~ / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: \_\_\_\_\_

PC Secondary Review: KB 12/17/10

Cooler Breakdown: Date: 12/16/10 Time: 0845 by: crnk

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
  2. Did all bottle labels and tags agree with custody papers? YES NO
  3. Were correct containers used for the tests indicated? YES NO
  4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)
- Explain any discrepancies: \_\_\_\_\_

pH	Reagent	YES NO		Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
		YES	NO							
≥12	NaOH									No = Samples were preserved at lab as listed
≤2	HNO <sub>3</sub>									
≤2	H <sub>2</sub> SO <sub>4</sub>									
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid						PM OK to Adjust: _____
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-							
	Zn Aceta	-	-							
	HCl	*	*	4110020	11/11					

\*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet

Bottle lot numbers: 0235-003, 110110-2RR

Other Comments: \_\_\_\_\_

PC Secondary Review: 11/11/11 KB

\*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



Project Name		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager		Report CC		PRESERVATIVE	
Company/Address		SAMPLER'S PRINTED NAME		NUMBER OF CONTAINERS	
Phone #		FOR OFFICE USE ONLY		MATRIX	
FAX #		LAB ID		DATE	
SAMPLER'S SIGNATURE		DATE		TIME	
CLIENT SAMPLE ID		SAMPLING DATE		SAMPLING TIME	
Levee					
Bob McPeak					
Energy Solutions		Wayne DeGohier			
100 Mill Plain Rd 2nd Floor Box 106					
Danbury, CT 06811					
801-303-1092					
Wayne DeGohier					
MW 18	-022	12/10/10	9:00	H <sub>2</sub> O	1
MW 18 A	-023		9:00		1
MW 24	-024, 025		10:10		4
MW 24 A	-026, 027		10:15		4
MW 1 A	028		09:30		1
MW 16 R	029, 030		09:45		4
Temp Blank	031, 032				
Trip Blank	031				

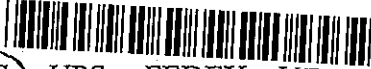
SPECIAL INSTRUCTIONS/COMMENTS		TURNAROUND REQUIREMENTS		REPORT REQUIREMENTS		INVOICE INFORMATION	
Metals Some in Lab Filtering Required		RUSH (SURCHARGES APPLY) 24 hr _____ 48 hr _____ 5 day _____		I. Results Only _____		PO# _____	
		STANDARD REQUESTED FAX DATE _____		II. Results + QC Summaries (LCS, DUP, MS/MSD as required) <input checked="" type="checkbox"/>		BILL TO: _____	
		REQUESTED REPORT DATE _____		III. Results + QC and Calibration Summaries _____			
				IV. Data Validation Report with Raw Data _____			
				V. Specialized Forms / Custom Report _____			
				Edata <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		REMARKS _____	
				RELINQUISHED BY _____		R1007038 Energy Solutions, Inc. Leica Wells 12710	
RECEIVED BY Wayne DeGohier Signature Wayne DeGohier Printed Name EnutroSite Firm 12/17/10 11:00 Date/Time		RECEIVED BY Wayne DeGohier Signature Wayne DeGohier Printed Name EnutroSite Firm 12/17/10 11:00 Date/Time		RECEIVED BY Wayne DeGohier Signature Wayne DeGohier Printed Name EnutroSite Firm 12/17/10 11:00 Date/Time		RECEIVED BY Wayne DeGohier Signature Wayne DeGohier Printed Name EnutroSite Firm 12/17/10 11:00 Date/Time	

Cooler Receipt And Preserv:

**R1007038**

Energy Solutions, Inc.  
Leica Wells 12/10

Project/Client Leica Folder Numl \_\_\_\_\_



Cooler received on 12/17/10 by: BD COURIER: CAS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant\* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 1°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 12/17 @ 1415

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: \_\_\_\_\_

PC Secondary Review: KE 12/21/10

Cooler Breakdown: Date: 12/17/10 Time: 1501 by: dlw

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

pH	Reagent			Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
		YES	NO						
≥12	NaOH								
≤2	HNO <sub>3</sub>								
≤2	H <sub>2</sub> SO <sub>4</sub>			<u>WC103001A</u>	<u>11/11</u>				
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-			*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-			PM OK to Adjust:			
	HCl	*	*	<u>4110020</u>	<u>12/11</u>				

Bottle lot numbers: 0-165-001, 0-165-002, 11010-2RR

Other Comments: \_\_\_\_\_

PC Secondary Review: 11/11/10 KE

\*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

January 03, 2011

Service Request No: R1007081

Mr. Robert McPeak  
Energy Solutions, Inc.  
100 Mill Plain Rd.  
2nd Floor Mailbox 106  
Danbury, CT 06811

**Laboratory Results for: Leica wells 12/10**

Dear Mr. McPeak:

Enclosed are the results of the sample(s) submitted to our laboratory on December 16, 2010. For your reference, these analyses have been assigned our service request number **R1007081**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 134. You may also contact me via email at KBunker@caslab.com.

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Karen Bunker  
Project Manager

Page 1 of 36

COLUMBIA ANALYTICAL SERVICES, INC.

**Client:** Energy Solutions  
**Project:** Leica Wells 12/2010  
**Sample Matrix:** Water

**Service Request No.:** R1007081  
**Date Received:** 12/16/2010

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

**Sample Receipt**

Nine (9) groundwater samples were collected by the client between 12/15-16/10 and received for analysis at Columbia Analytical Services on 12/16/10 via CAS Courier. The samples were received in good condition. The cooler receipt temperature upon receipt was 4.5°C, within the guidelines of 0-6°C.

**Volatile Organics**

Nine (9) water samples were analyzed for Volatile Organic compounds by GC/MS method 8260C.

The Initial Calibration Criteria were met. The Continuing Calibration Verification (CCV) standard exceeded 20% Difference criteria for Bromoform on 12/27/10. All detected concentrations for this compound in samples associated with this CCV would be considered as estimated, however there were no hits in the samples for this analyte.

Batch QC is included in the report. All Laboratory Control Sample (LCS) recoveries for target compounds were within QC limits.

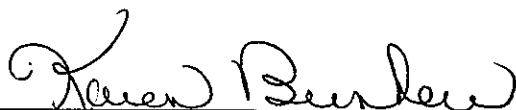
All Surrogate recoveries are within acceptance limits.

All Laboratory Method Blanks were free from contamination.

The samples were analyzed within the 14 day holding time for the method. All vials are checked for preservation after the analysis in order to maintain the integrity of the sample. All vials were found to be preserved to a pH of <2.

No problems were encountered during the analysis of these samples.

Approved by



Date

1/3/11

## CASE NARRATIVE

This report contains analytical results for the following samples:  
Service Request Number: R1007081

<u>Lab ID</u>	<u>Client ID</u>
R1007081-001	MW 28
R1007081-002	MW 25
R1007081-003	MW 25A
R1007081-004	MW 29A
R1007081-005	MW 28A
R1007081-006	MW 26
R1007081-007	MW 26A
R1007081-008	MW 27
R1007081-009	MW 27A

## REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$  Difference between two GC columns).
- X See Case Narrative for discussion.



### CAS/Rochester Lab ID # for State Certifications<sup>1</sup>

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at [www.caslab.com](http://www.caslab.com).

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: 12/15/10 1500  
 Date Received: 12/16/10  
 Date Analyzed: 12/27/10 18:35

Sample Name: MW 28  
 Lab Code: R1007081-001

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3783.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	28	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007081  
**Date Collected:** 12/15/10 1500  
**Date Received:** 12/16/10  
**Date Analyzed:** 12/27/10 18:35

**Sample Name:** MW 28  
**Lab Code:** R1007081-001

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3783.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85-122	12/27/10 18:35	
Toluene-d8	101	87-121	12/27/10 18:35	
Dibromofluoromethane	104	89-119	12/27/10 18:35	



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: 12/15/10 1600  
 Date Received: 12/16/10  
 Date Analyzed: 12/27/10 19:02

Sample Name: MW 25  
 Lab Code: R1007081-002

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3784.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: 12/15/10 1600  
 Date Received: 12/16/10  
 Date Analyzed: 12/27/10 19:02

Sample Name: MW 25  
 Lab Code: R1007081-002

Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3784.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	12/27/10 19:02	
Toluene-d8	99	87-121	12/27/10 19:02	
Dibromofluoromethane	100	89-119	12/27/10 19:02	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: 12/15/10 1610  
 Date Received: 12/16/10  
 Date Analyzed: 12/28/10 00:02

Sample Name: MW 25A  
 Lab Code: R1007081-003

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3795.D

Analysis Lot: 230379  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.6	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: 12/15/10 1610  
 Date Received: 12/16/10  
 Date Analyzed: 12/28/10 00:02

Sample Name: MW 25A  
 Lab Code: R1007081-003

Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3795.D

Analysis Lot: 230379  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	12/28/10 00:02	
Toluene-d8	100	87-121	12/28/10 00:02	
Dibromofluoromethane	104	89-119	12/28/10 00:02	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: 12/16/10 1000  
 Date Received: 12/16/10  
 Date Analyzed: 12/28/10 00:30

Sample Name: MW 29A  
 Lab Code: R1007081-004

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3796.D

Analysis Lot: 230379  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	6.0	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	13	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007081  
**Date Collected:** 12/16/10 1000  
**Date Received:** 12/16/10  
**Date Analyzed:** 12/28/10 00:30

**Sample Name:** MW 29A  
**Lab Code:** R1007081-004

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3796.D

**Analysis Lot:** 230379  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	7.8	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	12/28/10 00:30	
Toluene-d8	98	87-121	12/28/10 00:30	
Dibromofluoromethane	104	89-119	12/28/10 00:30	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: 12/16/10 1015  
 Date Received: 12/16/10  
 Date Analyzed: 12/28/10 00:57

Sample Name: MW 28A  
 Lab Code: R1007081-005

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3797.D

Analysis Lot: 230379  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	8.9		5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	13		5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007081  
**Date Collected:** 12/16/10 1015  
**Date Received:** 12/16/10  
**Date Analyzed:** 12/28/10 00:57

**Sample Name:** MW 28A  
**Lab Code:** R1007081-005

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3797.D

**Analysis Lot:** 230379  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85-122	12/28/10 00:57	
Toluene-d8	99	87-121	12/28/10 00:57	
Dibromofluoromethane	103	89-119	12/28/10 00:57	



