ENERGY*SOLUTIONS*

February 23, 2007
Ref. No. 31128-038

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

Subject: Status Report (May 2006 – December 2006)
Leica, Inc. Site; Erie County, Cheektowaga, NY
Inactive Hazardous Waste Disposal Site No. 915156

Dear Mr. Walia:

As required by Section VII of the Order on Consent (the "Order") for the subject site, Energy*Solutions*, LLC (formerly Envirocare of Utah, 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.

**1. Actions Taken During the Previous Months (May 2006 – December 2006)**

*General Maintenance*

The Energy*Solutions* field crew continued to conduct routine scheduled maintenance to the groundwater pump and treatment system from May 2006 – December 2006. During the routine maintenance visits, the Energy*Solutions* field crew also inspected the site remediation system trailers, and other site items. All site equipment was in satisfactory working condition and normal maintenance was performed during most of the period; however, a regional ice storm which occurred in mid October caused power outages throughout the area. The remedial system was without power for several weeks due to the presence of fallen tree limbs. Power was restored and Energy*Solutions* field personnel were able to get the system operating again by late November. While bringing the system back into operation, Energy*Solutions* field crew members repaired portions of the MSD stripping unit.

*Groundwater Sampling*

Groundwater samples and elevation measurements were collected in July and December of 2006. Groundwater samples were collected from shallow wells MW-14, MW-16R and MW-22 and bedrock wells MW-1A, MW-6A, MW-14A and MW-16A in July and from shallow wells MW-6, MW-10, MW-14 MW-22 and MW-16R and bedrock wells MW-6A, MW-11A, MW-14A and MW-16A in December. Samples of groundwater from MW-11A and MW-16A were collected in the discharge piping at the treatment facility in July and December. A sample was also collected from the treatment system discharge during both rounds. Groundwater depth measurements were collected from most of the available wells at the site. A listing of groundwater elevation information is included in Table 2 and Table 3 in Appendix A. Samples were submitted under chain of custody to Columbia Analytical for analysis using EPA method 8260.

*Meeting with NYSDEC and NYSDOH*

In August, representatives from Energy*Solutions* and Leica met with representatives from the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) to discuss progress on the project and future activities. During this meeting, NYSDEC requested changes to the site monitoring program. These changes included the addition of some existing wells to the monitoring program as well as the installation and future monitoring of new wells at the site. The specific revisions to the monitoring program were recorded in a letter prepared by Energy*Solutions* dated August 22, 2006. A copy of this letter which details the revised monitoring program is included in Appendix A. Based on this new plan, groundwater samples will be collected at the site semi-annually or annually in the future in lieu of the quarterly schedule now in place. Based on this revised sampling schedule, we anticipate the next sampling round will be conducted in late April or early May of 2007.

*Air Monitoring Program*

Appropriate actions to address the elevated concentrations in groundwater and soil in the vicinity of the main facility loading dock were also discussed during the August meeting. Energy*Solutions* agreed to prepare a Work Plan and implement a sub-slab soil vapor and indoor air monitoring program in this area of the facility. The Plan was prepared and submitted to NYSDEC and NYSDOH for approval in September of 2006. NYSDEC approved the plan by letter dated October 18, 2006. The air sampling plan was implemented during the week of December 18, 2006 in accordance with the approved plan. A summary of the laboratory data and other information collected during this sampling effort are included in Appendix C.

*Carbon Recycling*

On August 9, 2006 four of five on-site carbon canisters were collected by Envirotrol of Pittsburgh, PA and transported to their facilities for recycling. One canister remained connected to the system at the site. The material in the four Carbon Canisters was characterized as a hazardous waste and the shipment was accompanied by appropriate uniform manifests. Three new canisters were delivered to the site by Envirotrol on December 12, 2006 and Energy*Solutions* personnel reinstalled new canisters in the exhaust system.

