2.3 Groundwater Flow Direction and Velocity

To determine the groundwater flow direction and velocity for the conceptual site model, Lakeshore installed and developed 10 groundwater monitoring wells at select locations surrounding the previous areas of environmental concern. All wells were surveyed for location and elevation. The location of these wells was previously illustrated in Figure 2. A summary of monitoring well information is provided in Appendix A. Based on site stratigraphy, it was confirmed that a single unconfined water bearing formation is present at the site that ranges from 27 feet in thickness in the east to 42 feet in thickness in the west. The water bearing formation is underlain by an extensive clay aquitard. Utilizing the groundwater elevations from the monitoring wells, flow was determined to be northerly at an average gradient of 0.006 (Figure 5). Groundwater elevation data from the shallow/deep well clusters was used to calculate the vertical gradient in the upgradient (LMW-1S/1D) and downgradient (LMW-3S/3I/3D) locations. At both locations the vertical gradient was upward (discharge), indicating that groundwater from elevated recharge areas to the south is migrating downward to the clay then upwelling at the site. The calculated vertical gradients are 0.002 in the south and 0.012 in the north. Both the horizontal and vertical groundwater flow directions and gradients are consistent with those expected in this geologic setting.

To determine the hydraulic conductivity and porosity of the water bearing formation, which is required to calculate groundwater flow rates, pneumatic falling head tests and grain size analysis were performed. The data from these tests is summarized in Appendix B. Based on the tests, the average hydraulic conductivity of the water bearing formation is 46 feet/day, and the porosity is estimated to be 0.4. Using these values, a groundwater flow rate of 0.7 feet per day is calculated.

2.4 Groundwater/Surface Water Interface

The calculated groundwater flow direction and stratigraphy verify that groundwater is entering Muskegon Lake. This occurs along a seepage face designated the groundwater/surface water interface (GSI). The GSI is the entire length and width of the saturated soil along the northern margin of the Site, with potential lesser contributions from the east and west margins of the site. Utilizing the groundwater flow rate of 0.7 ft/day, the calculated seepage rate at the GSI is approximately 700,000 gallons per day.

3.0 Baseline Assessment

3.1 Previous Environmental Permits/Existing Permits

3.1.1 Air

Melching terminated the existing air quality permit (MI-ROP-A4203-2008, MI-PTI-A4203-2008) and properly decommissioned all emission points (although a few stacks are pending demolition). The Title V Renewable Operating Permit was awarded to S.D. Warren in 1982, and subsequent renewals were obtained until the Site was purchased by Melching. Should Melching choose to operate the existing power plant, a new air permit application will be submitted.

3.1.2 NPDES

Sappi maintained a National Pollution Discharge Elimination System (NPDES) Permit for non-contact cooling water and stormwater. The permit was transferred to Melching (MI0001210).

3.1.3 WWTP Authorization

In 1973 the Muskegon County Wastewater System was constructed, largely on behalf of S.D. Warren. In fact, S.D. Warren (and later Sappi) was the biggest user for over 35 years. Melching continues to utilize the system and maintains the wastewater discharge permit (#MELC-m01a). Presently, the system is periodically utilized to pump down the stormwater retention basin.

3.2 Present Status of Known Items of Concern

The January 26, 2012, DEQ letter made reference to 19 items of concern at the Melching site. A list of the items of concern (in chronological order) is provided in Appendix C. A summary of the status of response activities, and the DEQ parameters of concern, is also provided. The locations of these items of concern are provided in Figure 5. Item 2 is not on-site, and therefore will not be considered an item of concern by Melching. All of the items were addressed by Sappi to a level of effort that was determined to be practical and feasible at the time, given existing site restrictions. Items 5, 11, 14, 15, 17, and 18 had no actual release to the environment as the spills were contained and directed to wastewater treatment. Furthermore, for every item of concern the leak was repaired and source removal was undertaken. Documentation supporting the status of each item will be provided at a later date, if applicable.

3.3 Due Care Issues

Melching, as the owner of a site with known environmental contamination, is required to prepare and implement a Due Care Plan. An initial step in the preparation of the plan is the identification and evaluation of possible environmental hazards. From a due care perspective, the Site is in better condition since Melching's acquisition than when operated by Sappi, as all of the process chemicals have been removed, and the work force has been reduced from over 1,000 employees (maximum with Sappi) to less than 50 (Melching). Prior to occupation, Melching evaluated the Site and provided training to employees with regard to hazards. Placards were placed around the 7 areas deed restricted by Sappi labeled "Notice – Restricted Area". No below grade activities were to be performed in these areas without specific instruction and potential testing by Lakeshore.

3.3.1 Soil

No soils have been excavated or moved in the deed restricted areas; as a result, no soil testing has been required.

Lime is a byproduct of the paper process and not technically soil. It has historically been stockpiled and sold for agricultural use off site. At the time of purchase by Melching, a pile of lime was still present on the Site. Presently, the lime is being pelletized and sold. The lime was tested by Melching and found to be safe for agricultural use.

All significant quantities of coal, which were formerly used for power generation, were sold and removed from the site by Sappi prior to occupation by Melching. The ground surface in the former coal storage areas presently consists of topsoil with trace amounts of coal. Perennial rye was established on the site to prevent fugitive dust in accordance with an approved Soil Erosion and Sedimentation Control (SESC) permit issued by Muskegon County to Sappi. The coal storage areas are bounded by a perimeter berm that directs stormwater runoff to retention areas. Recently, Melching obtained a SESC permit to cover the former coal storage area with a hard layer of crushed concrete to prevent disturbance of the soil when the area is used by Melching for storage and staging. Apparently no due care issues were previously observed by Sappi, and to the best of our knowledge coal is stored in open piles at nearly every power generation facility in the state without due care testing. Nonetheless, the concrete layer will improve any potential due care and fugitive dust concerns associated with the trace amounts of coal remaining in the topsoil.

3.3.2 Groundwater

A review of available records revealed that groundwater at select locations was impacted from sodium, sulfate, low pH, and fuel oil components. Since groundwater was not being used for any purpose at the Site, and all employees were warned of potential concerns, the only relevant groundwater issue was the historic presence of fuel oil floating on the groundwater (from a past above ground storage tank fuel oil release) that appeared to have the potential to ultimately reach the stormwater retention basin (former "surge" basin). Lakeshore has monitored (on a monthly basis) for the presence of floating fuel oil since September 2011. Lakeshore has not observed floating fuel oil at any of the monitoring locations, which includes the recovery well and two (2) monitoring wells.

3.3.3 Surface Water

The only surface water on the site is in the stormwater retention basin. Muskegon Lake surrounds the Site on three sides; however, there is no direct connection from the stormwater retention basin to the lake. As the stormwater retention basin is an unlined (or "water table") basin, groundwater freely enters and exits the basin. Based on groundwater elevation contours, groundwater enters the basin primarily in the south, and exits the north end of the basin. Since it is feasible that impacted groundwater could enter the basin, and the basin is frequently used by waterfowl, Lakeshore collected a sample of the basin water and tested it for a comprehensive list of potential parameters of concern. No parameters were identified above Non-Residential (or Residential) use criteria. The complete analytical report for the stormwater retention basin testing is provided in Appendix D.

3.3.4 Groundwater/Surface Water Interface

Data from the geologic borings and monitoring wells revealed that groundwater is entering Muskegon Lake. An area of impacted groundwater was identified near items 1, 3, 8, and 16 based on available information from the DEQ and Sappi. Other areas of concern (6, 7, 9, 10, 12, 13, and 19) were not tested for groundwater impact, making it feasible that groundwater impact may have occurred at these locations. As a result, Lakeshore installed groundwater monitoring wells at specific locations selected to bound the outer limit of all areas of concern, as the groundwater ultimately migrates to Muskegon Lake.

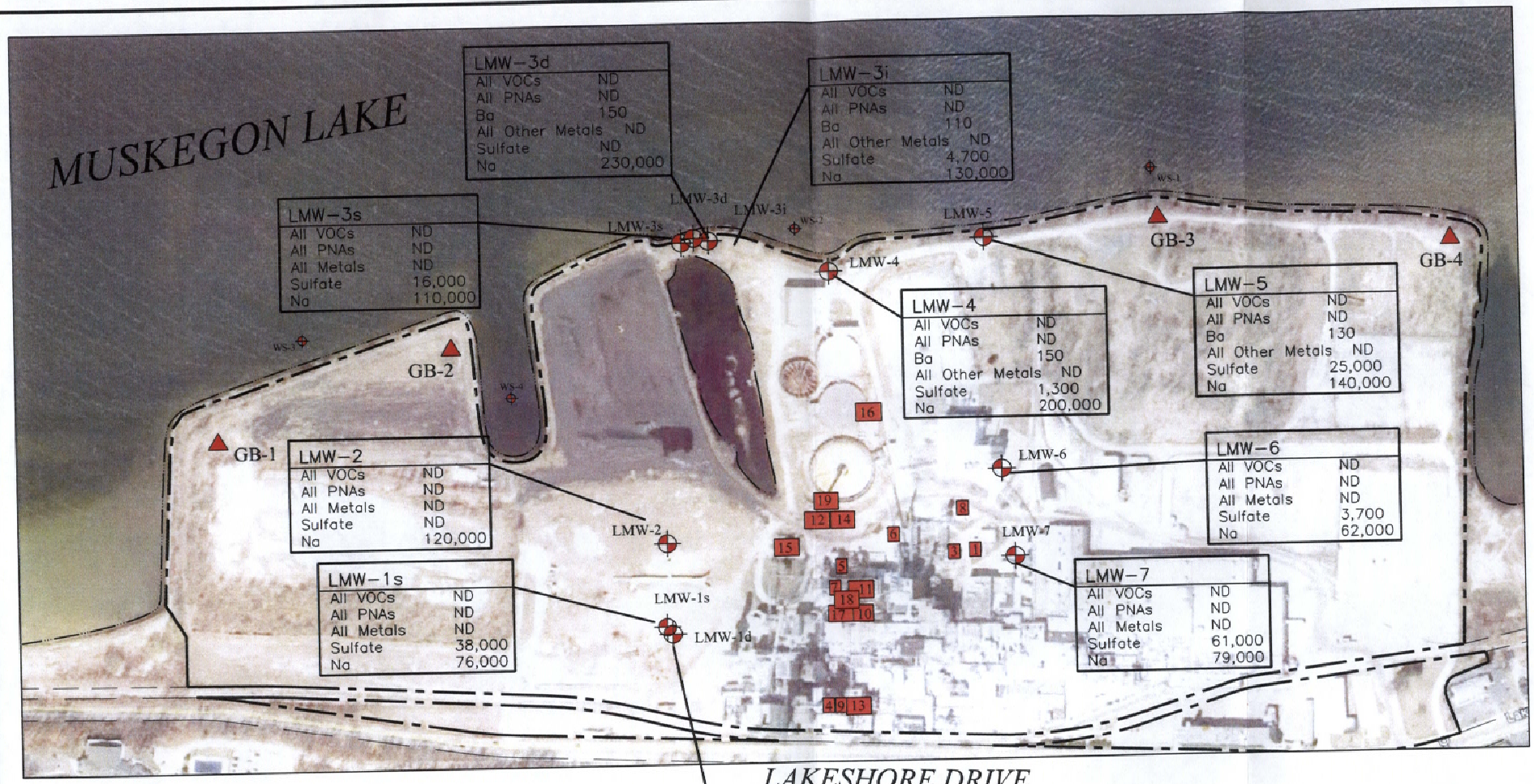
To determine whether the groundwater had the potential to enter Muskegon Lake at concentrations above GSI criteria, Lakeshore collected groundwater samples from all monitoring wells surrounding the areas of concern. Samples were analyzed for the complete list of parameters relating to the 19

areas of concern (sodium, sulfate, pH, PNA's, BTEX, and TMB). Lakeshore also analyzed the samples for the Michigan 10 metals list, to alleviate concerns regarding the potential leaching of metals from the soil in low pH areas identified in the areas of concern.

The results of the due care groundwater sampling are summarized in Figure 6. The complete analytical results are provided in Appendix E. No parameters were identified at any location that exceeded generic residential and non-residential criteria for the GSI pathway. This indicates that the impacted groundwater (if any) from both the known areas of concern and potential areas of concern is restricted to the site and does not migrate off-site at concentrations that pose a hazard to the environment.

Prior to installing GSI monitoring wells, due to questions about the pre-existing deed restrictions, on March 29, 2012, Lakeshore collected water samples from Muskegon Lake at the water/sediment interface for due care purposes. The samples were collected at three (3) locations along the northern margin of the site at a water depth of 15 feet, which correlated to the middle of the seepage face of the GSI. A fourth sample was collected in the center of the coal slip at a depth of 17 feet. Samples were collected by lowering a Kemmerer sampler until it rested on the bottom, allowing the bottle to stabilize in the sediment for 5 minutes, then closing the bottle with the messenger and raising the sample to the surface. While the samples were not collected from GSI monitoring wells, they are believed to be representative, practical and applicable, as this method is used in other states, and the samples would certainly represent the first water to be encountered by fish and other aquatic organisms.