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: 12/16/10 1030  
 Date Received: 12/16/10  
 Date Analyzed: 12/28/10 01:24

Sample Name: MW 26  
 Lab Code: R1007081-006

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3798.D

Analysis Lot: 230379  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007081  
**Date Collected:** 12/16/10 1030  
**Date Received:** 12/16/10  
**Date Analyzed:** 12/28/10 01:24

**Sample Name:** MW 26  
**Lab Code:** R1007081-006

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3798.D

**Analysis Lot:** 230379  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	12/28/10 01:24	
Toluene-d8	102	87-121	12/28/10 01:24	
Dibromofluoromethane	105	89-119	12/28/10 01:24	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: 12/16/10 1030  
 Date Received: 12/16/10  
 Date Analyzed: 12/29/10 11:50

Sample Name: MW 26A  
 Lab Code: R1007081-007

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3873.D

Analysis Lot: 230715  
 Instrument Name: R-MS-08  
 Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	100	U	100	
71-43-2	Benzene	25	U	25	
75-27-4	Bromodichloromethane	25	U	25	
75-25-2	Bromoform	25	U	25	
74-83-9	Bromomethane	25	U	25	
78-93-3	2-Butanone (MEK)	50	U	50	
75-15-0	Carbon Disulfide	50	U	50	
56-23-5	Carbon Tetrachloride	25	U	25	
108-90-7	Chlorobenzene	25	U	25	
75-00-3	Chloroethane	25	U	25	
67-66-3	Chloroform	25	U	25	
74-87-3	Chloromethane	25	U	25	
124-48-1	Dibromochloromethane	25	U	25	
75-34-3	1,1-Dichloroethane	25	U	25	
107-06-2	1,2-Dichloroethane	25	U	25	
75-35-4	1,1-Dichloroethene	25	U	25	
156-59-2	cis-1,2-Dichloroethene	560		25	
156-60-5	trans-1,2-Dichloroethene	25	U	25	
78-87-5	1,2-Dichloropropane	25	U	25	
10061-01-5	cis-1,3-Dichloropropene	25	U	25	
10061-02-6	trans-1,3-Dichloropropene	25	U	25	
100-41-4	Ethylbenzene	25	U	25	
591-78-6	2-Hexanone	50	U	50	
75-09-2	Methylene Chloride	25	U	25	
108-10-1	4-Methyl-2-pentanone (MIBK)	50	U	50	
100-42-5	Styrene	25	U	25	
79-34-5	1,1,2,2-Tetrachloroethane	25	U	25	
127-18-4	Tetrachloroethene	25	U	25	
108-88-3	Toluene	25	U	25	
71-55-6	1,1,1-Trichloroethane	25	U	25	
79-00-5	1,1,2-Trichloroethane	25	U	25	
79-01-6	Trichloroethene	25	U	25	
75-01-4	Vinyl Chloride	630		25	
95-47-6	o-Xylene	25	U	25	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007081  
**Date Collected:** 12/16/10 1030  
**Date Received:** 12/16/10  
**Date Analyzed:** 12/29/10 11:50

**Sample Name:** MW 26A  
**Lab Code:** R1007081-007

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3873.D

**Analysis Lot:** 230715  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 5

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	25	U	25	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85-122	12/29/10 11:50	
Toluene-d8	101	87-121	12/29/10 11:50	
Dibromofluoromethane	102	89-119	12/29/10 11:50	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: 12/16/10 1045  
 Date Received: 12/16/10  
 Date Analyzed: 12/28/10 02:19

Sample Name: MW 27  
 Lab Code: R1007081-008

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3800.D

Analysis Lot: 230379  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007081  
**Date Collected:** 12/16/10 1045  
**Date Received:** 12/16/10  
**Date Analyzed:** 12/28/10 02:19

**Sample Name:** MW 27  
**Lab Code:** R1007081-008

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3800.D

**Analysis Lot:** 230379  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	12/28/10 02:19	
Toluene-d8	100	87-121	12/28/10 02:19	
Dibromofluoromethane	102	89-119	12/28/10 02:19	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: 12/16/10 1050  
 Date Received: 12/16/10  
 Date Analyzed: 12/28/10 02:46

Sample Name: MW 27A  
 Lab Code: R1007081-009

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3801.D

Analysis Lot: 230379  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007081  
**Date Collected:** 12/16/10 1050  
**Date Received:** 12/16/10  
**Date Analyzed:** 12/28/10 02:46

**Sample Name:** MW 27A  
**Lab Code:** R1007081-009

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3801.D

**Analysis Lot:** 230379  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	12/28/10 02:46	
Toluene-d8	98	87-121	12/28/10 02:46	
Dibromofluoromethane	99	89-119	12/28/10 02:46	



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 12/27/10 11:45

Sample Name: Method Blank  
 Lab Code: RQ1011624-03

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3768.D

Analysis Lot: 230366  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007081  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 12/27/10 11:45

**Sample Name:** Method Blank  
**Lab Code:** RQ1011624-03

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3768.D

**Analysis Lot:** 230366  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	12/27/10 11:45	
Toluene-d8	98	87-121	12/27/10 11:45	
Dibromofluoromethane	100	89-119	12/27/10 11:45	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 12/27/10 23:35

Sample Name: Method Blank  
 Lab Code: RQ1011633-03

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3794.D

Analysis Lot: 230379  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 12/27/10 23:35

Sample Name: Method Blank  
 Lab Code: RQ1011633-03

Units: µg/L  
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3794.D

Analysis Lot: 230379  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	12/27/10 23:35	
Toluene-d8	101	87-121	12/27/10 23:35	
Dibromofluoromethane	102	89-119	12/27/10 23:35	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 12/29/10 10:27

Sample Name: Method Blank  
 Lab Code: RQ1011731-03

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: L3870.D

Analysis Lot: 230715  
 Instrument Name: R-MS-08  
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	5.0 U	5.0	
75-27-4	Bromodichloromethane	5.0 U	5.0	
75-25-2	Bromoform	5.0 U	5.0	
74-83-9	Bromomethane	5.0 U	5.0	
78-93-3	2-Butanone (MEK)	10 U	10	
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
75-34-3	1,1-Dichloroethane	5.0 U	5.0	
107-06-2	1,2-Dichloroethane	5.0 U	5.0	
75-35-4	1,1-Dichloroethene	5.0 U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0 U	5.0	
78-87-5	1,2-Dichloropropane	5.0 U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
591-78-6	2-Hexanone	10 U	10	
75-09-2	Methylene Chloride	5.0 U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	10	
100-42-5	Styrene	5.0 U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U	5.0	
127-18-4	Tetrachloroethene	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0 U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0 U	5.0	
79-01-6	Trichloroethene	5.0 U	5.0	
75-01-4	Vinyl Chloride	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Energy Solutions  
**Project:** Leica wells 12/10  
**Sample Matrix:** Water

**Service Request:** R1007081  
**Date Collected:** NA  
**Date Received:** NA  
**Date Analyzed:** 12/29/10 10:27

**Sample Name:** Method Blank  
**Lab Code:** RQ1011731-03

**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260C  
**Data File Name:** L3870.D

**Analysis Lot:** 230715  
**Instrument Name:** R-MS-08  
**Dilution Factor:** 1

CAS No.	Analyte Name	Result Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	12/29/10 10:27	
Toluene-d8	100	87-121	12/29/10 10:27	
Dibromofluoromethane	101	89-119	12/29/10 10:27	

## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Analyzed: 12/27/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L  
 Basis: NA

Analysis Lot: 230366

Lab Control Sample  
 RQ1011624-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Acetone	19.1	20.0	95	59 - 140
Benzene	19.2	20.0	96	78 - 121
Bromodichloromethane	19.9	20.0	99	80 - 125
Bromoform	19.8	20.0	99	73 - 132
Bromomethane	17.2	20.0	86	57 - 144
2-Butanone (MEK)	17.2	20.0	86	60 - 133
Carbon Disulfide	19.9	20.0	99	59 - 138
Carbon Tetrachloride	19.3	20.0	97	69 - 135
Chlorobenzene	19.1	20.0	95	80 - 121
Chloroethane	21.6	20.0	108	71 - 130
Chloroform	19.7	20.0	98	78 - 125
Chloromethane	21.7	20.0	109	62 - 133
Dibromochloromethane	20.5	20.0	102	78 - 133
1,1-Dichloroethane	20.7	20.0	103	76 - 122
1,2-Dichloroethane	20.0	20.0	100	78 - 126
1,1-Dichloroethene	19.7	20.0	98	72 - 129
cis-1,2-Dichloroethene	19.6	20.0	98	78 - 122
trans-1,2-Dichloroethene	19.3	20.0	96	75 - 121
1,2-Dichloropropane	19.4	20.0	97	80 - 123
cis-1,3-Dichloropropene	19.5	20.0	98	77 - 125
trans-1,3-Dichloropropene	19.8	20.0	99	69 - 127
Ethylbenzene	19.7	20.0	99	78 - 123
2-Hexanone	19.1	20.0	96	61 - 131
Methylene Chloride	19.9	20.0	99	75 - 125
4-Methyl-2-pentanone (MIBK)	19.0	20.0	95	61 - 132
Styrene	18.6	20.0	93	80 - 132
1,1,2,2-Tetrachloroethane	17.4	20.0	87	72 - 131
Tetrachloroethene	20.4	20.0	102	72 - 131
Toluene	20.0	20.0	100	78 - 122
1,1,1-Trichloroethane	18.7	20.0	94	72 - 128
1,1,2-Trichloroethane	19.9	20.0	100	80 - 122
Trichloroethene	19.1	20.0	96	74 - 127

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica wells 12/10  
Sample Matrix: Water

Service Request: R1007081  
Date Analyzed: 12/27/10

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 230366

Lab Control Sample  
RQ1011624-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	23.6	20.0	118	71 - 136
o-Xylene	19.6	20.0	98	79 - 126
m,p-Xylenes	39.7	40.0	99	79 - 126

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Analyzed: 12/27/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L  
 Basis: NA

