

#### 4.0 CONCLUSIONS

On June 20, 2006 Mr. Thomas Bowen, the current property owner, retained Æ to perform a leaking underground storage tank (LUST) assessment on the subject property. The property is currently operated with a single-story automatic carwash and a gasoline UST system identified as Brighton Automatic Car Wash, Inc. One release was reported for the subject property dated June 19, 2006. Release response activity did not identify substantial justification for the releases.

A Geoprobe® investigation was conducted by Æ at the site on May 16, July 7, and August 30, 2006 to determine the extent of impacted soils. The soil borings were advanced and sampled using a Geoprobe® 6600 using a 2-inch diameter, 5-foot long core barrel. Soil samples from the Geoprobe® borings were screened in the field for VOCs using a calibrated PID at approximately 2-foot intervals. The samples were placed in a sealed plastic bag and the tip of the PID was then inserted into the bag to obtain a reading of VOCs that had volatilized into the air headspace. The PID has a detection level of one part per million (ppm) VOCs. The PID readings and the observed lithology are included on boring logs in Appendix D.

The soil samples collected identified as GP-3 (6-8') and GP-4 (6-8') contained benzene, ethylbenzene, xylenes, and 1, 2, 4-trimethylbenzene concentrations above applicable residential drinking water and/or groundwater surface water interface cleanup criteria. Other volatile organic compounds were detected in the samples below applicable residential criteria. The analytical results from the Geoprobe® soil sampling event for all the remaining soil samples were non-detect for gasoline indicator parameters except lead. Lead was analyzed for samples identified as GP-1 to GP-4. Lead concentrations were below applicable residential RBSLs. Sample locations with respect to site features are depicted on

Figure 3 in Appendix A. A soil analytical map is included as Figure 5 in Appendix A. Soil analytical and comparison tables are included in Appendix C and B respectively.

Groundwater was encountered at approximately 28 to 30 feet below grade. On July 7, 2006, A&E placed and developed temporary monitoring wells, at the location of GP-5, GP-7, and GP-8. On August 30, 2006, A&E placed and developed a temporary monitoring well at the location of GP-12. The groundwater analytical results showed non-detect concentrations of gasoline indicator parameters in groundwater samples collected from each well. Well locations are depicted on Figure 4 in Appendix A. A groundwater analytical map is included as Figure 6 in Appendix A. Groundwater analytical and comparison tables are included in Appendix C and B respectively.

Based on the investigation conducted by A&E, groundwater was not impacted. Impacted soil was identified between 6-8' below grade in a clay layer in the area of the dispensers. Impacted soil did not extend beyond 16 feet below grade. Leachate analysis of soil indicates that groundwater is not threatened by the release. Maps showing the extent of impacted soil are included as Figure 8. A cross-section is included as Figure 9 in Appendix A.



STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING DISTRICT OFFICE



JENNIFER M. GRANHOLM  
GOVERNOR

STEVEN E. CHESTER  
DIRECTOR

April 23, 2007

Mr. Thomas Bowen  
B.A.W. Holdings  
1021 East Grand River Avenue  
Brighton, Michigan 48116

Dear Mr. Bowen:

**SUBJECT:** Audit of Corrective Actions  
Closure Report Receipt Date: February 13, 2007  
Confirmed Release Date: June 19, 2006  
Location of Tank(s): Brighton Automatic Car Wash, Inc. 1021 East Grand  
River Avenue, Brighton, Livingston County, Michigan 48116  
Facility ID: 0-00010006

Under the authority of Section 21315 of Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), the Department of Environmental Quality (DEQ), Remediation and Redevelopment Division (RRD) has conducted an audit of the corrective actions undertaken as the result of a release from an underground storage tank system at the above- referenced site. The audit was conducted following receipt of a Closure Report submitted by Applied Ecosystems – Great Lakes, Inc. Qualified Underground Storage Tank Consultant (QC), and certified by Mr. Michael Smith, Certified Underground Storage Tank Professional (CP).

The audit consisted of a review of district file documents. Based on this audit, the RRD **does not** concur with the certification of the QC that corrective actions have been completed in accordance with Part 213. The reasons for our decision are:

- The Closure Report states that the release appears to be associated with the product piping at the dispensers prior to the upgrade in 1991; however, the Closure Report fails to document the placement of the product piping or report on the piping depth. In addition, the Storage Tank Information Database indicates the tanks were installed in 1991. Were there historic Underground Storage Tanks (UST)s on site that were not registered?
- The Closure Report states that the USTs tested tight in October of 2005 but the release was identified in June of 2006. It is completely possible that the USTs had a release after they were tested tight in 2005. The source needs to be better identified.