The lake water samples contained no parameters above residential or non-residential criteria, with the exception of mercury. Since mercury was not detected in the stormwater retention basin (surge basin), the data was believed to be the result of laboratory error, especially considering the low detection limits. To verify the presence of mercury in the lake water, on April 23, 2012, Lakeshore collected a verification sample at the Melching site (same location as previously tested), and three (3) additional locations within Muskegon Lake, but remote from the Melching site. The results of this testing also reported mercury in all of the lake samples, including those from Snug Harbor, Kirksey Peninsula, and Harbour Towne Beach; unfortunately this indicates that mercury is likely present in all areas of the lake. It is now known that mercury is not present in any of the GSI monitoring wells, indicating that the source of the mercury is not the Melching site.



LEGEND

- WS — LAKE SAMPLE LOCATION
- LMW-5 — MONITORING WELL
- GB — GEOLOGICAL BORING
- MDEQ AREAS OF CONCERN

ALL RESULTS IN ug/L

NO APPLICABLE CRITERIA ARE EXCEEDED

0 300' 600'

SCALE: 1" = 300'

N

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DUE CARE GROUNDWATER AND SURFACE WATER SAMPLING DATA

2400 LAKESHORE DRIVE
MUSKEGON, MICHIGAN

JOB # 10-339-01	MAY 2012	FIGURE 6

4.0 Response Plan

4.1 Monitoring

Lakeshore is proposing several monitoring tasks to evaluate site conditions with regard to seasonal variation and natural attenuation of potential groundwater impact.

4.1.1 Groundwater/GSI

Lakeshore is proposing to collect quarterly samples from all due care groundwater monitoring wells sampled for this evaluation. The parameters for quarterly sampling events will be field parameters (pH, specific conductance, dissolved oxygen, oxidation reduction potential, temperature, and turbidity), sulfate, sodium, and PNA's. The data from the quarterly sampling events will include groundwater elevations to assist with the preparation of an associated groundwater elevation contour map. The analytical results of each sampling event will be submitted to the DEQ within one month of sampling. At such time that the Interim Response Plan (IRP) report, described in Section 4.4, is submitted, the monitoring points, parameters, and frequency will be amended to be consistent with the IRP.

4.1.2 Fuel Oil

Although floating fuel oil has not been identified by Lakeshore as a result of the release at Buildings 50/56 (item of concern number 16), nor were any fuel oil parameters identified in the perimeter groundwater monitoring wells, Lakeshore will continue to monitor for the presence of floating fuel oil on a quarterly basis. Monitoring will occur in the former recovery well and two monitoring wells. The results of the monitoring will be submitted to the DEQ with the quarterly groundwater/GSI monitoring results.

4.2 Institutional Controls

Institutional controls are being proposed to address the risk management, due care, and regulatory issues associated with areas of concern. If favorable data is generated during response and/or due care activities at the site, or is generated for a specific site use, then institutional controls may be amended.

4.2.1 Deed Restrictions

Melching is proposing to deed restrict the Site for the use of groundwater. The Site is supplied with municipal water, and therefore the use of groundwater is not needed regardless of zoning or site use.

Melching is also proposing to restrict the Site for the use of the soil as follows:

"No excavation, relocation, movement, or removal of soils from the Site will occur unless proper characterization of the soil has been conducted and appropriate handling, staging, and disposal methods have been arranged pursuant to applicable regulatory guidelines."

4.3 Remedial Investigation/Feasibility Study (RI/FS)

Melching will prepare a RI/FS for submittal to the DEQ. If it is determined during the preparation of the report that additional data is required, a RI/FS Work Plan will be prepared and implemented. Based on the data obtained during due care activities and geologic borings for the conceptual site model, Melching is close to having sufficient data to prepare the RI/FS. Consistent with the requirements of the RI/FS, all of the soil boring, monitoring well installation, sampling, etc., methodology will be provided in detail for review and analysis. The RI/FS will also evaluate all applicable receptors and the feasibility of several options for addressing the site contamination.

4.4 Interim Response Plan (IRP)

Following completion of the RI/FS, and the likely conclusion that Monitored Natural Attenuation (MNA) coupled with institutional controls is the most feasible remedial strategy, Melching is proposing to prepare and submit an Interim Response Plan (IRP) report. The IRP will address all potential receptors of impacted soil and or groundwater, and outline the methods and procedures that will be utilized to insure compliance with existing regulations and to protect the health and safety of the community.

5.0 Schedule

Melching is proposing the schedule provided below:

ITEM	COMPLETION DATE
Perform Quarterly Sampling of Monitoring Wells	June 30, 2012
Submit Quarterly Sampling Data to the DEQ	July 31, 2012
Submit RI/FS Work Plan to DEQ (if needed)	July 31, 2012
Perform Quarterly Sampling of Monitoring Wells	September 30, 2012
Submit Quarterly Sampling Data to DEQ	October 31, 2012
Complete RI/FS Activities (if needed)	October 31, 2012
Submit Deed Restrictions to DEQ for Review	November 30, 2012
Perform Quarterly Sampling of Monitoring Wells	December 31, 2012
Submit Quarterly Sampling Data to DEQ	January 31, 2013
Submit RI/FS to DEQ for Review	January 31, 2013
Implement Deed Restrictions (Subject to DEQ Approval)	February 28, 2013
Perform Quarterly Sampling of Monitoring Wells	March 31, 2013
Submit Quarterly Sampling Data to DEQ	April 30, 2013
Submit IRP to DEQ for Review	April 30, 2013

6.0 Conclusion

Through due care activities, Lakeshore has determined the horizontal and vertical extent of groundwater contamination (if present) from the 19 items of concern listed in the DEQ letters. The data indicates that the groundwater flows north to discharge points in Muskegon Lake. As the groundwater migrates to the north to Muskegon Lake, groundwater contamination (if still present) is attenuated to acceptable levels in accordance with applicable DEQ criteria. The data also reveals that any potential groundwater contamination is confined to the central portion of the site, and is the result of previous leaks in piping and tanks in this area. All of the leaks were repaired prior to occupancy by Melching, and the piping and tanks are now empty or no longer present due to site decommissioning activities. Six of the reported leaks were contained and addressed with no soil or groundwater contamination. For the remainder of the leaks, contaminated soil was removed to the extent that was feasible; however, activities were limited due to access restrictions from process piping and equipment. In every case, the surface soil was removed and replaced, and in many areas concreted over, however, deeper soils were often left in place below grade.

Melching is proposing to deed restrict the Site for the use of the groundwater and management of the soil. It is concluded by Lakeshore that these restrictions are the basis for the most prudent and feasible way to address the site environmental issues, specifically when considering:

1. Sappi has already placed rather complicated deed restrictions on the Site that apply to both the entire site and to seven areas within the site boundaries. New restrictions approved by the DEQ, and recorded by Melching, will improve the practical application to the Site.

2. Certain provisions of the deed granted to Melching by Sappi, and related restrictions on the chain of title recorded by Sappi, complicate proactive response to environmental issues. Through new DEQ approved deed restrictions, Melching can address nearly all issues as due care issues and proceed in a timely manner.

3. The DEQ has itemized 19 areas of concern between the dates of February 1998 and April 2005. The Site has been in operation for over 100 years. Even if all of these concerns were addressed individually, a deed restriction will still be appropriate.

4. The Site is presently the Melching base of operations. The employees have been trained in due care issues, and access is limited to specific areas of the site. As areas of the site require specific soil management, or a new use is proposed, Lakeshore will complete due care activities and address applicable regulatory requirements at that time.

APPENDIX A-
SOIL BORING LOGS/ SUMMARY OF SOIL BORING AND MONITORING WELL DATA

Appendix A

Geologic Boring and Groundwater Monitoring Well Data Summary

Geological Boring / Well Location	Depth of Boring(ft)	Well Screened Interval (ft bgs)	Ground Elevation or TOC (ft)	SWL (ft)	GWE (ft*)
				4/19/2012	4/19/2012
GB-1	55	NA	588.05	NA	NA
GB-2	53	NA	587.52	NA	NA
GB-3	45	NA	586.35	NA	NA
GB-4	40	NA	586.45	NA	NA
LMW-1s	NA	10-15	593.60	9.35	584.25
LMW-1d	45	40-45	593.29	8.98	584.31
LMW-2	20	15-20	592.61	10.29	582.32
LMW-3s	NA	10-15	591.54	13.09	578.45
LMW-3i	NA	27-31	591.62	12.80	578.82
LMW-3d	47	42-47	590.91	12.05	578.86
LMW-4	12	7-12	589.92	11.32	578.60
LMW-5	12	7-12	591.58	12.95	578.63
LMW-6	10	5-10	586.02	3.87	582.15
LMW-7	7	2-7	587.43	4.20	583.23

ft bgs: Feet Below Ground Suface

SWL: Static Water Level

GWE: Groundwater Elevation

*: USGS Datum

TOC: Top of Well Casing Elevation

SOIL BORING LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	GB-1
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012

SITE NAME: MELCHING INC.
LOCATION: 2400 LAKESHORE DRIVE, MUSKEGON, MI

WATER LEVEL	9.65'
TIME	
DATE	
CASING DEPTH	

DRILL RIG: GEOPROBE | OPERATOR: R. LUBERDA

DRILLING CONTRACTOR: ALLUVIAL EARTH | SURFACE CONDITIONS:

ELEVATION: 588.05 | DATUM: USGS | GROUT:

SUPERVISED BY: KWP-LAKESHORE ENVIRONMENTAL, INC | LEI PROJECT #: 10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER		DESCRIPTION OF OPERATION AND REMARKS
		GRAY SAND, COARSE GRAINED.				
5'		DARK BROWN SAND, FINE GRAINED; TRACES CRUSHED COAL AND BRICK.				
		WOOD				
10'		LIME				
15'		WOOD AND PEAT				
20'		GRAY SAND, FINE TO MEDIUM GRAINED.				
25'						
30'						
35'						
40'						
45'						
50'						
		GRAY CLAY, MEDIUM STIFF.				EOB @ 55' IN CLAY

SOIL BORING LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	GB-2
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING INC.
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	9.85'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	587.52
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER		DESCRIPTION OF OPERATION AND REMARKS
		TOPSOIL AND CRUSHED COAL				
5'		DARK BROWN SAND, FINE GRAINED; WITH TRACE CONCRETE				
		WOOD CHIPS				
10'		LIME				
		WOOD AND PEAT				
15'		GRAY SAND, FINE TO MEDIUM GRAINED.				
20'						
25'						
30'						
35'						
40'						
45'						
50'		GRAY CLAY, MEDIUM STIFF.				EOB @ 53' IN CLAY

SOIL BORING LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD: GEOPROBE - DIRECT PUSH 2-1/4" OUTSIDE DIAMETER		BORING NO. GB-3	
		SHEET 1 OF 1	
SAMPLING METHOD: 5' ACETATE LINERS		DRILLING	
		START	FINISH
		TIME	TIME
SITE NAME: MELCHING INC.	WATER LEVEL	8.85'	
LOCATION: 2400 LAKESHORE DRIVE, MUSKEGON, MI	TIME		
	DATE		DATE: APRIL 4, 2012 / DATE: APRIL 4, 2012
DRILL RIG: GEOPROBE / OPERATOR: R. LUBERDA	CASING DEPTH		

DRILLING CONTRACTOR: ALLUVIAL EARTH	SURFACE CONDITIONS:
ELEVATION: 586.35 / DATUM: USGS	GROUT:
SUPERVISED BY: KWP-LAKESHORE ENVIRONMENTAL, INC	LEI PROJECT #: 10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER	DESCRIPTION OF OPERATION AND REMARKS
		DARK BROWN SAND, FINE GRAINED; WITH GRAVEL.			
5'		DARK BROWN SAND, FINE GRAINED WITH TRACE COAL			
10'					
		GRAY SAND & SILT; W. TRACE BRICK			
15'		WOOD AND PEAT			
20'		GRAY SAND, FINE TO MEDIUM GRAINED.			
25'					
30'					
35'					
40'					
45'		GRAY CLAY, MEDIUM STIFF.			EOB @ 45' IN CLAY
50'					

SOIL BORING LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	GB-4
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING INC.
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	8.50'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	586.45
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER	DESCRIPTION OF OPERATION AND REMARKS
		DARK BROWN SAND, FINE GRAINED; TRACE COAL			
5'		DARK BROWN SAND, FINE GRAINED WITH TRACES COAL AND CONCRETE			
10'					
15'		WOOD AND PEAT			
20'		GRAY SAND, FINE TO MEDIUM GRAINED.			
25'					
30'		GRAY CLAY, MEDIUM STIFF.			
35'					
40'					EOB @ 40' IN CLAY
45'					
50'					

SOIL BORING / WELL CONSTRUCTION LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	LMW-1s
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING INC.
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	7.35'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	591.10
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER	PID (ppm)	WELL CONSTRUCTION SUMMARY	DESCRIPTION OF OPERATION AND REMARKS
5'		WOOD CHIPS					
		LT GRAY SAND; WELL SORTED					
10'		FILL SAND; TRACES BRICK, COAL, WOOD					SCREENED INTERVAL @ 10-15' BGS
		WOOD AND PEAT					
		GRAY SAND, FINE TO MEDIUM GRAINED.					
15'							EOB @ 15'
20'							
25'							
30'							
35'							
40'							
45'							
50'							