Analysis Lot: 230379

Lab Control Sample  
 RQ1011633-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Acetone	20.0	20.0	100	59 - 140
Benzene	20.5	20.0	102	78 - 121
Bromodichloromethane	20.9	20.0	104	80 - 125
Bromoform	20.1	20.0	101	73 - 132
Bromomethane	18.8	20.0	94	57 - 144
2-Butanone (MEK)	18.5	20.0	93	60 - 133
Carbon Disulfide	19.6	20.0	98	59 - 138
Carbon Tetrachloride	20.0	20.0	100	69 - 135
Chlorobenzene	20.2	20.0	101	80 - 121
Chloroethane	22.4	20.0	112	71 - 130
Chloroform	20.4	20.0	102	78 - 125
Chloromethane	21.9	20.0	110	62 - 133
Dibromochloromethane	21.5	20.0	108	78 - 133
1,1-Dichloroethane	20.7	20.0	103	76 - 122
1,2-Dichloroethane	21.2	20.0	106	78 - 126
1,1-Dichloroethene	19.6	20.0	98	72 - 129
cis-1,2-Dichloroethene	20.5	20.0	102	78 - 122
trans-1,2-Dichloroethene	19.6	20.0	98	75 - 121
1,2-Dichloropropane	20.4	20.0	102	80 - 123
cis-1,3-Dichloropropene	20.0	20.0	100	77 - 125
trans-1,3-Dichloropropene	20.1	20.0	100	69 - 127
Ethylbenzene	20.8	20.0	104	78 - 123
2-Hexanone	19.5	20.0	98	61 - 131
Methylene Chloride	20.0	20.0	100	75 - 125
4-Methyl-2-pentanone (MIBK)	19.2	20.0	96	61 - 132
Styrene	19.4	20.0	97	80 - 132
1,1,2,2-Tetrachloroethane	18.6	20.0	93	72 - 131
Tetrachloroethene	21.3	20.0	106	72 - 131
Toluene	20.7	20.0	103	78 - 122
1,1,1-Trichloroethane	19.3	20.0	97	72 - 128
1,1,2-Trichloroethane	20.8	20.0	104	80 - 122
Trichloroethene	20.5	20.0	103	74 - 127

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica wells 12/10  
Sample Matrix: Water

Service Request: R1007081  
Date Analyzed: 12/27/10

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 230379

Lab Control Sample  
RQ1011633-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	24.5	20.0	122	71 - 136
o-Xylene	21.2	20.0	106	79 - 126
m,p-Xylenes	41.6	40.0	104	79 - 126

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica wells 12/10  
 Sample Matrix: Water

Service Request: R1007081  
 Date Analyzed: 12/29/10

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L  
 Basis: NA

Analysis Lot: 230715

Lab Control Sample  
 RQ1011731-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Acetone	18.4	20.0	92	59 - 140
Benzene	19.7	20.0	99	78 - 121
Bromodichloromethane	20.5	20.0	102	80 - 125
Bromoform	19.7	20.0	99	73 - 132
Bromomethane	19.0	20.0	95	57 - 144
2-Butanone (MEK)	17.6	20.0	88	60 - 133
Carbon Disulfide	20.0	20.0	100	59 - 138
Carbon Tetrachloride	19.6	20.0	98	69 - 135
Chlorobenzene	19.8	20.0	99	80 - 121
Chloroethane	21.8	20.0	109	71 - 130
Chloroform	19.6	20.0	98	78 - 125
Chloromethane	21.4	20.0	107	62 - 133
Dibromochloromethane	20.7	20.0	104	78 - 133
1,1-Dichloroethane	20.3	20.0	101	76 - 122
1,2-Dichloroethane	22.1	20.0	111	78 - 126
1,1-Dichloroethene	19.5	20.0	97	72 - 129
cis-1,2-Dichloroethene	20.0	20.0	100	78 - 122
trans-1,2-Dichloroethene	19.4	20.0	97	75 - 121
1,2-Dichloropropane	20.2	20.0	101	80 - 123
cis-1,3-Dichloropropene	19.9	20.0	100	77 - 125
trans-1,3-Dichloropropene	20.7	20.0	103	69 - 127
Ethylbenzene	20.7	20.0	104	78 - 123
2-Hexanone	19.9	20.0	100	61 - 131
Methylene Chloride	19.6	20.0	98	75 - 125
4-Methyl-2-pentanone (MIBK)	20.4	20.0	102	61 - 132
Styrene	19.5	20.0	98	80 - 132
1,1,2,2-Tetrachloroethane	18.5	20.0	93	72 - 131
Tetrachloroethene	20.3	20.0	102	72 - 131
Toluene	20.2	20.0	101	78 - 122
1,1,1-Trichloroethane	19.5	20.0	97	72 - 128
1,1,2-Trichloroethane	20.6	20.0	103	80 - 122
Trichloroethene	19.5	20.0	98	74 - 127

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica wells 12/10  
Sample Matrix: Water

Service Request: R1007081  
Date Analyzed: 12/29/10

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 230715

Lab Control Sample  
RQ1011731-04

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	23.0	20.0	115	71 - 136
o-Xylene	20.2	20.0	101	79 - 126
m,p-Xylenes	40.7	40.0	102	79 - 126

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

1 Mustard Street, Suite 250, Rochester, NY 14609 | 585.288.5380 | 800.695.7222 | 585.288.8475 (fax) PAGE 1 OF 1

SR #

CAS Contact

Project Name		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)		PRESERVATIVE	REMARKS/ ALTERNATE DESCRIPTION	
Report CC		Matrix		NUMBER OF CONTAINERS				
Project Manager	Bob McPeak	Company/Address	Energy Solutions 100 Mill Plain Rd. 2nd Floor Box 106 Danbury, CT 06811	FOR OFFICE USE ONLY	LAB ID	SAMPLING DATE	TIME	MATRIX
Phone #	801-303-1092	FAX #	203-797-8994	CLIENT SAMPLE ID				
Sampler's Signature	<i>Wayne Degolier</i>	Sampler's Printed Name	Wayne Degolier					
	MW 28		-001			12/15/10	15:00	H <sub>2</sub> O
	MW 25		-002			12/15/10	16:00	
	MW 25A		-003			12/15/10	16:10	
	MW 29A		-004			12/16/10	10:00	
	MW 28A		-005			12/16	10:15	
	MW 26		-006			12/16	10:30	
	MW 26A		-007			12/16	10:30	
	MW 27		-008			12/16	10:45	
	MW 27A		-009			12/16	10:50	

Project Name	Leica	Project Number	
Report CC	Bob McPeak	Matrix	
Company/Address	Energy Solutions 100 Mill Plain Rd. 2nd Floor Box 106 Danbury, CT 06811	FOR OFFICE USE ONLY	LAB ID
Phone #	801-303-1092	FAX #	203-797-8994
Sampler's Signature	<i>Wayne Degolier</i>	Sampler's Printed Name	Wayne Degolier
	MW 28		-001
	MW 25		-002
	MW 25A		-003
	MW 29A		-004
	MW 28A		-005
	MW 26		-006
	MW 26A		-007
	MW 27		-008
	MW 27A		-009

Project Name	Leica	Project Number	
Report CC	Bob McPeak	Matrix	
Company/Address	Energy Solutions 100 Mill Plain Rd. 2nd Floor Box 106 Danbury, CT 06811	FOR OFFICE USE ONLY	LAB ID
Phone #	801-303-1092	FAX #	203-797-8994
Sampler's Signature	<i>Wayne Degolier</i>	Sampler's Printed Name	Wayne Degolier
	MW 28		-001
	MW 25		-002
	MW 25A		-003
	MW 29A		-004
	MW 28A		-005
	MW 26		-006
	MW 26A		-007
	MW 27		-008
	MW 27A		-009

Project Name	Leica	Project Number	
Report CC	Bob McPeak	Matrix	
Company/Address	Energy Solutions 100 Mill Plain Rd. 2nd Floor Box 106 Danbury, CT 06811	FOR OFFICE USE ONLY	LAB ID
Phone #	801-303-1092	FAX #	203-797-8994
Sampler's Signature	<i>Wayne Degolier</i>	Sampler's Printed Name	Wayne Degolier
	MW 28		-001
	MW 25		-002
	MW 25A		-003
	MW 29A		-004
	MW 28A		-005
	MW 26		-006
	MW 26A		-007
	MW 27		-008
	MW 27A		-009

Project Name	Leica	Project Number	
Report CC	Bob McPeak	Matrix	
Company/Address	Energy Solutions 100 Mill Plain Rd. 2nd Floor Box 106 Danbury, CT 06811	FOR OFFICE USE ONLY	LAB ID
Phone #	801-303-1092	FAX #	203-797-8994
Sampler's Signature	<i>Wayne Degolier</i>	Sampler's Printed Name	Wayne Degolier
	MW 28		-001
	MW 25		-002
	MW 25A		-003
	MW 29A		-004
	MW 28A		-005
	MW 26		-006
	MW 26A		-007
	MW 27		-008
	MW 27A		-009

Project Name	Leica	Project Number	
Report CC	Bob McPeak	Matrix	
Company/Address	Energy Solutions 100 Mill Plain Rd. 2nd Floor Box 106 Danbury, CT 06811	FOR OFFICE USE ONLY	LAB ID
Phone #	801-303-1092	FAX #	203-797-8994
Sampler's Signature	<i>Wayne Degolier</i>	Sampler's Printed Name	Wayne Degolier
	MW 28		-001
	MW 25		-002
	MW 25A		-003
	MW 29A		-004
	MW 28A		-005
	MW 26		-006
	MW 26A		-007
	MW 27		-008
	MW 27A		-009

SPECIAL INSTRUCTIONS/COMMENTS

Metals

TURNAROUND REQUIREMENTS

RUSH (SURCHARGES APPLY)

24 hr \_\_\_\_\_ 48 hr \_\_\_\_\_ 5 day \_\_\_\_\_

STANDARD

REQUESTED FAX DATE

REQUESTED REPORT DATE

REPORT REQUIREMENTS

I. Results Only

II. Results + QC Summaries (LCS, DUP, MSMSD as required)

III. Results + QC and Calibration Summaries

IV. Data Validation Report with Raw Data

V. Specialized Forms / Custom Report

Edata  Yes  No

INVOICE INFORMATION

PO#

BILL TO:

See QAPP

SAMPLE RECEIPT: CONDITION/COOLER TEMP: 4.5°C

RECEIVED BY

Signature: *Wayne Degolier*

Printed Name: Wayne Degolier

Firm: EnviroSite

Date/Time: 12/16/10 12:00

CUSTODY SEALS  N

RECEIVED BY

Signature: *Wayne Degolier*

Printed Name: Wayne Degolier

Firm: EnviroSite

Date/Time: 12/16/10 15:08

RECEIVED BY

Signature: *Wayne Degolier*

Printed Name: Wayne Degolier

Firm: EnviroSite

Date/Time: 12/16/10 15:08

R1007081

Energy Solutions, Inc.