*Cemetery Access*

Also during this time, Energy*Solutions* initiated contact with St. John's Lutheran Church and secured authorization to enter the adjacent cemetery property in order to install the new bedrock monitoring well at location MW-22.

*Discharge Permit Modification*

*EnergySolutions* personnel also coordinated with the Cheektowaga Town Engineer and representatives from the Buffalo Sewer Authority (BSA) to implement updates to the remedial system discharge permit. Following review of available discharge data for the last three years, the BSA permitted revisions to the allowable discharge limits. These revised limits will be included in the data summary table following completion of the next round of sampling.

## 2. Results of Data Generated

*Groundwater Sampling*

The results of data collected during the July, 2006 round of quarterly groundwater sampling, which occurred on July 11th and July 13th, 2006, are included in this report. During this sampling event, the Energy*Solutions* field crew was unable to locate monitoring well MW-23 to measure depth to water due to overgrown brush and fallen trees. Monitoring well MW-23 is located in the southern end of the wetland area in between the cemetery and the south parking lot.

During the July 2006 sampling event, a number of wells which are normally sampled were dry including wells, MW-4, MW-6, MW-7, MW-10 and MW-18. Samples were not collected from these wells. VOC concentrations in the shallow wells in the vicinity of Area C at the southeastern corner of the site were relatively consistent with concentrations detected in the same time period in 2005. Concentrations of total VOCs ranged as follows in the wells sampled in the area: MW-6A, from 503 to 514 ug/l, MW-11A from 920 to 650 ug/l, MW-14, from 352 to 310 ug/l, MW-14A, from 139 to 23 ug/l and MW-22, from ND to ND.

Concentrations have fluctuated significantly in Area B over the last two years but have remained relatively constant over the last four quarters. These fluctuations are thought to be representative of typical seasonal fluctuations in groundwater elevations. Fluctuations reached their peak in June of 2005 when concentrations in both wells in Area B reached their maximum levels with 1,1,1 TCA in MW-16A at 17,000 ug/l and TCE in MW-16R at 30,000 ug/l.

Since that time, concentrations have steadily declined. Concentrations of TCE in MW-16R dropped since June of last year with a concentration in July of 2006 at 1,900 ug/l. Concentrations of 1,1,1 TCA also peaked in June 2005 in MW-16A at 17,000 ug/l but then dropped to a concentration of 210 ug/l by July of 2006, the lowest concentration detected since February 2004.

In July 2006, concentrations of most constituents in samples collected from monitoring well MW-16A were significantly lower than concentrations the previous year (June 05). Concentrations of most constituents in MW-16R were detected at lower concentrations in 2006 with 1,1 dichloroethane being the only constituent detected at a higher concentration in this more recent round.

The results of data collected during the December, 2006 round of quarterly groundwater sampling, which occurred on December 18th and 19th, 2006, are also included in this report. During this sampling event, the Energy*Solutions* field crew was once again unable to locate monitoring well MW-23 to measure depth to water due to overgrown brush and fallen trees. During the December sampling event, Energy*Solutions* implemented the new semi-annual sampling plan. Based on this new plan, wells MW-6, MW-6A, MW-10, MW-11A, MW-14, MW-14A, MW-16A, MW-16R and MW-22 were sampled.

VOC concentrations in the shallow wells in the vicinity of Area C at the southeastern corner of the site were relatively consistent to slightly lower than concentrations detected in the same time period in 2005. Concentrations of total VOCs ranged as follows in the wells sampled in the area: MW-6A from 730 to 187 ug/l, MW-10 from 470 to 290 ug/l, MW11A from 910 to 960 ug/l, MW-14 from 930 to 430 ug/l, MW-14A from 27 to 85 ug/l and MW-22 from 49 to 8.7 ug/l.

Concentrations have fluctuated significantly in Area B over the last two years but remained relatively constant over most of 2006 until the December round when they dropped moderately in MW-16R with TCE concentrations at their lowest since February of 2004. Concentrations of TCE in MW-16R have dropped since June of last year with a current concentration in December of 2006 at 390 ug/l.