SOIL BORING / WELL CONSTRUCTION LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	LMW-1d
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING INC.
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	6.98'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	590.79
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER		PID (ppm)	WELL CONSTRUCTION SUMMARY	DESCRIPTION OF OPERATION AND REMARKS
5'		WOOD CHIPS						
		LT GRAY SAND; WELL SORTED.						
10'		FILL SAND; TRACES BRICK, COAL, WOOD						
		WOOD AND PEAT						
15'		GRAY SAND, FINE TO MEDIUM GRAINED.						
20'								
25'								
30'								
35'								
40'								SCREENED INTERVAL @ 40-45' BGS
45'								
50'		GRAY CLAY.						EOB @ 54' IN CLAY

SOIL BORING / WELL CONSTRUCTION LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	LMW-2
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING INC.
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	10.29'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	592.61
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER		PID (ppm)	WELL CONSTRUCTION SUMMARY	DESCRIPTION OF OPERATION AND REMARKS
		DARK BROWN SAND, FINE GRAINED.						
		FILL SAND; TRACES BRICK, COAL AND WOOD						
5'		CRUSHED COAL						
		FILL SAND; TRACES BRICK, COAL AND WOOD						
10'								SCREENED INTERVAL @ 10-15' BGS
		WOOD AND PEAT						
15'		GRAY SAND, FINE TO MEDIUM GRAINED.						EOB @ 16'
20'								
25'								
30'								
35'								
40'								
45'								
50'								

SOIL BORING / WELL CONSTRUCTION LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	LMW-3s
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING INC.
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	9.09'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	587.54
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER		PID (ppm)	WELL CONSTRUCTION SUMMARY	DESCRIPTION OF OPERATION AND REMARKS
		DARK BROWN SAND, FINE GRAINED.						
5'		FILL SAND; TRACES BRICK, COAL, WOOD						
10'								SCREENED INTERVAL @ 10-15' BGS
15'								EOB @ 15'
20'								
25'								
30'								
35'								
40'								
45'								
50'								

SOIL BORING / WELL CONSTRUCTION LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	LMW-3i
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING INC.
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	8.80'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	587.62
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER	PID (ppm)	WELL CONSTRUCTION SUMMARY	DESCRIPTION OF OPERATION AND REMARKS
		DARK BROWN SAND, FINE GRAINED.					
5'		FILL SAND; TRACES BRICK, COAL, WOOD					
10'							
15'							
		WOOD AND PEAT					
20'							
25'		GRAY SAND, FINE TO MEDIUM GRAINED.					SCREENED INTERVAL @ 27-31' BGS
30'							EOB @ 31' IN SAND
35'							
40'							
45'							
50'							

SOIL BORING / WELL CONSTRUCTION LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	LMW-3d
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING INC.
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	8.05'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	586.91
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER	PID (ppm)	WELL CONSTRUCTION SUMMARY	DESCRIPTION OF OPERATION AND REMARKS
		DARK BROWN SAND, FINE GRAINED.					
5'		FILL SAND; TRACE BRICK, COAL, WOOD.					
10'							
15'							
		WOOD AND PEAT					
20'							
25'		GRAY SAND, FINE TO MEDIUM GRAINED.					
30'							
35'							
40'							
45'							SCREENED INTERVAL @ 42-47' BGS
50'							
		GRAY CLAY.					EOB @ 60' IN CLAY

SOIL BORING / WELL CONSTRUCTION LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	LMW-4
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING INC.
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	8.31'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	586.92
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER		PID (ppm)	WELL CONSTRUCTION SUMMARY	DESCRIPTION OF OPERATION AND REMARKS
		DARK BROWN SAND, FINE GRAINED.						
5'		FILL SAND; TRACES BRICK, COAL, WOOD.						
10'		LT GRAY SAND; WELL SORTED.						SCREENED INTERVAL @ 7-12' BGS
								EOB @ 12'
15'								
20'								
25'								
30'								
35'								
40'								
45'								
50'								

SOIL BORING / WELL CONSTRUCTION LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE 2-1/4" DPR
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	LMW-5
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING DEMOLITION
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	10.45'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	589.08
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER	PID (ppm)	WELL CONSTRUCTION SUMMARY	DESCRIPTION OF OPERATION AND REMARKS
		DARK BROWN **SAND**, FINE GRAINED.					
5'		FILL **SAND**; TRACES BRICK, COAL, WOOD.					
10'		LT GRAY **SAND**; WELL SORTED.					SCREENED INTERVAL @ 7-12' BGS
							EOB @ 12'
15'							
20'							
25'							
30'							
35'							
40'							
45'							
50'							

SOIL BORING / WELL CONSTRUCTION LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

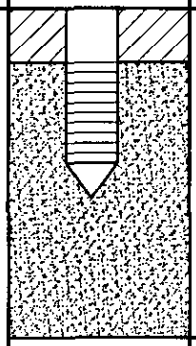
DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	LMW-6
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING INC.
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	3.87'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	586.02
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER		PID (ppm)	WELL CONSTRUCTION SUMMARY	DESCRIPTION OF OPERATION AND REMARKS
		CONCRETE						
		FILL SAND: TRACES BRICK, CONCRETE, PEBBLES.						
5'								SCREENED INTERVAL @ 5-10' BGS
		DARK BROWN SAND, FINE GRAINED; WITH WOOD.						
10'								EOB @ 10'
15'								
20'								
25'								
30'								
35'								
40'								
45'								
50'								

SOIL BORING / WELL CONSTRUCTION LOG

Lakeshore Environmental, Inc.
Scientists | Engineers | Planners

DRILLING METHOD:	GEOPROBE – DIRECT PUSH 2-1/4" OUTSIDE DIAMETER
SAMPLING METHOD:	5' ACETATE LINERS
BORING NO.	LMW-7
SHEET	1 OF 1
DRILLING START TIME	
DRILLING FINISH TIME	
DRILLING START DATE	APRIL 4, 2012
DRILLING FINISH DATE	APRIL 4, 2012
SITE NAME:	MELCHING INC.
LOCATION:	2400 LAKESHORE DRIVE, MUSKEGON, MI
WATER LEVEL	4.20'
TIME	
DATE	
CASING DEPTH	
DRILL RIG:	GEOPROBE
OPERATOR:	R. LUBERDA
DRILLING CONTRACTOR:	ALLUVIAL EARTH
SURFACE CONDITIONS:	
ELEVATION:	587.43
DATUM:	USGS
GROUT:	
SUPERVISED BY:	KWP-LAKESHORE ENVIRONMENTAL, INC
LEI PROJECT #:	10-339-01

DEPTH IN FEET (ELEVATION)	SOIL GRAPH	DESCRIPTION OF MATERIAL	RECOVERY	SAMPLER		PID (ppm)	WELL CONSTRUCTION SUMMARY	DESCRIPTION OF OPERATION AND REMARKS
5'		FILL SAND; TRACES BRICK, CONCRETE, PEBBLES.						SCREENED INTERVAL @ 2-7' BGS
10'		DARK BROWN SAND, FINE GRAINED; WITH WOOD.						
15'								EOB @ 15'
20'								
25'								
30'								
35'								
40'								
45'								
50'								

APPENDIX B-
HYDRAULIC CONDUCTIVITY ANALYSIS

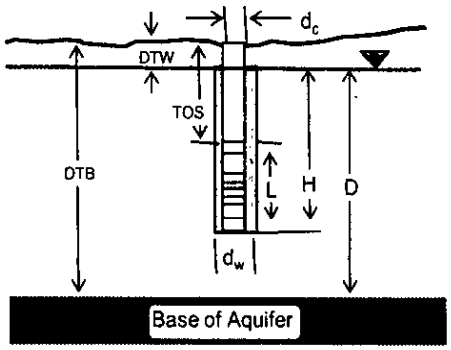
Aquifer Slug Test Summary Melching/ SAPPI - LEI Project No. 10-339			
	Aquifer Slug Tests		
Well ID	Test No.	K (ft/day)	Average K (ft/day)
LMW-3S	1	54	52.8
LMW-3S	2A	120	
LMW-3S	2B	15	
LMW-3S	3	22	
LMW-3I	1	37	36.7
LMW-3I	2	37	
LMW-3I	3	36	
LMW-3D	1	50	47.0
LMW-3D	2	41	
LMW-3D	3	50	
Average:			45.5

WELL ID: LMW-3S (Test 1)

Local ID: Melching SAPPI - 10-339
Date: 4/16/2012
Time: 2:22

INPUT

Construction:		
Casing dia. (d_c)	2	Inch
Annulus dia. (d_w)	3.5	Inch
Screen Length (L)	5	Feet
Depths to:		
water level (DTW)	12.98	Feet
top of screen (TOS)	10	Feet
Base of Aquifer (DTB)	55	Feet
Annular Fill:		
across screen -- Fine Sand		
above screen -- Backfill		
Aquifer Material -- Medium Sand		

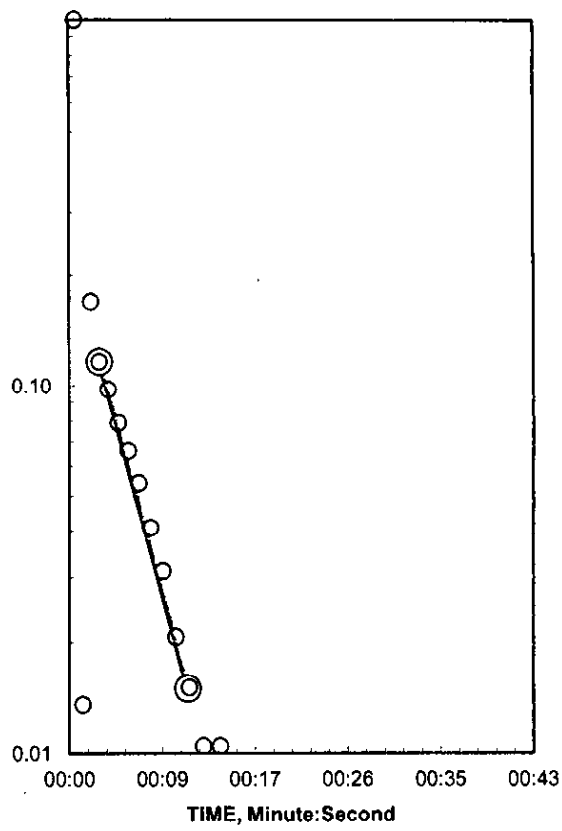


COMPUTED

L_{wetted}	2.02	Feet
D =	42.02	Feet
H =	2.02	Feet
L/r_w =	13.85	
$y_{0\text{-DISPLACEMENT}}$ =	3.91	Feet
$y_{0\text{-SLUG}}$ =	3.91	Feet
From look-up table using L/r_w		
Partial penetrate A =	2.027	
B =	0.303	
ln(Re/rw) =	1.454	
Re =	0.62	Feet
Slope =	0.108792	$\log_{10}$/sec
$t_{90\%}$ recovery =	9	sec

Input is consistent.

K = 54 Feet/Day



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Falling head pneumatic slug testing conducted by Erin Gerber, Lakeshore Environmental, Inc.

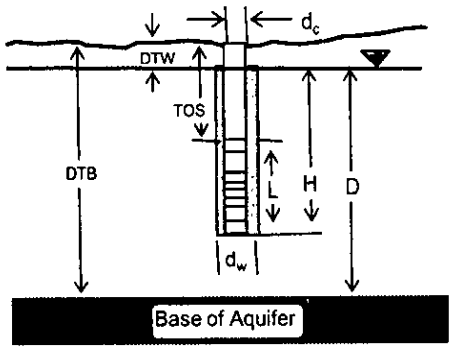
WELL ID: LMW-3S (Test 2A)

Local ID: Melching SAPPI - 10-339

Date: 4/16/2012
Time: 2:22

INPUT

Construction:	
Casing dia. (d_c)	2 Inch
Annulus dia. (d_w)	3.5 Inch
Screen Length (L)	5 Feet
Depths to:	
water level (DTW)	12.98 Feet
top of screen (TOS)	10 Feet
Base of Aquifer (DTB)	55 Feet
Annular Fill:	
across screen -- Fine Sand	
above screen -- Backfill	
Aquifer Material -- Medium Sand	

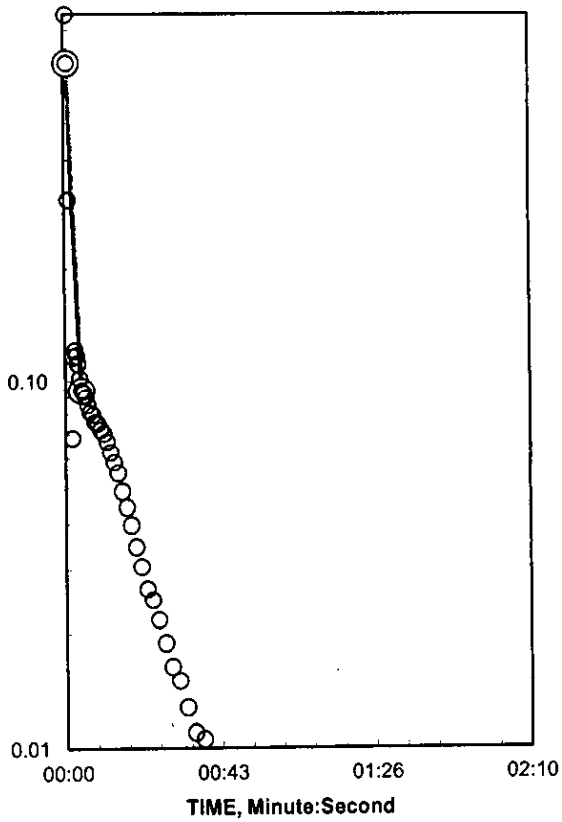


COMPUTED

L_{wetted}	2.02 Feet
D =	42.02 Feet
H =	2.02 Feet
L/r_w =	13.85
$y_{0\text{-DISPLACEMENT}}$ =	4.44 Feet
$y_{0\text{-SLUG}}$ =	4.44 Feet
From look-up table using L/r_w	
Partial penetrate A =	2.027
B =	0.303
ln(Re/rw) =	1.454
Re =	0.62 Feet
Slope =	0.240432 $\log_{10}$/sec
$t_{90\%}$ recovery =	4 sec

Input is consistent.