Leica



RELINQUISHED BY

Signature

Printed Name

Firm

Date/Time

### Cooler Receipt And Preservation Check Form

Project/Client Leica Folder Number R1007081

Cooler received on 12/16/10 by: SPW COURIER: GAS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant\* air bubbles? YES ~~NO~~ N/A
5. Were ~~ice~~ or Ice packs present? YES NO
6. Where did the bottles originate? GAS/ROC, CLIENT
7. Temperature of cooler(s) upon receipt: 45°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 12/16/10 / 1512

Thermometer ID: IR GUN#3 / IR ~~GUN#4~~ Reading From: Temp Blank / Sample Bottle

**If out of Temperature, note packing/ice condition, Client Approval to Run Samples:**

PC Secondary Review: KB 1/3/11

Cooler Breakdown: Date: 12/16/10 Time: 1620 by: cmk

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

pH	Reagent			Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
		YES	NO						
≥12	NaOH								
≤2	HNO <sub>3</sub>								
≤2	H <sub>2</sub> SO <sub>4</sub>								
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	-						
	Zn Aceta	-	-						
	HCl	*	*	<u>4110020</u>	<u>11/11</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

\*Not to be tested before analysis -- pH tested and recorded by VOAs or GenChem on a separate worksheet

PM OK to Adjust:

Bottle lot numbers: 0-235-003

Other Comments: \_\_\_\_\_

PC Secondary Review: KB 1/3/11

\*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

**APPENDIX D**

**Boring Logs & Well Completion Details**

---

**Project No.:** 137015

**Project:** Leica

**Client:** Leica Microsystems

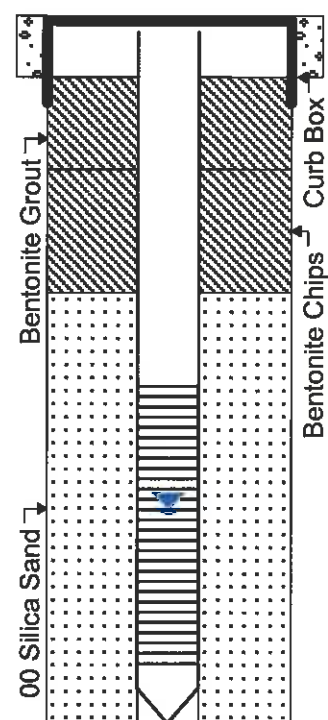
**Location:** Cheektowaga, New York

**Borehole: MW-27**

**Geologist:** P. Martell

**Project Manager:** R. McPeak

**Sheet 1 of 1**

SUBSURFACE PROFILE			SAMPLE					Well Completion Details
Depth	Symbol	Description	Blow Counts	Number	Type	Recovery	Vapor	
0		Ground Surface						
		Topsoil						
		SAND and SILT, F, some clay						
2		SILT, brown to tan, some clay, tr fine sand, little F rounded gravel		1		48	0 PPM	
4		CLAY, dark gray, little silt						
		SILT and CLAY, brown, little F rounded gravel, wet at 8'		2		48	0 ppm	
8		CLAY, gray green and silt, wet						
		SILT, gray-graybrown, some F sand, little clay		3		42	0 ppm	
10		SAND, gray, fine, some silt, tr clay						
12		Auger Refusal on Bedrock at 11.5 feet						
14								
16								
18								
20								

**Drilled By:** Nothnagle Drilling

**Drill Method:** Hollow Stem Augers

**Hole Size:** 8"

**Drill Date:** May 10-11, 2010





**Borehole: MW-27A**

**Project No.:** 137015

**Project:** Leica

**Geologist:** P. Martell

**Client:** Leica Microsystems

**Project Manager:** R. McPeak

**Location:** Cheektowaga, New York

**Sheet** 1 of 2

SUBSURFACE PROFILE			SAMPLE				Well Completion Details	
Depth	Symbol	Description	Core Run	Recovery %	RQD	PID Reading (ppm)		
0		Ground Surface					<p>Curb Box</p>	
2		For unconsolidated materials, see log for MW-27						
4								
6								
8								
10								
12			4" casing set in rock socket (11.5'-15')					
14			NX Core Beginning at 15'					
16			LIMESTONE: (Onondaga Formation, Morehouse Member): light gray to gray, fine grained, massively bedded, little coral, fossils, carbonaceous partings, abundant stylolites, tr chert. 15.0' weathered at top (possible rubble) 15.7' rugose coral, calcite lined open vugs below stylolite 15.8'-15.9' coral, fossil fragments, small stylolite 16.0' Parting at stylolite, chert nodules 16.3', 16.7', 17.0', 17.1' stylolites 17.1' small chert nodules					
18			18.3'-18.4' small, near vertical fracture, filled with calcite ~75° 18.5'-18.6' healed fracture ~75°					
20			19.0'-20.2' stylolite parting at carboniferous material, tr corals and fossils	1	100	94		0
								Open bedrock, 15' to 35' --
<b>Drilled By:</b> Nothnagle Drilling <b>Drill Method:</b> Hollow Stem Auger/Coring			<b>Hole Size:</b> 8" <b>Drill Date:</b> May 10-11, 2010					



**Borehole: MW-27A**

**Project No.:** 137015

**Project:** Leica

**Geologist:** P. Martell

**Client:** Leica Microsystems

**Project Manager:** R. McPeak

**Location:** Cheektowaga, New York

**Sheet 2 of 2**

SUBSURFACE PROFILE			SAMPLE				Well Completion Details	
Depth	Symbol	Description	Core Run	Recovery %	RQD	PID Reading (ppm)		
20.3'-20.4'		stylolites, dark banding, possibly disturbed layer					Open bedrock, 15' to 35' -	
21.0'		mechanical break, clean surfaces						
21.4'		parting at stylolite						
21.8'-22.5'		disturbed layers, slightly fossiliferous, dark color, breaks at carboniferous stylolites, slightly weathered						
22.7'-23.7'		fracture, very slightly weathered surface, small 2" vertical calcite filled vug						
23.1'-23.3'		fan corals						
24.0'		stylolite						
24.5'-24.8'		corals, stylolite parting on carbonaceous seam						
25.5'		carbonaceous parting at stylolite						
26.2'		stylolite						
26.2'-26.4'		dark gray, disturbed, tr fossils, stylolites						
27.0'		parting on carbonaceous stylolite, tr fossils						
27.0'-27.4'		dark gray, carbonaceous, stylolites, possible small fracture						
27.4', 27.6', 28.2', 29.4'		stylolites						
30.0'			2	100	93	0		
29.4'-31.2'		massive bedding, fan coral @ 30.5'						
31.2'-31.6'		disturbed bedding, gray, very fossiliferous						
32.5'-32.7'		corals						
32.9'-33.4'		stylolites, fossiliferous, small dark gray chert nodules						
33.0'-33.7'		fractures, ~70°, slightly weathered						
34.8'		stylolite						
35.0'		End of core at 35'						
36.0'								
38.0'								
40.0'								

**Drilled By:** Nothnagle Drilling

**Hole Size:** 8"

**Drill Method:** Hollow Stem Auger/Coring

**Drill Date:** May 10-11, 2010

**Project No.:** 137015

**Project:** Leica

**Client:** Leica Microsystems

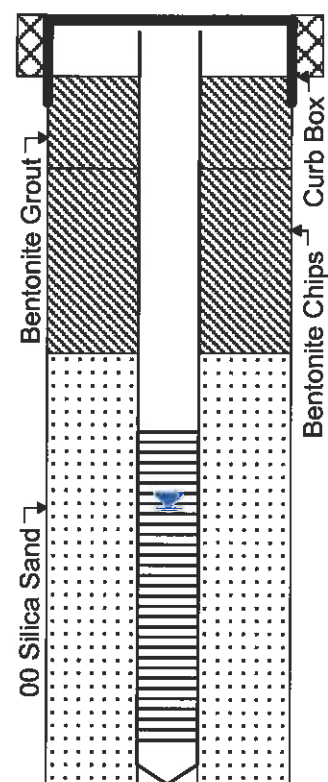
**Location:** Cheektowaga, New York

**Borehole: MW-28**

**Geologist:** P. Martell

**Project Manager:** R. McPeak

**Sheet** 1 of 1

SUBSURFACE PROFILE			SAMPLE				Well Completion Details	
Depth	Symbol	Description	Blow Counts	Number	Type	Recovery		Vapor
0		Ground Surface						
		Topsoil						
		SAND and SILT, brown, F, some clay						
2		SILT, dark brown, some clay, little vf sand, tr vf rounded gravel		1		48	0 PPM	
		SILT and CLAY, brown to redbrown, tr vf sand						
4								
6				2		48	0 ppm	
8		SILT and CLAY, brown to graybrown, tr vf rounded gravel, wet at 8'						
		SILT, gray, some clay, tr vf sand, wet						
10				3		48	0 ppm	
12		SAND, gray, vf-f, some silt, tr fine rounded gravel		4		3	0 ppm	
12.5		Auger Refusal on Bedrock at 12.5 feet						
14								
16								
18								
20								