- The Closure Report is relying on non-detect groundwater samples and slightly elevated soils with Synthetic Precipitation Leaching Procedure (SPLP) below drinking water and Groundwater/Surface water interface (GSI) criteria. The analytical data table with the SPLP data for GP-13 and GP-14, indicates they are elevated above drinking water and/or GSI criteria for ethylbenzene, xylenes, 1,2,4-TMB, and 1,3,5-TMB. This data is not included on the comparison table for groundwater. Permanent groundwater monitoring wells may be required to verify the plumes conditions and whether leaching is occurring from impacted soils.
- It may be possible that this release occurred relatively recently so it may be too soon to conclude that soil contamination will not leach to groundwater. The groundwater flow direction determined for this site is questionable. Measurements from three of the temporary wells installed (GP-5, GP-8, and GP-12) indicate a southeasterly flow, and the contour lines are skewed more easterly due to the water level measured in GP-7. The water level measurements used to determine the flow direction were taken from 1 inch diameter temporary wells referenced to ground level elevations. The Static Water Level (SWL) table gives the date of measurement as August 31, 2006, but three of the Geoprobe temporary wells were drilled on July 7, 2006. Since these were temporary wells, it is not certain that they were left in place until August 31, 2006. The report test does not specifically state that water levels were measured in all wells on the same day even though the table indicates otherwise. The analytical tables indicate the water samples from the temporary wells were taken at the time they were installed. Please double check and indicate the correct dates water level measurements were taken. There are no water level measurements indicated on the boring logs for comparison. Screen placement and water level measurements were not included on the cross sections for evaluation.
- Soil Borings GP-8 and GP-10 were conducted proximate to the buried electric lines. Samples were taken at six to eight feet at depth. The buried electric line and associated backfill are at a three foot depth so the electric line does have the potential to be a preferred path of contaminant migration. Please provide the piping depths and the associated backfill depths and material of the electric line. The electric line also transects the sewer line. Please provide a cross sectional depiction of how these two utility lines and their associated backfill material are in communication with each other or how they are isolated from each other in the terms of a preferential pathway for potential contamination migration.
- GP-11 had a Photoionization Detector (PID) reading of 3000 (the highest reading of all the boreholes) at a depth of six to eight feet according to the borehole log yet the soil sample was taken at a depth of 16 – 18 feet with a non detect PID reading. An additional sample to document the highest concentrations in soil should have been taken at the 6 - 8 foot depth. A temporary monitoring well and groundwater sample should have been placed at this location as it yielded the highest potential concentrations of soil contamination (and possibly groundwater) with the PID readings.

VERTICAL

- There is no vertical delineation at the GP-3 or GP-4 locations. The cross sections do not show clean deeper soil or the identification of a groundwater table on the cross section.
- ⊙ GP-11 and GP-13 were not included in the A – A' cross section as was indicated in the location diagram.
- Additional soil boring and wells are needed west of the building. Overall, clay dips to the west-northwest and soil and groundwater samples are needed to verify whether or not the contamination is following gravity along that clay as a preferential flow path.
- ⊙ Analytical reports were not attached to the Closure Report to support data tables.
- ⊙ Why is the SPLP data presented in ug/kg instead of ug/l?
  - Direct contact and soil inhalation exposure pathways will need to be re-evaluated based on maximum soil contamination concentrations found with sampling in the most contaminated areas. Conclusions that no notices or restrictions to achieve site closure will have to be re-evaluated at that time.
  - The following items are not on the figures:
    - Utility backfill material (cross sections);
    - Adjacent roads; or
    - Groundwater elevation/temporary well locations (cross sections).

The owner or operator of this facility is required, under the provisions of Section 21315(3) of Act 451, to do the following:

1. Provide additional information related to the requirements of Part 213, as specified above.
2. Retain a QC to make additional corrective actions necessary to comply with Part 213 or to protect public health, safety and welfare, and the environment.

Please submit to this office **within seven days of receipt** of this audit, a written commitment to comply with the above requests. The commitment should include a schedule for conducting the additional corrective action activities and final report submittal; if the RRD does not concur with the schedule as proposed, you will be notified. Please note that you are in non-compliance with Part 213 until an adequate response is received.

Please inform this office, in writing or by fax, at least 48 hours prior to initiating any on-site activities so that the RRD staff may be present if schedules permit.