K = 120 Feet/Day



K= 120 is greater than likely maximum of 70 for Medium Sand

REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Falling head pneumatic slug testing conducted by Erin Gerber, Lakeshore Environmental, Inc.

WELL ID: LMW-3S (Test 2B)

Local ID: Melching SAPPI - 10-339
Date: 4/16/2012
Time: 2:22

INPUT

Construction:

Casing dia. (d_c)	2 Inch
Annulus dia. (d_w)	3.5 Inch
Screen Length (L)	5 Feet

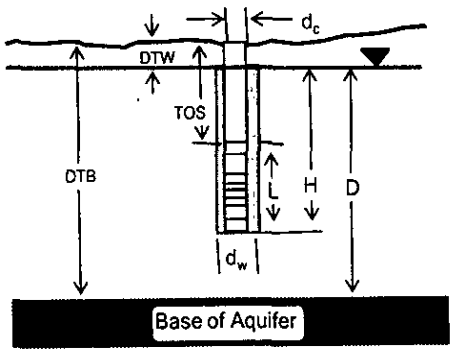
Depths to:

water level (DTW)	12.98 Feet
top of screen (TOS)	10 Feet
Base of Aquifer (DTB)	55 Feet

Annular Fill:

across screen -- Fine Sand
above screen -- Backfill

Aquifer Material -- Medium Sand



COMPUTED

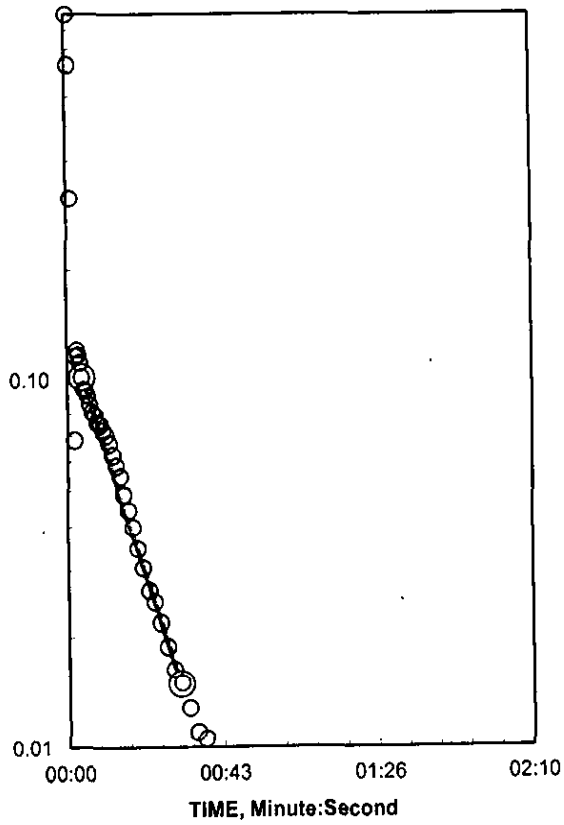
L_{wetted}	2.02 Feet
D =	42.02 Feet
H =	2.02 Feet
L/r_w =	13.85
$y_{0\text{-DISPLACEMENT}}$ =	4.44 Feet
$y_{0\text{-SLUG}}$ =	4.44 Feet

From look-up table using L/r_w

Partial penetrate A =	2.027
B =	0.303
ln(Re/rw) =	1.454
Re =	0.62 Feet
Slope =	0.030834 $\log_{10}$/sec
$t_{90\%}$ recovery =	32 sec

Input is consistent.

K = 15 Feet/Day



K= 15 is less than likely minimum of 20 for Medium Sand

REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

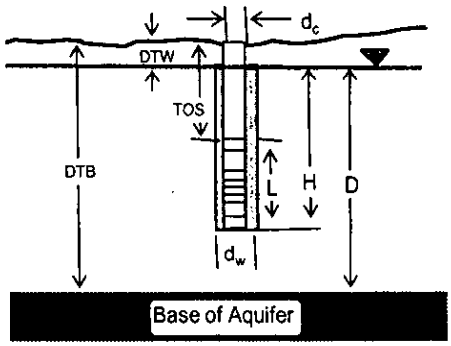
Falling head pneumatic slug testing conducted by Erin Gerber, Lakeshore Environmental, Inc.

WELL ID: LMW-3S (Test 3)

Local ID: Melching SAPPI - 10-339
Date: 4/16/2012
Time: 2:22

INPUT

Construction:	
Casing dia. (d_c)	2 Inch
Annulus dia. (d_w)	3.5 Inch
Screen Length (L)	5 Feet
Depths to:	
water level (DTW)	12.98 Feet
top of screen (TOS)	10 Feet
Base of Aquifer (DTB)	55 Feet
Annular Fill:	
across screen -- Fine Sand	
above screen -- Backfill	
Aquifer Material -- Medium Sand	

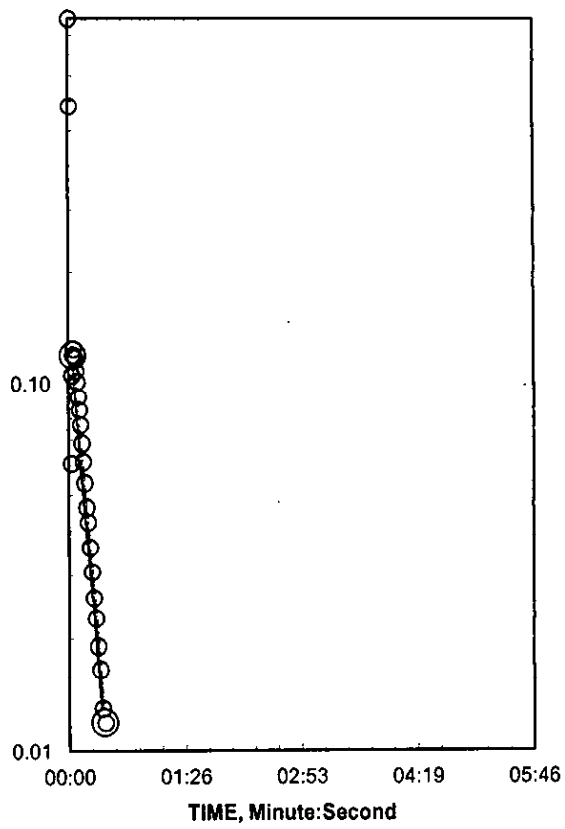


COMPUTED

L_{wetted}	2.02 Feet
D =	42.02 Feet
H =	2.02 Feet
L/r_w =	13.85
$y_{0\text{-DISPLACEMENT}}$ =	4.43 Feet
$y_{0\text{-SLUG}}$ =	4.43 Feet
From look-up table using L/r_w	
Partial penetrate A =	2.027
B =	0.303
ln(Re/rw) =	1.454
Re =	0.62 Feet
Slope =	0.043478 $\log_{10}$/sec
$t_{90\%}$ recovery =	23 sec

Input is consistent.

K = 22 Feet/Day



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Falling head pneumatic slug testing conducted by Erin Gerber, Lakeshore Environmental, Inc.

WELL ID: LMW-3I (Test 1)

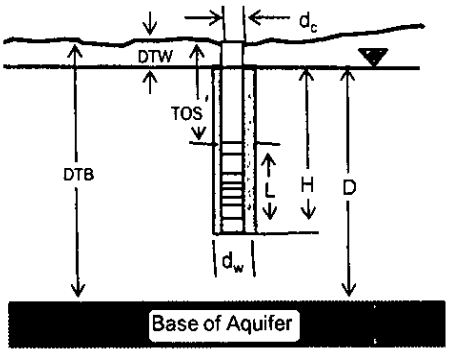
Local ID: Melching SAPPI - 10-339

Date: 4/23/2012

Time: 2:22

INPUT

Construction:		
Casing dia. (d_c)	2	Inch
Annulus dia. (d_w)	3.5	Inch
Screen Length (L)	5	Feet
Depths to:		
water level (DTW)	12.86	Feet
top of screen (TOS)	26	Feet
Base of Aquifer (DTB)	55	Feet
Annular Fill:		
across screen -- Fine Sand		
above screen -- Backfill		
Aquifer Material -- Medium Sand		

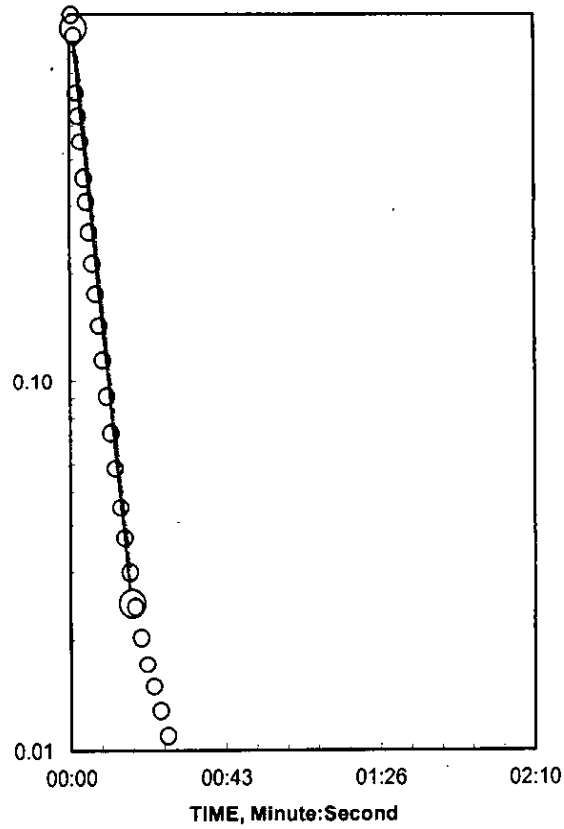


COMPUTED

L_{wetted}	5	Feet
D =	42.14	Feet
H =	18.14	Feet
L/r_w =	34.29	
$y_{0\text{-DISPLACEMENT}}$ =	9.88	Feet
$y_{0\text{-SLUG}}$ =	9.88	Feet
From look-up table using L/r_w		
Partial penetrate A =	2.665	
B =	0.435	
ln(Re/rw) =	2.699	
Re =	2.17	Feet
Slope =	0.099134	$\log_{10}$/sec
$t_{90\%}$ recovery =	10	sec

Input is consistent.

K = 37 Feet/Day



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Falling head pneumatic slug testing conducted by Erin Gerber, Lakeshore Environmental, Inc.

WELL ID: LMW-3I (Test 2)

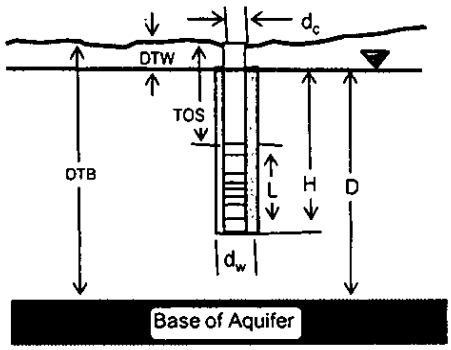
Local ID: Melching SAPPI - 10-339

Date: 4/16/2012

Time: 2:22

INPUT

Construction:		
Casing dia. (d_c)	2	Inch
Annulus dia. (d_w)	3.5	Inch
Screen Length (L)	5	Feet
Depths to:		
water level (DTW)	12.86	Feet
top of screen (TOS)	26	Feet
Base of Aquifer (DTB)	55	Feet
Annular Fill:		
across screen -- Fine Sand		
above screen -- Backfill		
Aquifer Material -- Medium Sand		

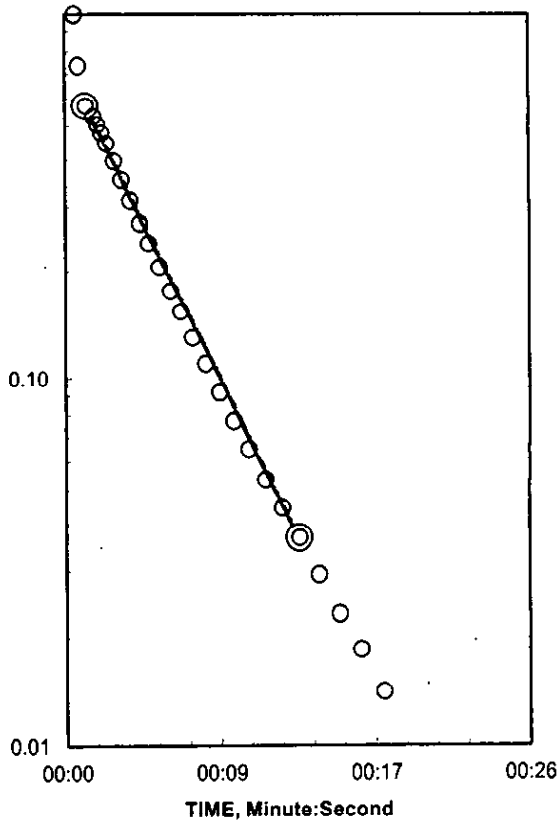


COMPUTED

L_{wetted}	5	Feet
D =	42.14	Feet
H =	18.14	Feet
L/r_w =	34.29	
$y_{0\text{-DISPLACEMENT}}$ =	10.41	Feet
$y_{0\text{-SLUG}}$ =	10.41	Feet
From look-up table using L/r_w		
Partial penetrate A =	2.665	
B =	0.435	
ln(Re/rw) =	2.699	
Re =	2.17	Feet
Slope =	0.10006	$\log_{10}$/sec
$t_{90\%}$ recovery =	10	sec

Input is consistent.