**Drilled By:** Nothnagle Drilling

**Drill Method:** Hollow Stem Augers

**Hole Size:** 8"

**Drill Date:** May 11, 2010



**Borehole: MW-28A**

**Project No.:** 137015

**Project:** Leica

**Geologist:** P. Martell

**Client:** Leica Microsystems

**Project Manager:** R. McPeak

**Location:** Cheektowaga, New York

**Sheet** 1 of 2

SUBSURFACE PROFILE			SAMPLE				Well Completion Details
Depth	Symbol	Description	Core Run	Recovery %	RQD	PID Reading (ppm)	
0		Ground Surface					<p>Curb Box</p> <p>Open borehole 15' to 35' -</p>
2		For unconsolidated materials, see log for MW-28					
4							
6							
8							
10							
12							
12.5		4" casing set in rock socket (12.5'-15')					
14		NX Core Beginning at 15'					
15		LIMESTONE: (Onondoga Formation, Morehouse Member): light gray to gray, fine grained, mostly massively bedded, little to some coral, fossiliferous in portions, occasionally carbonaceous on partings, abundant stylolites, little chert. 15.0'-16.4' Near vertical fracture massive limestone, weathered slightly, stylolite at 15.9'					
16							
18		18.6' stylolites					
		19.2'-19.8' Fracture at 60°, slightly weathered					
20		19.9' stylolite	1	100	95	0	

**Drilled By:** Nothnagle Drilling

**Hole Size:** 8"

**Drill Method:** Hollow Stem Auger/Coring

**Drill Date:** May 11-12, 2010



**Borehole: MW-28A**

**Project No.:** 137015  
**Project:** Leica  
**Client:** Leica Microsystems  
**Location:** Cheektowaga, New York

**Geologist:** P. Martell  
**Project Manager:** R. McPeak  
**Sheet 2 of 2**

SUBSURFACE PROFILE			SAMPLE				Well Completion Details
Depth	Symbol	Description	Core Run	Recovery %	RQD	PID Reading (ppm)	
22		21.3' Vug at 60-70° 21.4-21.6' Fossiliferous, brachiopod fragments 22.2', 23.0', 23.5' stylolites 23.5'-23.7' chert nodule 24.2'-24.3' small vertical fractures, healed, filled w/white mineral (calcite?)					Open borehole 15' to 35' -
24		25.0'-26.0' fossiliferous					
26		26.3'-26.4' coral w/vugs 26.3'-26.8' fossiliferous 27.2' small corals 27.2'-27.6 fossiliferous					
28		28.5'-29.1' disturbed bedding, some fossils, dk gray, parting on carbonaceous area					
30		29.5' corals	2	100	95	0	
32		31.1'-31.4' fossils, stylolites, parting at stylolite 32.5'-32.7' numerous small, near vertical healed fractures					
34		33.1'-33.6' numerous stylolites 34.0'-34.5' fossiliferous					
36		End of Boring at 35'					
38							
40							

**Drilled By:** Nothnagle Drilling  
**Drill Method:** Hollow Stem Auger/Coring

**Hole Size:** 8"  
**Drill Date:** May 11-12, 2010



**Project No.:** 137015

**Project:** Leica

**Client:** Leica Microsystems

**Location:** Cheektowaga, New York

**Borehole: B-29**

**Geologist:** P. Martell

**Project Manager:** R. McPeak

**Sheet** 1 of 1

SUBSURFACE PROFILE			SAMPLE					Well Completion Details
Depth	Symbol	Description	Blow Counts	Number	Type	Recovery	Vapor	
0		Ground Surface						No well installed. Boring for bedrock well MW-29A -
0		<b>Topsoil</b>						
2		<b>SILT</b> and <b>CLAY</b> , light brown, tree roots at 4.5'-5.0', limestone cobble at 3.5' w/small limestone fragments below.		1		48	0	
6		<b>CLAY</b> , gray, stiff		2		48	0	
6		<b>CLAY</b> , some silt, light brown, stiff, tr VF sand						
8		<b>SILT</b> , gray green/lt brown mottled, some clay, little F sand, tr VF rounded gravel						
8		<b>SILT</b> , brown, and VF <b>SAND</b> , wet at 7.5', tr clay						
10		<b>SAND</b> , VF, and <b>SILT</b> , gray, limestone cobble at 10.2', abundant limestone cobbles and fragments to 12'.		3		48	0	
14		<b>TILL</b> , gray, hard, dense sand, silt and clay		4		48	0	
16				5		12	0	
18		<b>Auger Refusal on Bedrock at 17 feet.</b>						
20								

**Drilled By:** Nothnagle Drilling

**Drill Method:** Hollow Stem Augers

**Hole Size:** 8"

**Drill Date:** May 10, 2010



**Borehole: MW-29A**

**Project No.:** 137015

**Project:** Leica

**Client:** Leica Microsystems

**Location:** Cheektowaga, New York

**Geologist:** P. Martell

**Project Manager:** R. McPeak

**Sheet** 1 of 2

SUBSURFACE PROFILE			SAMPLE				Well Completion Details	
Depth	Symbol	Description	Core Run	Recovery %	RQD	PID Reading (ppm)		
0		Ground Surface					<p>Curb Box</p>	
2		For unconsolidated materials, see log for B-29						
4								
6								
8								
10								
12								
14								
16								
18			4' casing set in rock socket (17'-20')					
20			NX Core Beginning at 20'					

**Drilled By:** Nothnagle Drilling

**Drill Method:** Hollow Stem Auger/Coring

**Hole Size:** 8"

**Drill Date:** May 10 & 12, 2010



**Borehole: MW-29A**

**Project No.:** 137015

**Project:** Leica

**Geologist:** P. Martell

**Client:** Leica Microsystems

**Project Manager:** R. McPeak

**Location:** Cheektowaga, New York

**Sheet 2 of 2**

SUBSURFACE PROFILE			SAMPLE				Well Completion Details
Depth	Symbol	Description	Core Run	Recovery %	RQD	PID Reading (ppm)	
22		<b>LIMESTONE:</b> (Onondoga Formation, Morehouse Member); light gray to gray, fine to massively bedded, fossiliferous in part, little coral, carbonaceous partings, abundant stylolites, little chert 20.0'-21.0' fossiliferous, coral w/some open vugs 21.5'-21.9' fossiliferous  20.3', 21.1', 21.8', 22.9', 23.0' stylolites 22.5' slightly weathered on bedding plane/parting  23.6'-25.0' dark gray, more carbonaceous, vf bedding, vug filled w/calcite crystals, vertical worm burrows at 23.6'-24.1'  25.0'-25.5' dark gray, argillaceous, chert nodule 25.5' stylolite 25.8' large fan coral, fossils  26.3'-27.0' dark gray, argillaceous, some chert 27.6' stylolite  28.0'-28.5' fossiliferous 28.5' stylolite, carbonaceous parting  29.1'-29.7' stylolites  30.5'-30.6' fossils, disturbed, dark gray and argillaceous, partings at top and bottom, weathered  30.7'-31.7' massive coral, porous, oil odor, heavily petroleum stained  31.9'-32.0' large open vugs, small chert nodule  32.9' small corals, carbonaceous partings  33.9' corals, small vugs, carbonaceous partings  34.0'-34.3' fossiliferous, stylolite parting, slightly weathered  35.1' stylolites 35.6'-35.7' slightly carbonaceous, partings  36.5' open fracture, weathered  37.6' stylolite, small chert nodules  38.4' stylolite, carbonaceous parting  38.9' small healed fracture, carbonaceous, massive limestone  End of boring at 40'	1	100	91	0	Open borehole, 20' to 40' -
24							
26							
28							
30							
32						3.4	
34							
36			2	100	94	0	
38							
40							

**Drilled By:** Nothnagle Drilling

**Hole Size:** 8"

**Drill Method:** Hollow Stem Auger/Coring

**Drill Date:** May 10 & 12, 2010





Enclosure 1  
**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**Site Management Periodic Review Report Notice**  
**Institutional and Engineering Controls Certification Form**



	Site Details	Box 1	
<b>Site No.</b>	<b>915156</b>		
<b>Site Name</b> Leica, Inc.			
Site Address: Eggert and Sugar Roads		Zip Code: 14215	
City/Town: Cheektowaga			
County: Erie			
Site Acreage: 24.1			
Reporting Period: April 14, 2010 to April 14, 2011			
		YES	NO
1.	Is the information above correct?	<input type="checkbox"/>	<input type="checkbox"/>
	If NO, include handwritten above or on a separate sheet.		
2.	Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	<input type="checkbox"/>	<input type="checkbox"/>
3.	Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	<input type="checkbox"/>	<input type="checkbox"/>
4.	Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	<input type="checkbox"/>	<input type="checkbox"/>
	<b>If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.</b>		
5.	Is the site currently undergoing development?	<input type="checkbox"/>	<input type="checkbox"/>
		<b>Box 2</b>	
		YES	NO
6.	Is the current site use consistent with the use(s) listed below? Industrial	<input type="checkbox"/>	<input type="checkbox"/>
7.	Are all ICs/ECs in place and functioning as designed?	<input type="checkbox"/>	<input type="checkbox"/>
<b>IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM.</b>			
<b>A Corrective Measures Work Plan must be submitted along with this form to address these issues.</b>			
Signature of Owner, Remedial Party or Designated Representative		Date	

**Description of Institutional Controls**

<u>Parcel</u>	<u>Owner</u>	<u>Institutional Control</u>
91.00-1-26.12	Calypso Development	Ground Water Use Restriction Monitoring Plan O&M Plan
91.00-1-26.11	Leica, Inc.	Ground Water Use Restriction Monitoring Plan O&M Plan

**Description of Engineering Controls**

<u>Parcel</u>	<u>Engineering Control</u>
91.00-1-26.12	Alternate Water Supply Fencing/Access Control Pump & Treat
91.00-1-26.11	Alternate Water Supply Fencing/Access Control Pump & Treat

**Control Description for Site No. 915156****Parcel: 91.00-1-26.11**

As per ROD - March 1997, there will be:

- 1) OM&M of Groundwater extraction by Dual Vacuum Extraction System.
- 2) Groundwater Monitoring
- 3) Prohibition of use of groundwater

**Parcel: 91.00-1-26.12**

As per ROD - March 1997, there will be:

- 1) OM&M of Groundwater extraction by Dual Vacuum Extraction System.
- 2) Groundwater Monitoring
- 3) Prohibition of use of groundwater

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

\_\_\_\_\_  
Signature of Owner, Remedial Party or Designated Representative

\_\_\_\_\_  
Date

**IC CERTIFICATIONS  
SITE NO. 915156**

**Box 6**

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 2 and/or 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I \_\_\_\_\_ at \_\_\_\_\_,  
print name print business address

am certifying as \_\_\_\_\_ (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