If you have any questions regarding this matter, please contact me.

Sincerely,



Lisa Summerfield  
Environmental Quality Analyst  
Remediation and Redevelopment Division  
(517) 335-3388

LSJJM

cc: Applied Ecosystems-Great Lakes, Inc.  
Mr. Ben Hall, DEQ



## Applied EcoSystems-Great Lakes, Inc.

*Environmental Management, Consulting and Field Services*

- An Affiliate of Keystone Environmental, Inc. -

June 12, 2007

Æ. No. 06-3073-075

Mr. Thomas Bowen  
B.A.W. Holdings, Inc.  
1021 East Grand River Avenue  
Brighton, MI 48116

RE: STATUS LETTER  
Brighton Automatic Car Wash  
1021 East Grand River Avenue  
Brighton, MI 48116  
Facility ID No: 00010006

Dear Mr. Bowen:

Attached please find a copy of Æ's response to the MDEQ's letter regarding the need for further action at the above referenced site.

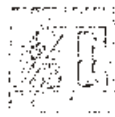
Should you have any questions, please do not hesitate to contact me at (810) 715-2525.

Sincerely,

APPLIED *ECO*SYSTEMS-GREAT LAKES, INC.

Joshua D. Adams  
Environmental Scientist

JDA:



Applied EcoSystems-Great Lakes, Inc.  
Environmental Management, Consulting and Field Services  
- An Affiliate of Keystone Environmental, Inc. -

June 12, 2007

Æ No. 06-3073C-075

Ms. Lisa Summerfield  
Michigan Department of Environmental Quality  
Constitution Hall  
525 West Allegan Street  
Post Office Box 30242  
Lansing, Michigan 48909-7958

Subject: LEAKING UNDERGROUND STORAGE TANK (LUST) STATUS  
Brighton Automatic Car Wash Inc.  
1021 East Grand River Avenue  
Brighton, Livingston County, Michigan  
Facility ID: 0-00010006

Dear Ms. Summerfield:

Applied EcoSystems-Great Lakes, Inc. (Æ) has been retained by Mr. Thomas Bowen to conduct LUST investigation and reporting activities for the above site. Æ has received a copy of your April 23, 2007 letter, which indicates the need for further corrective action for site closure.

Æ will be scheduling a meeting with Mr. Bowen to discuss further options of corrective action and associated costs.

Once an agreement is reached, Æ will develop a plan to investigate the site pursuant to meeting the requirements of a statutorily complete FAR or Closure, and a schedule of the anticipated events will be provided to the MDEQ.

If you have any questions, please do not hesitate to contact me at (810) 715-2525.

Best regards,

APPLIED ECOSYSTEMS-GREAT LAKES, INC.

Michael D. Smith  
Certified Underground Storage Tank Professional #1075

MDS: as

C: Mr. Thomas Bowen

### Æ's Notes -Audit of Corrective Action

1. Piping concerns will be fixed in the next Closure Report; it's just a matter of updating the text and diagrams. The client will also have to provide registration information in the report.
2. A new tightness test will be required.
3. SPLP will be added to the comparison table in the next Closure Report.
4. Permanent 2" monitoring wells will be installed to address this matter.
5. Utility concerns will be updated in the text and diagrams in the next Closure Report. However, Æ disagrees with the DEQ on this matter because if the utilities are at 3-6 feet below grade and groundwater is 30 feet below grade, how can it be considered a pathway— this will be addressed in the next Closure Report.
6. A temporary monitoring well was not installed in this location due to the fact that if a borehole was conducted through the contaminated area into a clean aquifer it would create a potential pathway. The same type of pathway that is the subject of concern addressed by the DEQ in bullet number 5.
7. GP-11 vertically delineates GP-3. The deeper boring was conducted at a later date than GP-3. GP-4 was not delineated vertically (Æ didn't think we had to, due to the fact that GP-11 came back clean, which is under the most contaminated area).
8. It was Æ's opinion that if we had added GP-11 and GP-13 into the cross section it would be too hard for people to read. We will update the cross section in the next Closure Report.
9. Æ agrees that additional borings should be taken on the west side of the building, however, in order for the clay layer to be a preferential pathway flow path groundwater must be present which it is not.
10. We as the QC are not obligated to put the analytical reports within the report. We will add them into the next Closure Report.
11. The DEQ project manager is wrong; they are reported in ug/l. We will provide the analytical data in the next Closure Report.
12. These are reporting issues that will be handled in the next report.
13. Diagrams will be updated in the next report.