Concentrations of 1,1,1 TCA in MW-16A have dropped from a maximum of 17,000 to a concentration of 94 ug/l in December of 2006, the lowest concentration detected since 2000.

In December 2006, concentrations of most constituents in samples collected from monitoring well MW-16A were relatively consistent to slightly higher than concentrations the previous year.

A summary of groundwater data (Table 1A and 1B) and tables showing groundwater elevations for July and December 2006 (Table 2 and 3) are included in Appendix A. Groundwater contour maps and contaminant concentration isopleth figures are included in Appendix B. July groundwater contours and contaminant concentration isopleths are shown on Figures 1 through 8, December groundwater contours and contaminant concentration isopleths are shown on Figures 9 through 16. Laboratory data is included in Appendix D.

*Air Sampling*

Energy*Solutions* also implemented the Supplemental Area B Indoor Air and Sub-Slab Soil Gas Sampling Plan. This sampling was completed in December 2006. The purpose of the air sampling was to further define the affects of the groundwater and soil contamination in the area surrounding the loading dock at the northeast corner of the facility. The New York State Department of Health (NYSDOH) has established indoor air and sub-slab vapor concentration action levels for four volatile chemicals in the guidance document entitled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York". These four chemicals include, TCE, 1,1,1 TCA, PCE and Carbon tetrachloride. The analytical data was compared with these NYSDOH action levels.

Samples were collected in accordance with the approved sampling plan over a 24 hour period from December 19, 2006 through December 20, 2006. Before collecting the samples, approximately three volumes of air were removed from the sampling hole and a PID reading was collected. PID readings are included in the summary table, Table 4. Suma canisters were collected on December 20, 2006 and transmitted under chain of custody to Columbia Analytical Services for analysis on December 21, 2006. Samples were analyzed using EPA method TO-15.

TCE, the contaminant most frequently detected during the vapor intrusion survey, was detected in every sample including all sub-slab samples, all indoor air samples and the exterior air sample. The highest TCE concentration of 380,000 ug/$m^3$ was detected in Area 3 at subslab sample number 3B. The highest indoor air concentration of TCE (16 ug/$m^3$) was also detected in Area 3 at sample AA3C. These concentrations in Area 3 are above the NYSDOH mitigation action levels. TCE was also detected at concentrations above the mitigation action levels in Areas 1, 5 and 7. In addition to TCE, 1,1,1 TCA, PCE and Carbon tetrachloride were also detected in several locations at concentrations above the action levels. However, all indoor air concentrations were at least two orders of magnitude below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs) in every case.

A copy of the summary table (Table 4) showing the results of the vapor survey is included in Appendix C. The appendix also includes a copy of the Indoor Air Quality Questionnaire and Building Inventory for the facility, a photographic log and a map showing the locations where each of the photos were taken.

Information collected during this sampling effort indicates that elevated concentrations of PCE, 1,1,1 TCA, and TCE are present beneath the building floor slab and within the building and a mitigation strategy should be planned and implemented for the building.

**3. Required Deliverables Submitted to NYSDEC**

A revised site groundwater monitoring plan was submitted to NYSDEC in September 2006. The revised plan schedule will be implemented during the next periodic monitoring round.

**4. Actions Scheduled for the Upcoming Months (January 2006 – May 2007)**

*System Maintenance and Groundwater Monitoring*

The Energy*Solutions* field crew will continue with routine scheduled maintenance to the groundwater pump and treatment system and groundwater monitoring activities in the upcoming months.

Future groundwater monitoring as proposed in the revised sampling program will be performed on a semi-annual or annual basis. The first semi-annual round of sampling is scheduled for late April or early May 2007. Wells scheduled for annual and semi-annual sampling will be sampled during this round as indicated in the program specified in the letter in Appendix A. Also as proposed in the new program, samples will be collected from MW-22A, a new bedrock well located adjacent to MW-22. We anticipate the installation of this new bedrock well in late March of 2007.