K = 37 Feet/Day



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

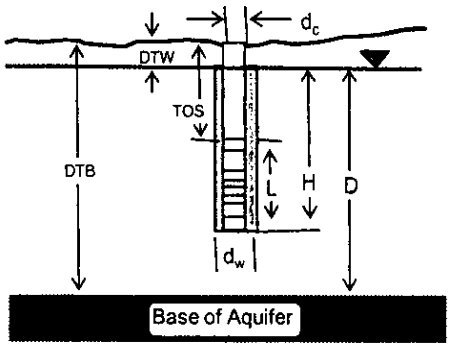
Falling head pneumatic slug testing conducted by Erin Gerber, Lakeshore Environmental, Inc.

WELL ID: LMW-3I (Test 3)

Local ID: Melching SAPPI - 10-339
Date: 4/16/2012
Time: 2:22

INPUT

Construction:		
Casing dia. (d_c)	2	Inch
Annulus dia. (d_w)	3.5	Inch
Screen Length (L)	5	Feet
Depths to:		
water level (DTW)	12.86	Feet
top of screen (TOS)	26	Feet
Base of Aquifer (DTB)	55	Feet
Annular Fill:		
across screen --	Fine Sand	
above screen --	Backfill	
Aquifer Material --	Medium Sand	

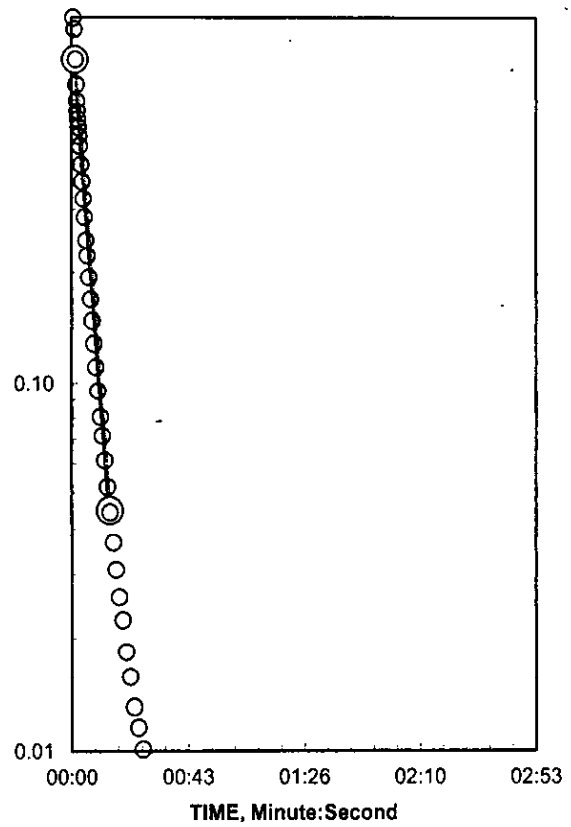


COMPUTED

L_{wetted}	5	Feet
D =	42.14	Feet
H =	18.14	Feet
L/r_w =	34.29	
$y_{0\text{-DISPLACEMENT}}$ =	9.77	Feet
$y_{0\text{-SLUG}}$ =	9.77	Feet
From look-up table using L/r_w		
Partial penetrate A =	2.665	
B =	0.435	
ln(Re/rw) =	2.699	
Re =	2.17	Feet
Slope =	0.095734	$\log_{10}$/sec
$t_{90\%}$ recovery =	10	sec

Input is consistent.

K = 36 Feet/Day



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Falling head pneumatic slug testing conducted by Erin Gerber, Lakeshore Environmental, Inc.

WELL ID: LMW-3D (Test 1)

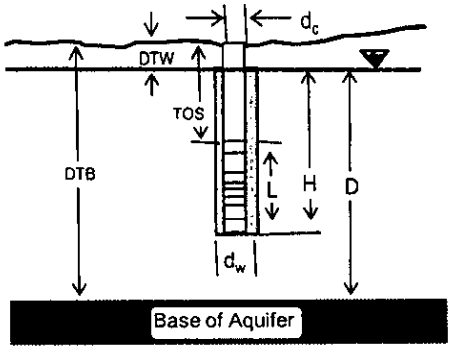
Local ID: Melching SAPPI - 10-339

Date: 4/16/2012

Time: 2:15

INPUT

Construction:	
Casing dia. (d_c)	2 Inch
Annulus dia. (d_w)	3.5 Inch
Screen Length (L)	5 Feet
Depths to:	
water level (DTW)	12.15 Feet
top of screen (TOS)	42 Feet
Base of Aquifer (DTB)	55 Feet
Annular Fill:	
across screen -- Fine Sand	
above screen -- Backfill	
Aquifer Material -- Medium Sand	

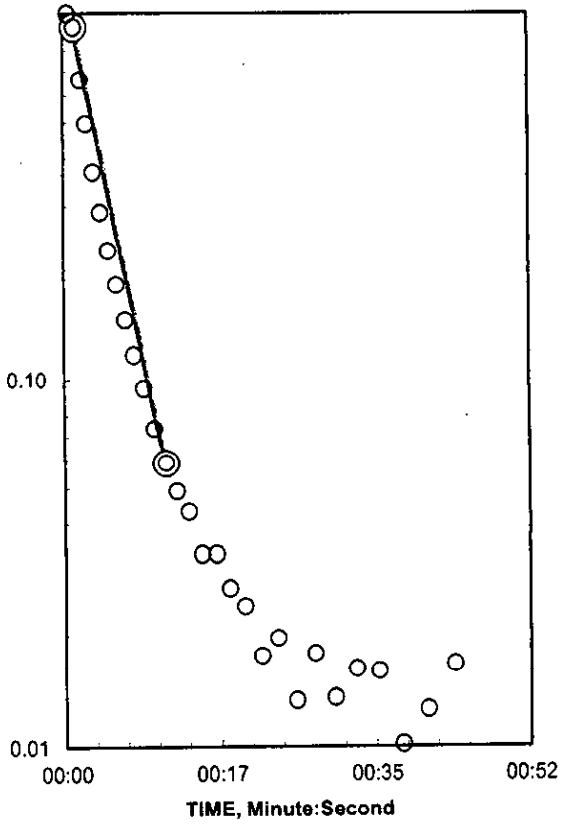


COMPUTED

L_{wetted}	5 Feet
D =	42.85 Feet
H =	34.85 Feet
L/r_w =	34.29
$y_{0\text{-DISPLACEMENT}}$ =	4.22 Feet
$y_{0\text{-SLUG}}$ =	4.22 Feet
From look-up table using L/r_w	
Partial penetrate A =	2.665
B =	0.435
ln(Re/rw) =	3.036
Re =	3.04 Feet
Slope =	0.119341 $\log_{10}$/sec
$t_{90\%}$ recovery =	8 sec

Input is consistent.

K = 50 Feet/Day



REMARKS: Bouwer and Rice analysis of slug test, WRR 1976

Falling head pneumatic slug testing conducted by Erin Gerber, Lakeshore Environmental, Inc.

WELL ID: LMW-3D (Test 2)

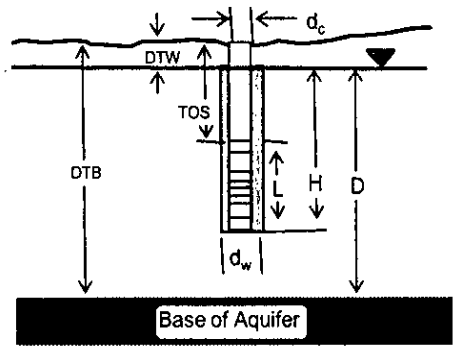
Local ID: Melching SAPPI - 10-339

Date: 4/16/2012

Time: 2:15

INPUT

Construction:		
Casing dia. (d_c)	2	Inch
Annulus dia. (d_w)	3.5	Inch
Screen Length (L)	5	Feet
Depths to:		
water level (DTW)	11.91	Feet
top of screen (TOS)	42	Feet
Base of Aquifer (DTB)	55	Feet
Annular Fill:		
across screen -- Fine Sand		
above screen -- Backfill		
Aquifer Material -- Medium Sand		

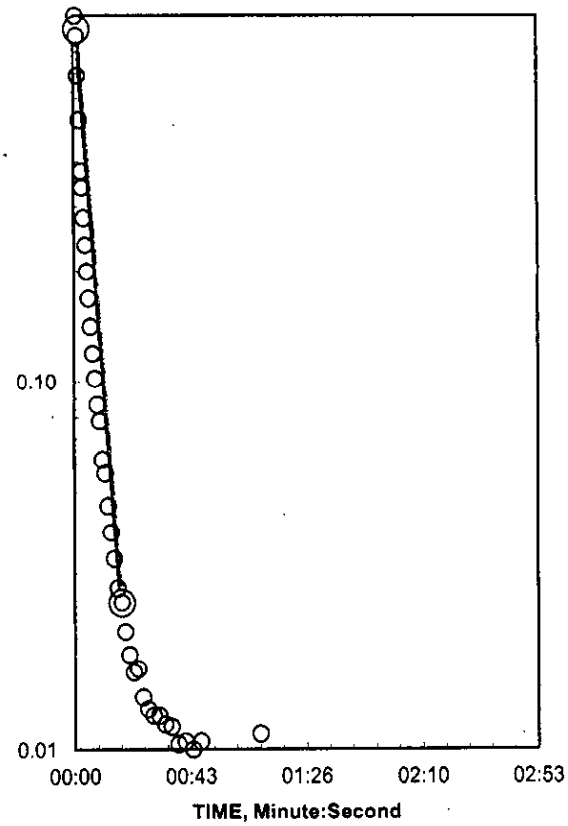


COMPUTED

L_{wetted}	5	Feet
D =	43.09	Feet
H =	35.09	Feet
L/r_w =	34.29	
$y_{0\text{-DISPLACEMENT}}$ =	5.98	Feet
$y_{0\text{-SLUG}}$ =	5.98	Feet
From look-up table using L/r_w		
Partial penetrate A =	2.665	
B =	0.435	
ln(Re/rw) =	3.038	
Re =	3.04	Feet
Slope =	0.096686	$\log_{10}$/sec
$t_{90\%}$ recovery =	10	sec

Input is consistent.

K = 41 Feet/Day



REMARKS: Bouwer and Rice analysis of slug test, WRR 1976

Falling head pneumatic slug testing conducted by Erin Gerber, Lakeshore Environmental, Inc.