\_\_\_\_\_  
Signature of Owner or Remedial Party Rendering Certification

\_\_\_\_\_  
Date

**IC/EC CERTIFICATIONS**

**Box 7**

**Professional Engineer Signature**

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I \_\_\_\_\_ at \_\_\_\_\_,  
print name print business address

am certifying as a Professional Engineer for the \_\_\_\_\_  
(Owner or Remedial Party)

\_\_\_\_\_  
Signature of Professional Engineer, for the Owner or  
Remedial Party, Rendering Certification

\_\_\_\_\_  
Stamp  
(Required for PE)

\_\_\_\_\_  
Date

## Enclosure 2

### Certification Instructions

#### I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

#### II. Certification of Institutional / Engineering Controls (Boxes 3, 4, and 5)

1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

#### III. IC/EC Certification by Signature (Box 6 and Box 7):

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- Where the only control is an Institutional Control on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner.
- Where the site has Institutional and Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
Site Management Periodic Review Report Notice  
Institutional and Engineering Controls Certification Form



Site Details		Box 1	
Site No.	915156		
Site Name Leica, Inc.			
Site Address: Eggert and Sugar Roads		Zip Code: 14215	
City/Town: Cheektowaga			
County: Erie			
Site Acreage: 24.1			
Reporting Period: April 14, 2010 to April 14, 2011			
		YES	NO
1.	Is the information above correct?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	If NO, include handwritten above or on a separate sheet.		
2.	Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.	Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.	Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<b>If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.</b>		
5.	Is the site currently undergoing development?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<b>Box 2</b>	
		YES	NO
6.	Is the current site use consistent with the use(s) listed below? Industrial	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7.	Are all ICs/ECs in place and functioning as designed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM.</b>			
A Corrective Measures Work Plan must be submitted along with this form to address these issues.			
<i>Carl A. Probinli</i>			
Signature of Owner, Remedial Party or Designated Representative		Date	
		4/18/11	

**Description of Institutional Controls**

<u>Parcel</u>	<u>Owner</u>	<u>Institutional Control</u>
91.00-1-26.12	Calypso Development	Ground Water Use Restriction Monitoring Plan O&M Plan
91.00-1-26.11	Leica, Inc.	Ground Water Use Restriction Monitoring Plan O&M Plan

**Description of Engineering Controls**

<u>Parcel</u>	<u>Engineering Control</u>
91.00-1-26.12	Alternate Water Supply Fencing/Access Control Pump & Treat
91.00-1-26.11	Alternate Water Supply Fencing/Access Control Pump & Treat

**Control Description for Site No. 915156**

**Parcel: 91.00-1-26.11**

As per ROD - March 1997, there will be:

- 1) OM&M of Groundwater extraction by Dual Vacuum Extraction System.
- 2) Groundwater Monitoring
- 3) Prohibition of use of groundwater

**Parcel: 91.00-1-26.12**

As per ROD - March 1997, there will be:

- 1) OM&M of Groundwater extraction by Dual Vacuum Extraction System.
- 2) Groundwater Monitoring
- 3) Prohibition of use of groundwater

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and  
DO NOT COMPLETE THE REST OF THIS FORM.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

*Carl D. Galimuliev*

Signature of Owner, Remedial Party or Designated Representative

4/18/11

Date



**IC CERTIFICATIONS  
SITE NO. 915156**

**Box 6**

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 2 and/or 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I \_\_\_\_\_ at \_\_\_\_\_  
print name print business address

am certifying as \_\_\_\_\_ (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

\_\_\_\_\_  
Signature of Owner or Remedial Party Rendering Certification

\_\_\_\_\_  
Date

**IC/EC CERTIFICATIONS**

**Box 7**

**Professional Engineer Signature**

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I \_\_\_\_\_ at \_\_\_\_\_  
print name print business address

am certifying as a Professional Engineer for the \_\_\_\_\_  
(Owner or Remedial Party)

\_\_\_\_\_  
Signature of Professional Engineer, for the Owner or  
Remedial Party, Rendering Certification

\_\_\_\_\_  
Stamp  
(Required for PE)

\_\_\_\_\_  
Date

## Enclosure 2

### Certification Instructions

#### I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

#### II. Certification of Institutional / Engineering Controls (Boxes 3, 4, and 5)

1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

#### III. IC/EC Certification by Signature (Box 6 and Box 7):

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- Where the only control is an Institutional Control on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner.
- Where the site has Institutional and Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.



June 10, 2011  
Ref. No. 31129-091

Mr. Jaspal Walia, P.E.  
Project Manager  
New York State Department of Environmental Conservation, Region 9  
270 Michigan Avenue  
Buffalo, NY 14203-2999

Subject: Corrective Measures Work Plan  
Leica Facility  
Cheektowaga, New York  
Inactive Hazardous Waste Disposal Site No. 915156

Dear Mr. Walia:

EnergySolutions has been retained by Leica, Inc. to provide engineering certification of the Institutional and Engineering Controls in place for the above-referenced site for the New York State Department of Environmental Conservation's (NYSDEC) annual Site Management Periodic Review Report Notice. This document represents the "Corrective Measures Work Plan" as required by the negative declaration to Question 7 in Box 2, and Question 2 in Box 5, of the Institutional and Engineering Controls Certification Form.

In accordance with the NYSDEC's DER-33 "Institutional Controls," Leica, Inc. will work with you as the NYSDEC's Project Manager relative to selection of the appropriate deed restriction template for groundwater use restriction. Leica, Inc. will fill in the blanks on the template and obtain, among other things, a survey and appropriate description. EnergySolutions is in the process of having the property surveyed in accordance with the DER-33 guidelines. Leica, Inc. has retained legal counsel licensed in the State of New York who will work with the title company retained by the NYSDEC to finalize the deed restriction. Leica, Inc. will then forward the deed restriction to the current property owner for execution, and will then file the deed restriction in the office of the County Clerk.

If you have any questions, please feel free to call me at 801.303.1092.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert E. McPeak, Jr.", is positioned above the typed name.

Robert E. McPeak, Jr., P.E., LEP  
Project Manager, Environmental Services

REM/lhc

cc: M. Desmond, Esq., NYSDEC  
J. Egan  
C. Grabinski  
D. Zamelis, Esq.



July 8, 2011  
Ref. No. 31129-096

Mr. Jaspal Walia  
Project Manager  
New York State Department of Environmental Conservation, Region 9  
270 Michigan Avenue  
Buffalo, NY 14203-2999

**Subject: Addendum to 2010 Annual Status Report  
Leica, Inc. Site; Erie County, Cheektowaga, NY  
Inactive Hazardous Waste Disposal Site No. 915156**

Dear Mr. Walia:

As requested in our conversation of June 23, 2011, please find an Addendum to the 2010 Annual Status Report forwarded to you on June 10, 2011. This Addendum outlines EnergySolutions' activities, on behalf of our client Leica, Inc., regarding the operations of the on-site groundwater treatment system.

To address the contaminated bedrock aquifer, one well pump was installed in each of the two bedrock wells, MW-11A on July 12, 1999, and MW-16A on April 7, 1999. Each bedrock well is 6 inches in diameter and was completed to a total depth of approximately 40 feet below grade. Bedrock was encountered at 13.5 feet in MW-11A, and at 12.5 feet in MW-16A. The pumps installed in MW-11A and MW-16A are each set at approximately 28 feet below grade.

Pneumatic pumps were installed in each well and each with a design capacity of removing 7 to 10 gallons per minute of groundwater from the bedrock aquifer. An air injection compressor supplies compressed air to the pneumatic pumps. Treatment was conducted by a multi-stage diffuser (MSD) designed to remove contaminants from groundwater prior to discharge into the local sanitary sewer. The air discharge from the MSD was treated using activated carbon and was monitored quarterly to gauge its performance. A sketch of the groundwater system layout is included as Attachment A. A copy of the Permit allowing discharge to the Buffalo sewer system is included as Attachment B.

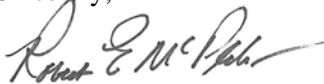
The system is designed to run continuously (excluding periods when undergoing repairs, as required) until the Remedial Action Objectives (RAOs), or other criteria, approved by the NYSDEC, have been met. System and equipment maintenance is routinely performed in accordance with manufacturers' recommendations.

Water discharge system samples are collected and analyzed quarterly to assess the system's performance and to provide data to the Buffalo Sewer Authority. The samples are run for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and Total Oil and Grease. Air monitoring for VOCs and meter readings are logged at each sampling event and are provided to the Buffalo Sewer Authority on a quarterly basis.

During 2010 the pumping system ran throughout the year with only minor down time for maintenance. The system pumped a total of 4,373,915 gallons during 2010. A summary of the flow for 2010 is included in Table 1. A flow rate of approximately 13 gallons per minute has been observed over time, and is considered the average pumping rate. Based on the average pumping rate and minimal anticipated downtime for repairs, approximately 4 to 6 million gallons of water are expected to be treated in 2011.

The above information will be incorporated, and updated as appropriate, in future Annual Reports. If you have any questions, please feel free to call me at 801-303-1092.