*Vapor Mitigation/Remediation*

Based on the results of the indoor and sub-slab air sampling, Energy*Solutions* intends to move forward with plans to evaluate strategies for mitigation at the site and also assess the need for some type of soil/groundwater remediation in Area B. Plans will be submitted to the DEC for approval prior to the implementation of the Vapor Mitigation System or other remedial actions.

**5. Schedule Information**

No scheduling conflicts are anticipated at this time.

**6. Modifications to the Work Plan**

No modifications were made to the Work Plan during this time period. A revised Work Plan designed to address increased VOC concentrations in MW-16R and MW-16A will be submitted before any remedial activities are performed in Area B.

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

No private residents visited the site and no action was undertaken in support of community relations during this period.

If you have any questions regarding this report, please feel free to call me at 801-303-1092 or 860-355-8194 (dial 1 for name list and enter robertmcpeak).

Sincerely,

**Energy*Solutions*, LLC**

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

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

| | |
|---|---|
| Table 1 (A&B) | Summary of Groundwater Analytical Data |
| Table 2 | Summary of Groundwater Monitoring Well Measurements (July, 2006) |
| Table 3 | Summary of Groundwater Monitoring Well Measurements (December, 2006) |
| | Revised Monitoring Program Letter |

**Appendix B Groundwater Monitoring Figures**

| | |
|---|---|
| Figure 1 | Groundwater Contours, July 2006, Overburden Wells |
| Figure 2 | Groundwater Contours, July 2006, Bedrock Wells |
| Figure 3 | Vinyl Chloride Contaminant Concentration Isopleths, July 2006, Overburden Wells |
| Figure 4 | Vinyl Chloride Contaminant Concentration Isopleths, July 2006, Bedrock Wells |
| Figure 5 | Cis 1,2 DCE Contaminant Concentration Isopleths, July 2006, Overburden Wells |
| Figure 6 | Cis 1,2 DCE Contaminant Concentration Isopleths, July 2006, Bedrock Wells |
| Figure 7 | TCE Contaminant Concentration Isopleths, July 2006, Overburden Wells |
| Figure 8 | TCE Contaminant Concentration Isopleths, July 2006, Bedrock Wells |
| Figure 9 | Groundwater Contours, December 2006, Overburden Wells |
| Figure 10 | Groundwater Contours, December 2006, Bedrock Wells |
| Figure 11 | Vinyl Chloride Contaminant Concentration Isopleths, December 2006, Overburden Wells |
| Figure 12 | Vinyl Chloride Contaminant Concentration Isopleths, December 2006, Bedrock Wells |
| Figure 13 | Cis 1,2 DCE Contaminant Concentration Isopleths, December 2006, Overburden Wells |
| Figure 14 | Cis 1,2 DCE Contaminant Concentration Isopleths, December 2006, Bedrock Wells |

cc:
D. Simkowski
A. Szklany
C. Grabinski
R. Downey
G. Hollerbach
C. O'Conner (NYSDOH)
E. Doubleday

# APPENDIX A

## Groundwater Monitoring Tables and Revised Monitoring Program Letter

| | |
|---|---|
| Table 1 (A&B) | Summary of Groundwater Analytical Data |
| Table 2 | Summary of Groundwater Monitoring Well Measurements (July, 2006) |
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## Appendix B

## Groundwater Monitoring Figures

# APPENDIX C

## Air Sampling Information

Table 4 Sub-Slab and Indoor Air Sampling Results
NYSDOH Indoor Air Quality Questionnaire and Building Inventory
Photo Location Map
Photos

# APPENDIX D

## Analytical Data

| | |
|---|---|
| Analytical Data | July 2006 and December 2006 Groundwater Analytical Data |
| Analytical Data | Sub-Slab and Indoor Air Sampling |