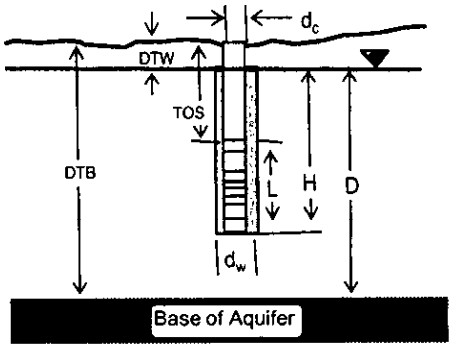
WELL ID: LMW-3D (Test 3)

Local ID: Melching SAPPI - 10-339

Date: 4/16/2012
Time: 2:15

INPUT

Construction:	
Casing dia. (d_c)	2 Inch
Annulus dia. (d_w)	3.5 Inch
Screen Length (L)	5 Feet
Depths to:	
water level (DTW)	11.91 Feet
top of screen (TOS)	42 Feet
Base of Aquifer (DTB)	55 Feet
Annular Fill:	
across screen -- Fine Sand	
above screen -- Backfill	
Aquifer Material -- Medium Sand	

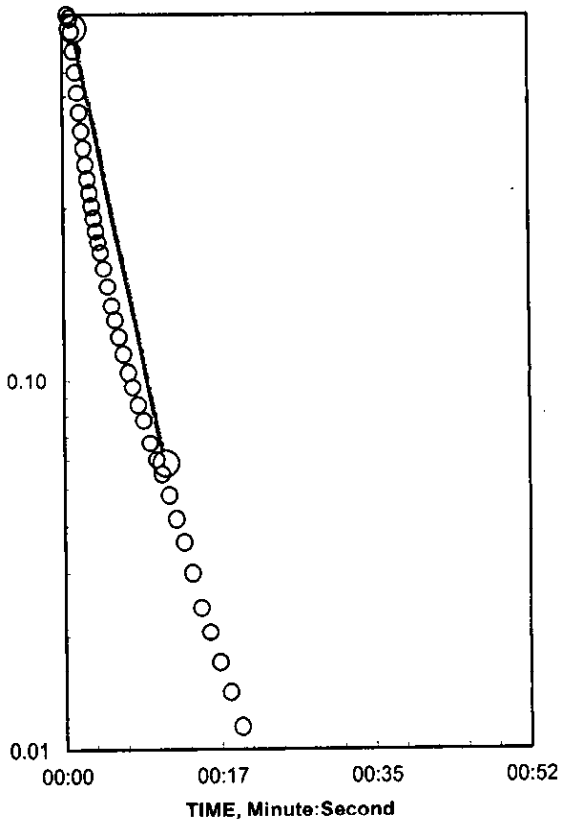


COMPUTED

L_{wetted}	5 Feet
D =	43.09 Feet
H =	35.09 Feet
L/r_w =	34.29
$y_{0\text{-DISPLACEMENT}}$ =	7.15 Feet
$y_{0\text{-SLUG}}$ =	7.15 Feet
From look-up table using L/r_w	
Partial penetrate A =	2.665
B =	0.435
ln(Re/rw) =	3.038
Re =	3.04 Feet
Slope =	0.119341 $\log_{10}$/sec
$t_{90\%}$ recovery =	8 sec

Input is consistent.

K = 50 Feet/Day



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Falling head pneumatic slug testing conducted by Erin Gerber, Lakeshore Environmental, Inc.

stacked vertically on top of one another with their edges touching. This yields a porosity of 47.6%. In rhombohedral packing the spheres are pushed together in their most compact form, yielding a porosity of 25.9%. When grains of differing sizes are mixed together, the smaller grains fit between the grains of the larger ones, thus reducing the overall porosity.

Table 3.2 Ranges of Porosities in Typical Earth Materials [Modified after Driscoll (1986); Freeze and Cherry (1979); Roscoe Moss (1990)]

Unconsolidated Materials	η%	Consolidated Rock	η%
Clay	40–70	Sandstone	5–35
Silt	35–50	Limestone/dolomite	<1–20
Sand	25–50	Shale	<1–10
Gravel	20–40	Crystalline rock (fractured)	<1–5
Sand and gravel	15–35	Vesicular basalt	5–50

n = 40%

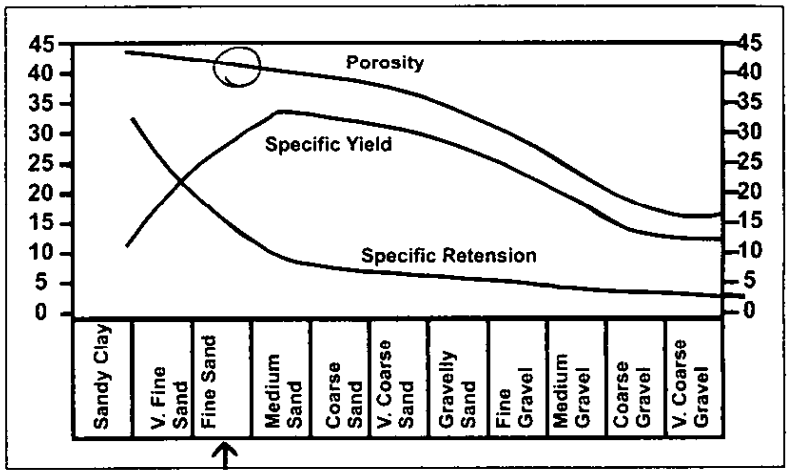


Figure 3.6 Relationship of porosity, specific yield, and specific retention with grain size. [Modified after Scott and Scalmanini (1978).]

In the saturated zone below the water table the porous openings are *completely* filled with water. The total porosity can also be calculated from the following relationship:

$$\eta\% = 100\left[1 - \frac{\rho_b}{\rho_p}\right] \qquad [3.5]$$

Client:	Melching/Sappi	**Date:**	4/10/2012
		Project Number:	10-339
		Project Name:	Melching
Sample Date:	4/4/2012	**Date Received:**	4/9/2012
Sample Description:	LMW-3S	**Test Date:**	4/9/2012

Visual Description: **In-place Moisture:** Saturated

PARTICLE SIZE ANALYSIS*

Weight of sample prior to wash: 644.9 Grams

Weight of sample after wash : 644.9 Grams **Analyzed By:** **ERG**

% Loss by wash: 0.0 %

Sieve #	Size in mm.	Weight Retained	Percent Retained	Cum. % Retained	Cum. % Passing	Comments
No. 4	4.75	316.4	49.2	49.2	50.8	Fine gravel retained on No. 4.
No. 10	2	80.4	12.5	61.7	38.3	Coarse sand retained on No. 10.
No. 40	0.425	95.0	14.8	76.5	23.5	Medium sand retained on No. 40.
No. 100	0.15	88.2	13.7	90.2	9.8	Fine sand retained on No. 100.
No. 200	0.075	22.0	3.4	93.6	6.4	Very fine sand retained on No. 200.
Pan		41.1	6.4			
Loss by Wash		0.0	0.0			Fines passing No. 200
	Recovered weight =	643.1 grams				

Breakdown by % weight: Gravel - 49.20% Sand- 44.41% Fines- 6.39%

D_{60}	D_{30}	D_{10}
0.31	0.24	0.19

$Cu = D_{60} / D_{10} =$ 1.63

$Cc = (D_{30})^2 / (D_{10} \times D_{60}) =$ 0.98

Soil classifies as clay (CL) if greater than 50 percent passes the no. 200 sieve.
Soil classifies as a well-graded sand (SW) if Cu > 6 and 3 > Cc > 1.
Soil classifies as a poorly-graded sand (SP) if above criteria is not met.

The soil classifies as : SP

* Method: ASTM D422-63 "Particle-size Analysis of Soils"
* Method: ASTM D2216-92 "Laboratory Determination of Water content of Soil and Rock"
* Method: ASTM D2487-93 "Classification of Soils for Engineering Purposes"
* Method: ASTM D2488-93 "Description and Identification of Soils (Visual-Manual Procedure)"

Client:	Melching/Sappi	**Date:**	4/10/2012
		Project Number:	10-339
		Project Name:	Melching
Sample Date:	4/4/2012	**Date Received:**	4/9/2012
Sample Description:	LMW-3I	**Test Date:**	4/9/2012

Visual Description: **In-place Moisture:** Saturated

PARTICLE SIZE ANALYSIS*

Weight of sample prior to wash: 340.8 Grams

Weight of sample after wash : 340.8 Grams **Analyzed By:** **ERG**

% Loss by wash: 0.0 %

Sieve #	Size in mm.	Weight Retained	Percent Retained	Cum. % Retained	Cum. % Passing	Comments
No. 4	4.75	0.0	0.0	0.0	100.0	Fine gravel retained on No. 4.
No. 10	2	0.0	0.0	0.0	100.0	Coarse sand retained on No. 10.
No. 40	0.425	12.2	3.6	3.6	96.4	Medium sand retained on No. 40.
No. 100	0.15	325.5	95.7	99.3	0.7	Fine sand retained on No. 100.
No. 200	0.075	1.3	0.4	99.6	0.4	Very fine sand retained on No. 200.
Pan		1.2	0.4			
Loss by Wash		0.0	0.0			Fines passing No. 200
	Recovered weight =	340.2 grams				

Breakdown by % weight: Gravel - 0.00% Sand- 99.65% Fines- 0.35%

D_{60}	D_{30}	D_{10}		
0.31	0.24	0.19	$Cu = D_{60} / D_{10} =$	1.63
			$Cc = (D_{30})^2 / (D_{10} \times D_{60}) =$	0.98

Soil classifies as clay (CL) if greater than 50 percent passes the no. 200 sieve.
Soil classifies as a well-graded sand (SW) if Cu > 6 and 3 > Cc > 1.
Soil classifies as a poorly-graded sand (SP) if above criteria is not met.
The soil classifies as : SP

* Method: ASTM D422-63 "Particle-size Analysis of Soils"
* Method: ASTM D2216-92 "Laboratory Determination of Water content of Soil and Rock"
* Method: ASTM D2487-93 "Classification of Soils for Engineering Purposes"
* Method: ASTM D2488-93 "Description and Identification of Soils (Visual-Manual Procedure)"

Client:	Melching/Sappi	**Date:**	4/10/2012
		Project Number:	10-339
		Project Name:	Melching
Sample Date:	4/4/2012	**Date Received:**	4/9/2012
Sample Description:	LMW-3D	**Test Date:**	4/9/2012

Visual Description: **In-place Moisture:** Saturated

PARTICLE SIZE ANALYSIS*

Weight of sample prior to wash: 340.5 Grams

Weight of sample after wash : 340.5 Grams **Analyzed By:** **ERG**

% Loss by wash: 0.0 %

Sieve #	Size in mm.	Weight Retained	Percent Retained	Cum. % Retained	Cum. % Passing	Comments
No. 4	4.75	1.2	0.4	0.4	99.6	Fine gravel retained on No. 4.
No. 10	2	0.5	0.1	0.5	99.5	Coarse sand retained on No. 10.
No. 40	0.425	19.2	5.6	6.1	93.9	Medium sand retained on No. 40.
No. 100	0.15	315.8	92.8	99.0	1.0	Fine sand retained on No. 100.
No. 200	0.075	2.1	0.6	99.6	0.4	Very fine sand retained on No. 200.
Pan		1.4	0.4			
Loss by Wash		0.0	0.0			Fines passing No. 200
	Recovered weight =	340.2 grams				

Breakdown by % weight: Gravel - 0.35% Sand- 99.24% Fines- 0.41%

D_{60}	D_{30}	D_{10}		
0.31	0.24	0.19	$Cu = D_{60} / D_{10} =$	1.63
			$Cc = (D_{30})^2 / (D_{10} \times D_{60}) =$	0.98

Soil classifies as clay (CL) if greater than 50 percent passes the no. 200 sieve.
Soil classifies as a well-graded sand (SW) if Cu > 6 and 3 > Cc > 1.
Soil classifies as a poorly-graded sand (SP) if above criteria is not met.
The soil classifies as : SP

* Method: ASTM D422-63 "Particle-size Analysis of Soils"
* Method: ASTM D2216-92 "Laboratory Determination of Water content of Soil and Rock"
* Method: ASTM D2487-93 "Classification of Soils for Engineering Purposes"
* Method: ASTM D2488-93 "Description and Identification of Soils (Visual-Manual Procedure)"