Sincerely,



Robert E. McPeak, Jr., P.E., LEP  
Project Manager, Environmental Services

REM/lhc

Attachments

cc: J. Egan

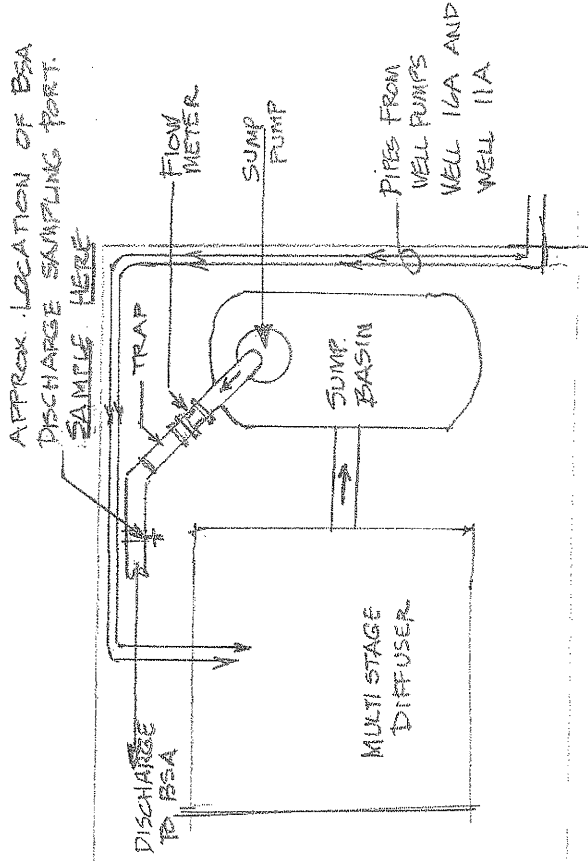
C. Grabinski



**Attachment A**

**Treatment System Layout**

PROPERTY FENCE (CHAIN LINK)



MISC. EQUIPMENT NOT CURRENTLY IN USE

DOORS

TRAILERS



**Attachment B**

**Discharge Permit to the Buffalo Sewer System**





ADMINISTRATIVE OFFICES  
1038 CITY HALL  
65 NIAGARA SQUARE  
BUFFALO, NY 14202-3378  
PHONE: (716) 851-4664  
FAX: (716) 856-5810

WASTEWATER TREATMENT PLANT  
FOOT OF WEST FERRY  
90 WEST FERRY STREET  
BUFFALO, NY 14213-1799  
PHONE: (716) 883-1820

January 31, 2007

Al Szklany  
Controller  
Leica, Inc.  
3364 Walden Ave.  
Depew, New York 14043



RE: TC/B.P.D.E.S. Permit #07-01-CH014

Dear Mr. Szklany:

Enclosed is your new TC/BPDES Permit #07-01-CH014. This permit is jointly issued by the BSA and the Town of Cheektowaga and replaces all prior permits to discharge process wastes to the sanitary sewers.

This original permit must be maintained at your Eggert Rd. Remediation Site facility and must be available for inspection at all times. It is your responsibility to assure continual compliance with the terms and conditions of this permit. Finally, you must apply for renewal at least six months before this permit expires.

If you have any questions, please call James L. Kruszka at 883-18<sup>2</sup>30 ext. 256.

Very truly yours,

BUFALO SEWER AUTHORITY

Leslie Sedita  
Industrial Waste Administrator

LS:bs

Enc.

cc: James Keller

William Pugh (with permit)

Robert McPeak, Energy Solutions

FILE:L\WPDOCS\LS\PERMITS\LEICAREMEDIATIONSITEFINALPERMITTOVENDOR.DOC  
CERTIFIED:70060810000501907015

**AUTHORIZATION TO DISCHARGE UNDER THE TOWN OF CHEEKTOWAGA/  
BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM**

PERMIT NO. 07-01-CH014  
EPA 40CFR 403

In accordance with the provisions of the Federal Water Pollution Control Act, as amended, and the Sewer Regulations of the Buffalo Sewer Authority and the Town of Cheektowaga Sewer Use Ordinance authorization is hereby granted to:

**Leica, Inc**

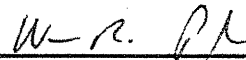
to discharge wastewater from a facility located at:

**203 Eggert Road, Cheektowaga, New York 14225**

to the Town of Cheektowaga and the Buffalo Municipal Sewer System.

Issuance of this permit is based upon a permit application filed on **November 27, 2006** and analytical data. This permit is granted in accordance with discharge limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

Effective this 1<sup>st</sup> day of February, 2007  
To Expire the 31<sup>st</sup> day of January, 2010



Town Engineer, Town of Cheektowaga

Signed this 23<sup>rd</sup> day of JANUARY, 2007



General Manager, Buffalo Sewer Authority

Signed this 23<sup>rd</sup> day of January, 2007

## PART I: SPECIFIC CONDITIONS

### A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

During the period beginning the effective date of this permit and lasting until the expiration date, discharge from the permitted facility outfall (see attached map) shall be limited and monitored **monthly** by the permittee as specified below:

Sample Point	Parameter	Discharge Limitations	Sampling Requirements	
		(mg/L except pH) Daily Max	Period	Type
001	pH	5.0 – 12.0 S.U.	1 day	Composite
	Total Extractable			
	Hydrocarbons	100	1 day	Composite
	EPA Test Method 624	No Limit <sup>(1)</sup>	1 day	Grab <sup>(2)</sup>
	EPA Test Method 625	No Limit <sup>(1)</sup>	1 day	Grab <sup>(2)</sup>
	Total Daily Flow	10,100 gallons	1 day	Discharge flow meter readings <sup>(3)</sup>

1. The permittee must report any compound whose concentration is greater than 0.01 mg/L. The permittee is not authorized to discharge any of the parameters evaluated by this test procedure, which may cause or contribute to a violation of water quality standards or harm the sewerage system. Any parameter detected may, at the discretion of the Buffalo Sewer Authority or the Town of Cheektowaga be specifically limited and incorporated into this permit.
2. Four grab samples must be collected at equally spaced intervals through out the discharge day. The four grab samples must be composited by a NYSDOH certified laboratory prior to analysis.
3. The discharge flow meter must be calibrated annually by a factory certified technician. A copy of the most recent certificate of calibration must be submitted with each monitoring report.

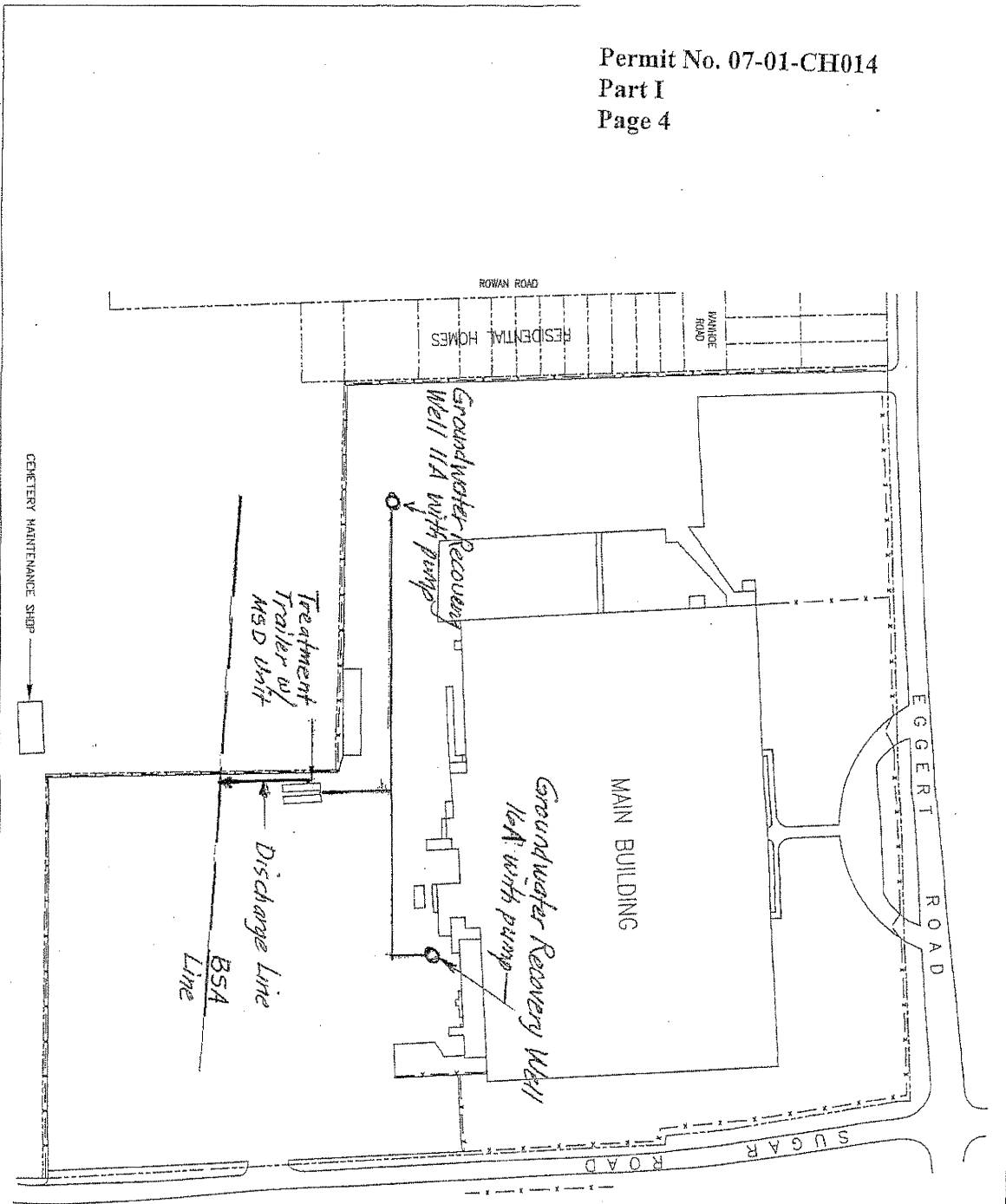
**PART I: SPECIFIC CONDITIONS**

**B. DISCHARGE MONITORING REPORTING REQUIREMENTS**

During the period beginning the effective date of this permit and lasting until the expiration date, discharge monitoring results shall be summarized and reported by the permittee on the days specified below:

Sample Point	Parameter	Reporting Requirements	
		Initial Report	Subsequent Reports*
001	All Parameters	March 31, 2007	Every June 30 <sup>th</sup> , Sept. 30 <sup>th</sup> , Dec. 31 <sup>st</sup> and March 31 <sup>st</sup>

\* If any monitoring report shows a violation of any BSA pollutant limit, the permittee shall immediately commence monitoring on a monthly basis. Reports will then be due on the last day of each month, for the previous month's samples. (eg. Report on samples collected in Jan. must be submitted by the last day of Feb). When the permittee shows consisted compliance with all BSA pollutant limits, the permittee may request a return to quarterly monitoring. Such permission will not be unreasonably withheld.



LEGEND
PROPERTY LINE
FENCE

PROJECT NO.	3948-100
DATE	11/29/05
SCALE	1/2" = 70'
BY	DT
CHECKED BY	RM
DATE	11/29/05
PROJECT NO.	3948-100
DATE	11/29/05
SCALE	1/2" = 70'
BY	DT
CHECKED BY	RM
DATE	11/29/05

**SCIENTECH**  
 THE REGISTRY  
 NEW HAVEN, CT 06716  
 (860) 210-3000

**LEICA INC.**  
 EGGERT & SUGAR ROADS  
 CHEEKTOWAGA, NEW YORK

DOCUMENT CONTROL NO.	
REVISION NO.	
PROJECT	EGGERT & SUGAR ROADS
DRAWING	SITE PLAN

TOWN OF CHEEKTOWAGA/BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM  
PERMIT

**PART II GENERAL CONDITIONS**

**A. MONITORING AND REPORTING**

**1. Local Limits**

Except as otherwise specified in this permit, the permit holder shall comply with all specific prohibitions, limits on pollutants or pollutant parameters set forth in the Buffalo Sewer Authority Sewer Use Regulations, as amended from time to time, and such prohibitions, limits and parameters shall be deemed pretreatment standards for purposes of the Clean Water Act

**2. Definitions**

Definitions of terms contained in this permit are as defined in the Town of Cheektowaga Local Law No. 2 and the Buffalo Sewer Authority Sewer Use Regulations.

**3. Discharge Sampling Analysis**

All Wastewater discharge samples and analyses and flow measurements shall be representative of the volume and character of the monitored discharge. Methods employed for flow measurements and sample collections and analyses shall conform to the Buffalo Sewer Authority "Sampling Measurement and Analytical Guidelines Sheet."

**4. Recording of Results**

For each measurement or sample taken pursuant to the requirements of the permit, the Permittee shall record the information as required in the "Sampling Measurement and Analytical Guidelines Sheet."

**5. Additional Monitoring by Permittee**

If the Permittee monitors any pollutants at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in 40 CFR Part 136 the results of such monitoring shall be included in the calculation and reporting of values required under Part I, B. Such increased frequency shall also be indicated.

**6. Reporting**

All reports prepared in accordance with this Permit shall be submitted to:

**Mr. William Pugh, P.E.**  
Town Engineer  
275 Alexander Ave.  
Cheektowaga, New York, 14211

All self-monitoring reports shall be prepared in accordance with the BSA "Sampling Measurement and Analytical Guidelines Sheet." These reporting requirements shall not relieve the Permittee of any other reports, which may be required by the

N.Y.S.D.E.C. or the U.S.E.P.A.

**B. PERMITTEE REQUIREMENTS**

**1. Change in Discharge**

All discharges authorized herein shall be consistent with the terms and conditions of this permit and with the information contained in the TC/BPDES Permit Application on which basis this permit is granted. In the event of any facility expansions, production increases, process modifications or the installation, modification or repair of any pretreatment equipment which may result in new, different or increased discharges of pollutants, a new TC/BPDES Permit Application must be submitted prior to any change. Following receipt of an amended application, the BSA may modify this permit to specify and limit any pollutants not previously limited. In the event that the proposed change will be covered under an applicable Categorical Standard, a Baseline Monitoring Report must be submitted at least ninety (90) days prior to any discharge.

**2. Records Retention**

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained at this facility for a minimum of three (3) years, or longer if requested by the General Manager and/or Town Engineer.

**3. Notification of Slug, Accidental Discharge or Spill**

In the event that a slug, accidental discharge or any spill occurs at the facility for which this permit is issued, it is the responsibility of the Permittee to immediately notify the B.S.A. Treatment Plant at 883-1820 of the quantity and character of such discharge. If requested by the B.S.A., within five (5) days following all such discharges, the Permittee shall submit a report describing the character and duration of the discharge, the cause of the discharge, and measures taken or that will be taken to prevent a recurrence of such discharge.

**4. Noncompliance Notification**

If, for any reason, the Permittee does not comply with or will be unable to comply with any discharge limitation specified in this permit, the Permittee or their assigns must verbally notify the Industrial Waste Section at 883-1820 within twenty-four (24) hours of becoming aware of the violation. The Permittee shall provide the Industrial Waste Section with the following information, in writing, within five (5) days of becoming aware of such condition:

- a. a description of the discharge and cause of noncompliance and;
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

**5. Adverse Impact**

The Permittee shall take all reasonable steps to minimize any adverse impact to the Buffalo and Town Sewerage System resulting from noncompliance with any discharge limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

**6. Waste Residuals**

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewaters and/or the treatment of intake waters, shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the Buffalo or Town Sewer System.

**7. Power Failures**

In order to maintain compliance with the discharge limitations and prohibitions of this permit, the Permittee shall provide an alternative power source sufficient to operate the wastewater control facilities; or, if such alternative power source is not provided the Permittee shall halt, reduce or otherwise control production and/or controlled discharges upon the loss of power to the wastewater control facilities.

**8. Treatment Upsets**

a. Any industrial user which experiences an upset in operations that places it in a temporary state of noncompliance, which is not the result of operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation, shall inform the Industrial Waste Section immediately upon becoming aware of the upset. Where such information is given verbally, a written report shall be filed by the user within five (5) days. The report shall contain:

- (i) A description of the upset, its cause(s) and impact on the discharger's compliance status.
- (ii) The duration of noncompliance, including exact dates and times of noncompliance, and if the noncompliance is continuing, the time by which compliance is reasonably expected to be restored
- (iii) All steps taken or planned to reduce, eliminate, and prevent recurrence of such an upset.

b. An industrial user which complies with the notification provisions of this Section in a timely manner shall have an affirmative defense to any enforcement action brought by the Industrial Waste Section/Town Engineer for any noncompliance of the limits in this permit, which arises out of violations attributable to and alleged to have occurred during the period of the documented and verified upset.



**9. Treatment Bypasses**

- a. A bypass of the treatment system is prohibited unless the following conditions are met:
  - (i) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; or
  - (ii) There was no feasible alternative to the bypass, including the use of auxiliary treatment or retention of the wastewater; and
  - (iii) The industrial user properly notified the Industrial Waste Section as described in paragraph b. below.
- b. Industrial users must provide immediate notice to the Industrial Waste Section upon delivery of an unanticipated bypass. If necessary, the Industrial Waste Section may require the industrial user to submit a written report explaining the cause(s), nature, and duration of the bypass, and the steps being taken to prevent its recurrence.
- c. An industrial user may allow a bypass to occur which does not cause pretreatment standards or requirements to be violated; but only if it is for essential maintenance to ensure efficient operation of the treatment system. Industrial users anticipating a bypass must submit notice to the Industrial Waste Section at least ten (10) days in advance. The Industrial Waste Section may only approve the anticipated bypass if the circumstances satisfy those set forth in paragraph a. above.

**C. PERMITTEE RESPONSIBILITIES**

**1. Permit Availability**

The originally signed permit must be available upon request at all times for review at the address stated on the first page of this permit.

**2. Inspections**

The Permittee shall allow the representatives of the Buffalo Sewer Authority or Town of Cheektowaga upon the presentation of credentials and during normal working hours or at any other reasonable times, to have access to and copy any records required in this permit; and to sample any discharge of pollutants.

**3. Transfer of Ownership or Control**

In the event of any change in control or ownership of facilities for which this permit has been issued the permit shall become null and void. The succeeding owner shall submit a completed Town of Cheektowaga/ Buffalo Sewer Authority permit application prior to discharge to the sewer system.

**D. PERMITTEE LIABILITIES**

**1. Permit Modification**

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to the following:

- a. Violation of any terms or conditions of this permit,
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts,
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

**2. Imminent Danger**

In the event there exists an imminent danger to health or property, the permitter reserves the right to take immediate action to halt the permitted discharge to the sewerage works.

**3. Civil and Criminal Liability**

Nothing in this permit shall relieve the Permittee from any requirements, liabilities, or penalties under provisions of the Town of Cheektowaga Local Law No. 2, the "Sewer Regulations of the Buffalo Sewer Authority" or any Federal, State and/or local laws or regulations.

**4. Penalties for Violations of Permit Conditions**

The "Sewer Regulations of the Buffalo Sewer Authority" and Town of Cheektowaga Local Law No. 2, provide that any person who violates a B.P.D.E.S. permit condition is liable to the Authority and/or the Town for a civil penalty of up to \$10,000 per day for each violation. Any person who willfully or negligently violates permit conditions will be referred to the New York State Attorney General.

**E. NATIONAL PRETREATMENT STANDARDS**

If a pretreatment standard or prohibition (including any Schedule of Compliance specified in such pretreatment standard or prohibition) is established under Section 307 (b) of the Act for a pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with such pretreatment standard or prohibition.

**F. PLANT CLOSURE**

In the event of plant closure, the Permittee is required to notify the Industrial Waste Section/Town Engineer in writing as soon as an anticipated closure date is determined, but in no case later than five (5) days of the actual closure.

**G. CONFIDENTIALITY**

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Buffalo Sewer Authority or Town Engineer of the Town of Cheektowaga. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

**H. SEVERABILITY**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.



**Table 1**

**Discharge Summary for 2010**

Leica 2010 Groundwater Treatment System Discharge Summary Table  
Table 1

Leica Annual Groundwater Treatment System Discharge Summary 2010			
Date	Meter Reading	Flow (gal)	Comments
12/28/2009	1314655.3		System shut down, not in operation till 2010
		0	
1/26/2010	1314655.3	26278.7	Area C back in service, both pumps down since 12/28
2/1/2010	1340934	51985.2	Reading is low due to bad well seal, need replacing
2/15/2010	1392919.2	105526.8	
3/10/2010	1498446	42336	Quarterly Sampling
3/20/2010	1540782	195901.6	Area B pump put back in service
4/9/2010	1736683.6	174252.2	
4/21/2010	1910935.8	123870.6	Replaced well seal in area C
4/29/2010	2034806.4	143594.5	
5/10/2010	2178400.9	385941	Water in air lines, air system drained, system flow low.
6/5/2010	2564341.9	465324.9	Air leak in area B pump repaired
7/2/2010	3029666.8	48595.1	
7/6/2010	3078261.9	455179	
8/2/2010	3533440.9	178813.2	
8/3/2010	3712254.1	425292.7	
9/29/2010	4137546.8	517003.1	
10/29/2010	4654549.9	224362	
11/11/2010	4878911.9	561275	
12/13/2010	5440186.9	248383	
12/27/2010	5688569.9		
<b>4373915 Total Gallons Discharged in 2010</b>			