APPENDIX C-
MDEQ ITEMS OF CONCERN

APPENDIX C DEQ ITEMS OF CONCERN				
Item	**Date**	**Incident Description**	**Status**	**Parameters (Per DEQ)**
1	Feb-98	Sodium Chlorate Leak at AST	Soil Removed and Leak Repaired. Repair supervised by DEQ, Fire Department, WWTP who did not request any follow up testing or closure.	Sodium*
2	Sep-98	Force Main / Wet Well Leak	Off Site at McCracken and Railroad Tracks. Wastewater Vent Knocked Off by Boat Trailer at Wrong Location. Leak Repaired and Soil Removed. Supervised by DEQ, Fire Department, WWTP. No request for follow-up activities.	Sodium, Sulfate
3	Oct-99	Chlorine Dioxide Building (bldg 31) U Drain Leak	Sulphuric Acid Line Leak. Leak Repaired. Impacted Soil Removed. Groundwater with increased Sodium, sulfate, and low pH identified.	Sodium, Sulfate, Low pH*
4	Sep-01	Process Sewer Break near Dock 10 Boiler Water Treatment Area	Underground sewer line leak. Leak Repaired. Impacted Soil Removed. Leak did not extend to water table. No verification testing performed previously.	Sulfate, Low pH*
5	Oct-01	Digester Building Pipeline break	Leak over concrete pad. Dilute White Liquor. All material was pumped to wastewater treatment system. Leak repaired. No soil or groundwater impact.	Sampling did not appear warranted.
6	Mar-02	Bleach Plant Process Sewer Line Leak	Underground Piping Leak. Impacted soil removed and leak repaired. No verification testing performed previously.	Sodium Hydroxide (high pH)*
7	May-02	White Liquor overhead pipeline leak - Digester Alleyway	White Liquor spilled to soil. Removed soil, then paved (concreted) over area. No verification testing performed previously.	Sodium, Sulfate*
8	May-02	R-8 Chlorine Dioxide Plant drain wash out	Sulphuric Acid waste line leak at U drain. Soil excavated, leak repaired. No verification testing performed previously.	Sulfate, Low pH*
9	May-02	Boiler Water treatment (bldg 22) pipeline break	Leak in acid backwash rinse line. Inside building on concrete with de minimus flow out Dock 10 to soil. No testing or soil removal needed.	Sampling did not appear warranted.
10	Jul-02	Green Liquor Clarifier leak	Green Liquor lost to soil. Soil excavated and 8 sidewall samples collected for verification. Samples passed for sodium but one sample failed for sulfate in area where continued excavation was not feasible. Area was deed restricted.	Green liquor (sodium carbonate and sodium sulfide)*
11	Nov-02	Black Liquor release from concrete sump	Leak was contained on concrete and directed to the wastewater treatment system. No issues.	Sampling did not appear warranted.
12	Aug-03	Mill Process Sewer break near building 73	Break in below grade pipe from pumps to meter house. Soil excavated, pipe repaired, then backfilled. No verification testing was performed previously.	Sodium, Sulfate*
13	Sep-03	Dock 10 Area releases	Minor releases of caustic and sulfuric acid. Area excavated and then concreted. No verification testing previously.	Sodium, Sulfate, low or high pH*
14	Oct-03	Lift Station manhole release	Leak occurred in basement of Building 73. Concrete floor and walls with sump to wastewater treatment. No actual release to environment.	Sampling did not appear warranted.
15	Jan-04	White liquor release at Cordova Tank	Release of white liquor was confined in tank secondary containment, then pumped to wastewater treatment. No release to the environment.	Sampling did not appear warranted.
16	Feb-04	Fuel Oil release near buildings 50 and 56	Fuel oil leaked from sightglass on storage tank due to faulty valve. The leak was inside but extended outside the wall to soil and groundwater. Apparently, an extraction well was installed with purge water directed to the City of Muskegon WWTP. An oil recovery system was believed to be installed. Apparently, the system was operated until oil was no longer observed in the wells. Lakeshore has detected no floating oil in monthly checks of wells since September 2011. No impacts observed in downgradient GSI wells.	PNA's, BTEX, TMB*
17	May-04	White Liquor release	Leak occurred on concrete pad and all material was pumped to wastewater system. No actual release to the environment.	Sampling did not appear warranted.
18	Nov-04	Causticizing Plant Pipeline Break	Pipe break inside Building 53 (southwest end). The liquid was collected and pumped to the wastewater treatment system. No actual release to the environment.	Sampling did not appear warranted.
19	Apr-05	Wastewater Diversion Tank Pipeline Break	Leak occurred in underground pipe (at tee). Tee replaced. Less than 1 yard of soil removed with no other impact. Very, Very small leak. No release that was not addressed.	Sampling did not appear warranted.

*Groundwater testing discussed in this report provides definition for all items of concern located on-site.

APPENDIX D-
STORM WATER RETENTION BASIN TESTING DATA

Appendix- D
Melching, Inc.
Due Care Sampling
2400 Lakeshore Drive, Muskegon, Muskegon County, MI
Groundwater Sampling Results (µg/L)

Constituent	Chemical Abstract Service Number	Non Residential Part 201 Generic Cleanup Criteria and Screening Levels			Sample Identification Number
		Non Residential Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	Stormwater Retention Basin (Surge Basin)
					3/27/2012
Volatiles (µg/L)					
VOCs	Multiple	Various	Various	Various	ND
Semi-volatiles (µg/L)					
PNAs	Multiple	Various	Various	Various	ND
Metals (µg/L)					
Arsenic	7440382	10 (A)	10	4,300	ND
Barium (B)	7440393	2,000 (A)	680	1.40E+07	ND
Cadmium (B)	7440439	5.0 (A)	2.5	1.90E+05	ND
Chromium (B,H)	16065831	100 (A)	100	2.90E+08	ND
Copper (B)	7440508	1,000 (E)	13	7.40E+06	4.4
Lead (B)	7439921	4.0 (L)	14	ID	ND
Mercury (Total) (B,Z)	Varies	2.0 (A)	0.0013	56 (S)	ND
Selenium (B)	7782492	50 (A)	5	9.70E+05	ND
Silver (B)	7440224	98	0.2 (M); 0.06	1.50E+06	ND
Zinc (B)	7440666	5,000 (E)	170	1.10E+08	ND
Sulfate	14808798	250,000	NA	ID	56,000
Sodium	17341252	350,000	NA	1.0E+9 (D)	110,000

No Parameters Exceeded Non-Residential Criteria

Field Reading Parameters	Surge Basin
pH	8.16
Conductivity (uS/cm)	847
ORP (mV)	7
Dissolved Oxygen (mg/L)	6.14
Temperature (degrees C)	13.6
Turbidity (NTU)	2.6

Notes

Bold and shaded concentrations exceed Part 201 GRCC.

Key

*: All constituents measured in parts per billion (ug/L)

---Not Analyzed

A: Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.

D: Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

E: Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of NREPA, 1994 PA 451, as amended.

G: GSI criterion was established based on a hardenss value of 150 mg/L CaCO3 for Muskegon Lake established by GVSU and confirmed by Lakeshore Environmental, Inc. during recent Muskegon Lake sampling.

ID: Inadequate data to develop criterion

L: Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.

M: Calculated criterion is below analytical target detection limit. Therefore, criterion defaults to target detection limit.

NA: Criterion is not available, or in the case of Csat, not applicable

ND: Constituent not detected above laboratory method detection limit

NLL: Hazardous substance is not likely to leach under most conditions

NLV: Hazardous substance is not likely to volatilize under most conditions

S: Criterion defaults to the hazardous substance-specific water solubility limit.

W: Concentrations of trihalomethanes shall be added together to determine compliance with the Michigan drinking water standard of 80 ug/L.

X: GSI criterion shown in these generic tables is not protective of surface water that is used as a drinking water source.

AA: Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.

ALS Group USA, Corp

Date: *03-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1203833
Project: Melching Demolition 10-339 3/27/12
Lab ID: 1203833-01

Client Sample ID: Surge Basin
Collection Date: 3/27/2012
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **3/28/2012**		Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	3/28/2012
METALS BY ICP-MS			**SW6020A**		Prep Date: **3/29/2012**		Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	3/30/2012
Barium	ND	0.10	0.10		mg/L	1	3/30/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	3/30/2012
Chromium	ND	0.010	0.010		mg/L	1	3/30/2012
Copper	**0.0044**	**0.0040**	**0.0040**		**mg/L**	1	3/30/2012
Hardness (Calculation)	**170**	**2.0**	**0**		**mg/L**	1	3/30/2012
Lead	ND	0.0030	0.0030		mg/L	1	3/30/2012
Selenium	ND	0.0050	0.0050		mg/L	1	3/30/2012
Silver	ND	0.00020	0.00020		mg/L	1	3/30/2012
Sodium	**110**	**1.0**	**1.0**		**mg/L**	1	3/30/2012
Zinc	ND	0.050	0.050		mg/L	1	3/30/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **3/29/2012**		Analyst: **JG**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	3/30/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	3/30/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	3/30/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	3/30/2012
Anthracene	ND	5.0	5.0		µg/L	1	3/30/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	3/30/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	3/30/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	3/30/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	3/30/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	3/30/2012
Chrysene	ND	1.0	1.0		µg/L	1	3/30/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	3/30/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	3/30/2012
Fluorene	ND	5.0	5.0		µg/L	1	3/30/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	3/30/2012
Naphthalene	ND	5.0	5.0		µg/L	1	3/30/2012
Phenanthrene	ND	2.0	2.0		µg/L	1	3/30/2012
Pyrene	ND	5.0	5.0		µg/L	1	3/30/2012
Surr: 2-Fluorobiphenyl	*67.4*	*36-94*			*%REC*	1	3/30/2012
Surr: 4-Terphenyl-d14	*59.4*	*26-119*			*%REC*	1	3/30/2012
Surr: Nitrobenzene-d5	*74.3*	*41-104*			*%REC*	1	3/30/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	3/30/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	3/30/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *03-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: Surge Basin
Work Order: 1203833
Collection Date: 3/27/2012
Project: Melching Demolition 10-339 3/27/12
Lab ID: 1203833-01
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	3/30/2012
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	3/30/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	3/30/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	3/30/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	3/30/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	3/30/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	3/30/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	3/30/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	3/30/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	3/30/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	3/30/2012
1,2-Dichloropropane	ND	1.0	1.0		µg/L	1	3/30/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	3/30/2012
1,3-Dichlorobenzene	ND	1.0	1.0		µg/L	1	3/30/2012
1,4-Dichlorobenzene	ND	1.0	1.0		µg/L	1	3/30/2012
2-Butanone	ND	25	25		µg/L	1	3/30/2012
2-Hexanone	ND	50	50		µg/L	1	3/30/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	3/30/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	3/30/2012
Acetone	ND	50	50		µg/L	1	3/30/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	3/30/2012
Benzene	ND	1.0	1.0		µg/L	1	3/30/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	3/30/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	3/30/2012
Bromomethane	ND	5.0	5.0		µg/L	1	3/30/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	3/30/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	3/30/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	3/30/2012
Chloroethane	ND	5.0	5.0		µg/L	1	3/30/2012
Chloroform	ND	1.0	1.0		µg/L	1	3/30/2012
Chloromethane	ND	5.0	5.0		µg/L	1	3/30/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	3/30/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	3/30/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	3/30/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	3/30/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	3/30/2012
Diethyl ether	ND	10	10		µg/L	1	3/30/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	3/30/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	3/30/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	3/30/2012
m,p-Xylene	ND	1.0	1.0		µg/L	1	3/30/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *03-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1203833
Project: Melching Demolition 10-339 3/27/12
Lab ID: 1203833-01

Client Sample ID: Surge Basin
Collection Date: 3/27/2012
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl iodide	ND	1.0	1.0		µg/L	1	3/30/2012
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	3/30/2012
Naphthalene	ND	5.0	5.0		µg/L	1	3/30/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	3/30/2012
o-Xylene	ND	1.0	1.0		µg/L	1	3/30/2012
Styrene	ND	1.0	1.0		µg/L	1	3/30/2012
Tetrachloroethene	ND	1.0	1.0		µg/L	1	3/30/2012
Toluene	ND	1.0	1.0		µg/L	1	3/30/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	3/30/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	3/30/2012
trans-1,4-Dichloro-2-butene	ND	1.0	1.0		µg/L	1	3/30/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	3/30/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	3/30/2012
Vinyl acetate	ND	100	100		µg/L	1	3/30/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	3/30/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	3/30/2012
Surr: 1,2-Dichloroethane-d4	*97.6*	*70-120*			*%REC*	1	3/30/2012
Surr: 4-Bromofluorobenzene	*97.4*	*75-120*			*%REC*	1	3/30/2012
Surr: Dibromofluoromethane	*97.4*	*85-115*			*%REC*	1	3/30/2012
Surr: Toluene-d8	*97.9*	*85-120*			*%REC*	1	3/30/2012
BIOCHEMICAL OXYGEN DEMAND			**A5210B**		Prep Date: **3/28/2012**		Analyst: **EE**
Biochemical Oxygen Demand	**2.4**	**2.0**	**0**		**mg/L**	1	4/2/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Chloride	**80**	**10**	**10**		**mg/L**	4	3/29/2012
Sulfate	**56**	**4.0**	**1.0**		**mg/L**	4	3/29/2012
TOTAL DISSOLVED SOLIDS			**A2540 C**				Analyst: **KV**
Total Dissolved Solids	**480**	**10**	**10**		**mg/L**	1	3/28/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

☐ **ALS Laboratory Group**
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Form

Page ___ of 1

☐ **ALS Laboratory Group**
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager: ALS Work Order #: 1203833

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Melching Remediation	A	MI 10 metals
Work Order		Project Number	10-331	B	PNA
Company Name		Bill To Company	LEI	C	VOCs (8260)
Send Report To	Kirk	Invoice Attn		D	chloride
Address		Address		E	Sodium
				F	Sulfate
City/State/Zip		City/State/Zip		G	Hardness
Phone		Phone		H	Bod BOD
Fax		Fax		I	TDS
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Surge Basin	3/27/12		Water		7	X	X	X	X	X	X	X	X	X		
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: [signature]

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other _____ ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by: [signature]	Date: 3/27/12	Time: 4:00	Received by: [signature]
Relinquished by: [signature]	Date: 3/27/12	Time: 1620	Received by (Laboratory): [signature]
Logged by (Laboratory): SCB	Date: 3/27/12	Time: 1600	Checked by (Laboratory): [signature]

Notes:

Cooler ID	Cooler Temp
	5.8°C

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other _____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2008 by ALS Laboratory Group.

APPENDIX E-
ANALYTICAL DATA FOR GROUNDWATER/ GSI SAMPLING

Appendix E-
Melching, Inc.
Due Care Sampling
2400 Lakeshore Drive, Muskegon, Muskegon County, MI
Groundwater Sampling Results (µg/L)

Constituent	Chemical Abstract Service Number	Non Residential Part 201 Generic Cleanup Criteria and Screening Levels			Sample Identification Number (Screen Interval)									
		Non Residential Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	LMW-1s	LMW-1d	LMW-2	LMW-3s	LMW-3i	LMW-3d	LMW-4	LMW-5	LMW-6	LMW-7
					10'-15' bgs	40'-45' bgs	15'-20' bgs	10'-15' bgs	26'-31' bgs	42'-47' bgs	7'-12' bgs	7'-12' bgs	5'-10' bgs	2'-7- bgs
					4/18/2012	4/18/2012	4/18/2012	4/18/2012	4/18/2012	4/18/2012	4/19/2012	4/19/2012	4/19/2012	4/19/2012
Volatiles (µg/L)														
VOCs	Multiple	Various	Various	Various	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-volatiles (µg/L)														
PNAs	Multiple	Various	Various	Various	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)														
Arsenic	7440382	10 (A)	10	4,300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium (B)	7440393	2,000 (A)	680	1.40E+07	ND	ND	ND	ND	110	150	150	130	ND	ND
Cadmium (B)	7440439	5.0 (A)	2.5	1.90E+05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (B,H)	16065831	100 (A)	100	2.90E+08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper (B)	7440508	1,000 (E)	13	7.40E+06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead (B)	7439921	4.0 (L)	14	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (Total) (B,Z)	Varies	2.0 (A)	0.0013	56 (S)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium (B)	7782492	50 (A)	5	9.70E+05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver (B)	7440224	98	0.2 (M); 0.06	1.50E+06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc (B)	7440666	5,000 (E)	170	1.10E+08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sulfate	14808798	250,000	NA	ID	38,000	92,000	ND	16,000	4,700	ND	1,300	25,000	3,700	61,000
Sodium	17341252	350,000	NA	1.0E+9 (D)	76,000	24,000	120,000	110,000	130,000	230,000	200,000	140,000	62,000	79,000

Field Reading Parameters	LMW-1s	LMW-1d	LMW-2	LMW-3s	LMW-3i	LMW-3d	LMW-4	LMW-5	LMW-6	LMW-7
pH	7.26	8.04	7.02	7.17	7.01	6.7	6.91	7.07	6.8	7.48
Conductivity (uS/cm)	1308	440.3	1154	701.8	1130	1332	1014	1730	574	852
ORP (mV)	-25	-461	-77	-244	-105	-203	-189	-51	-229	-20
Dissolved Oxygen (mg/L)	1.6	0.72	0.87	1.34	0.38	1.73	1.33	0.66	1.34	1.05
Temperature (degrees C)	12.2	12.47	13.1	8.47	11.9	13.11	11.59	12.4	11.8	13.2
Turbidity (NTU)	14.5	12.47	3.14	7.87	1.42	4.91	5.3	1.04	0.99	0.39

No Parameters Exceeded Non-Residential Criteria

Notes

Bold and shaded concentrations exceed Part 201 GRCC.

Key

*: All constituents measured in parts per billion (ug/L)

---Not Analyzed

A: Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.

D: Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

E: Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of NREPA, 1994 PA 451, as amended.

G: GSI criterion was established based on a hardenss value of 150 mg/L CaCO3 for Muskegon Lake established by GVSU and confirmed by Lakeshore Environmental, Inc. during recent Muskegon Lake sampling.

ID: Inadequate data to develop criterion

L: Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.

M: Calculated criterion is below analytical target detection limit. Therefore, criterion defaults to target detection limit.

NA: Criterion is not available, or in the case of Csat, not applicable

ND: Constituent not detected above laboratory method detection limit

NLL: Hazardous substance is not likely to leach under most conditions

NLV: Hazardous substance is not likely to volatilize under most conditions

S: Criterion defaults to the hazardous substance-specific water solubility limit.

W: Concentrations of trihalomethanes shall be added together to determine compliance with the Michigan drinking water standard of 80 ug/L.

X: GSI criterion shown in these generic tables is not protective of surface water that is used as a drinking water source.

AA: Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-1s
Work Order: 1204539
Collection Date: 4/18/2012 10:30:00 AM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-01
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/20/2012**		Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	4/23/2012
METALS BY ICP-MS			**SW6020A**		Prep Date: **4/20/2012**		Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/20/2012
Barium	ND	0.10	0.10		mg/L	1	4/20/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/20/2012
Chromium	ND	0.010	0.010		mg/L	1	4/20/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/20/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/20/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/20/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/20/2012
Sodium	**76**	**1.0**	**1.0**		**mg/L**	1	4/20/2012
Zinc	ND	0.050	0.050		mg/L	1	4/20/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **4/20/2012**		Analyst: **RM**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	4/23/2012
Anthracene	ND	5.0	5.0		µg/L	1	4/23/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Chrysene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	4/23/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Fluorene	ND	5.0	5.0		µg/L	1	4/23/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Phenanthrene	ND	2.0	2.0		µg/L	1	4/23/2012
Pyrene	ND	5.0	5.0		µg/L	1	4/23/2012
Surr: 2-Fluorobiphenyl	*42.8*	*36-94*			*%REC*	1	4/23/2012
Surr: 4-Terphenyl-d14	*36.6*	*26-119*			*%REC*	1	4/23/2012
Surr: Nitrobenzene-d5	*43.4*	*41-104*			*%REC*	1	4/23/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-1s
Work Order: 1204539
Collection Date: 4/18/2012 10:30:00 AM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-01
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/20/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/20/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/20/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/20/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
2-Butanone	ND	25	25		µg/L	1	4/20/2012
2-Hexanone	ND	50	50		µg/L	1	4/20/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/20/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/20/2012
Acetone	ND	50	50		µg/L	1	4/20/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/20/2012
Benzene	ND	1.0	1.0		µg/L	1	4/20/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/20/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/20/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Diethyl ether	ND	10	10		µg/L	1	4/20/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/20/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/20/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	LMW-1s
Work Order:	1204539	**Collection Date:**	4/18/2012 10:30:00 AM
Project:	Melching Demolition 10-339 4/18-4/19/12		
Lab ID:	1204539-01	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/20/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/20/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/20/2012
Styrene	ND	1.0	1.0		µg/L	1	4/20/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/20/2012
Toluene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/20/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Vinyl acetate	ND	100	100		µg/L	1	4/20/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/20/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/20/2012
Surr: 1,2-Dichloroethane-d4	*114*	*70-120*			*%REC*	1	4/20/2012
Surr: 4-Bromofluorobenzene	*99.2*	*75-120*			*%REC*	1	4/20/2012
Surr: Dibromofluoromethane	*100*	*85-115*			*%REC*	1	4/20/2012
Surr: Toluene-d8	*89.6*	*85-120*			*%REC*	1	4/20/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Sulfate	**38**	**10**	**1.0**		**mg/L**	10	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-2
Work Order: 1204539
Collection Date: 4/18/2012 10:40:00 AM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-02
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/20/2012**		Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	4/23/2012
METALS BY ICP-MS			**SW6020A**		Prep Date: **4/20/2012**		Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/20/2012
Barium	ND	0.10	0.10		mg/L	1	4/20/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/20/2012
Chromium	ND	0.010	0.010		mg/L	1	4/20/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/20/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/20/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/20/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/20/2012
Sodium	**120**	**1.0**	**1.0**		**mg/L**	1	4/20/2012
Zinc	ND	0.050	0.050		mg/L	1	4/20/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **4/20/2012**		Analyst: **RM**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	4/23/2012
Anthracene	ND	5.0	5.0		µg/L	1	4/23/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Chrysene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	4/23/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Fluorene	ND	5.0	5.0		µg/L	1	4/23/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Phenanthrene	ND	2.0	2.0		µg/L	1	4/23/2012
Pyrene	ND	5.0	5.0		µg/L	1	4/23/2012
Surr: 2-Fluorobiphenyl	*47.2*	*36-94*			*%REC*	1	4/23/2012
Surr: 4-Terphenyl-d14	*29.7*	*26-119*			*%REC*	1	4/23/2012
Surr: Nitrobenzene-d5	*49.7*	*41-104*			*%REC*	1	4/23/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-2
Work Order: 1204539
Collection Date: 4/18/2012 10:40:00 AM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-02
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/20/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/20/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/20/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/20/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
2-Butanone	ND	25	25		µg/L	1	4/20/2012
2-Hexanone	ND	50	50		µg/L	1	4/20/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/20/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/20/2012
Acetone	ND	50	50		µg/L	1	4/20/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/20/2012
Benzene	ND	1.0	1.0		µg/L	1	4/20/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/20/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/20/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Diethyl ether	ND	10	10		µg/L	1	4/20/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/20/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/20/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-2
Work Order: 1204539
Collection Date: 4/18/2012 10:40:00 AM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-02
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/20/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/20/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/20/2012
Styrene	ND	1.0	1.0		µg/L	1	4/20/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/20/2012
Toluene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/20/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Vinyl acetate	ND	100	100		µg/L	1	4/20/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/20/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/20/2012
Surr: 1,2-Dichloroethane-d4	*115*	*70-120*			*%REC*	1	4/20/2012
Surr: 4-Bromofluorobenzene	*99.6*	*75-120*			*%REC*	1	4/20/2012
Surr: Dibromofluoromethane	*100*	*85-115*			*%REC*	1	4/20/2012
Surr: Toluene-d8	*91.0*	*85-120*			*%REC*	1	4/20/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Sulfate	ND	1.0	1.0		mg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-1d
Work Order: 1204539
Collection Date: 4/18/2012 11:20:00 AM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-03
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date:	**4/20/2012**	Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	4/23/2012
METALS BY ICP-MS			**SW6020A**		Prep Date:	**4/20/2012**	Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/20/2012
Barium	ND	0.10	0.10		mg/L	1	4/20/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/20/2012
Chromium	ND	0.010	0.010		mg/L	1	4/20/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/20/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/20/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/20/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/20/2012
Sodium	**24**	**1.0**	**1.0**		**mg/L**	1	4/20/2012
Zinc	ND	0.050	0.050		mg/L	1	4/20/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date:	**4/20/2012**	Analyst: **HL**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	4/23/2012
Anthracene	ND	5.0	5.0		µg/L	1	4/23/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Chrysene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	4/23/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Fluorene	ND	5.0	5.0		µg/L	1	4/23/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Phenanthrene	ND	5.0	2.0		µg/L	1	4/23/2012
Pyrene	ND	5.0	5.0		µg/L	1	4/23/2012
Surr: 2-Fluorobiphenyl	*56.8*	*36-94*			*%REC*	1	4/23/2012
Surr: 4-Terphenyl-d14	*56.6*	*26-119*			*%REC*	1	4/23/2012
Surr: Nitrobenzene-d5	*62.2*	*41-104*			*%REC*	1	4/23/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-1d
Work Order: 1204539
Collection Date: 4/18/2012 11:20:00 AM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-03
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/20/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/20/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/20/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/20/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
2-Butanone	ND	25	25		µg/L	1	4/20/2012
2-Hexanone	ND	50	50		µg/L	1	4/20/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/20/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/20/2012
Acetone	ND	50	50		µg/L	1	4/20/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/20/2012
Benzene	ND	1.0	1.0		µg/L	1	4/20/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/20/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/20/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Diethyl ether	ND	10	10		µg/L	1	4/20/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/20/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/20/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1204539
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-03

Client Sample ID: LMW-1d
Collection Date: 4/18/2012 11:20:00 AM
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/20/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/20/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/20/2012
Styrene	ND	1.0	1.0		µg/L	1	4/20/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/20/2012
Toluene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/20/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Vinyl acetate	ND	100	100		µg/L	1	4/20/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/20/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/20/2012
Surr: 1,2-Dichloroethane-d4	*113*	*70-120*			*%REC*	1	4/20/2012
Surr: 4-Bromofluorobenzene	*97.5*	*75-120*			*%REC*	1	4/20/2012
Surr: Dibromofluoromethane	*100*	*85-115*			*%REC*	1	4/20/2012
Surr: Toluene-d8	*90.3*	*85-120*			*%REC*	1	4/20/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Sulfate	**92**	**10**	**1.0**		**mg/L**	10	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1204539
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-04

Client Sample ID: LMW-3s
Collection Date: 4/18/2012 11:30:00 AM
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/20/2012**		Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	4/23/2012
METALS BY ICP-MS			**SW6020A**		Prep Date: **4/20/2012**		Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/20/2012
Barium	ND	0.10	0.10		mg/L	1	4/20/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/20/2012
Chromium	ND	0.010	0.010		mg/L	1	4/20/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/20/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/20/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/20/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/20/2012
Sodium	**110**	**1.0**	**1.0**		**mg/L**	1	4/20/2012
Zinc	ND	0.050	0.050		mg/L	1	4/20/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **4/20/2012**		Analyst: **HL**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	4/23/2012
Anthracene	ND	5.0	5.0		µg/L	1	4/23/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Chrysene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	4/23/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Fluorene	ND	5.0	5.0		µg/L	1	4/23/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Phenanthrene	ND	5.0	2.0		µg/L	1	4/23/2012
Pyrene	ND	5.0	5.0		µg/L	1	4/23/2012
Surr: 2-Fluorobiphenyl	*62.5*	*36-94*			*%REC*	1	4/23/2012
Surr: 4-Terphenyl-d14	*67.4*	*26-119*			*%REC*	1	4/23/2012
Surr: Nitrobenzene-d5	*65.9*	*41-104*			*%REC*	1	4/23/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-3s
Work Order: 1204539
Collection Date: 4/18/2012 11:30:00 AM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-04
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/20/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/20/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/20/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/20/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
2-Butanone	ND	25	25		µg/L	1	4/20/2012
2-Hexanone	ND	50	50		µg/L	1	4/20/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/20/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/20/2012
Acetone	ND	50	50		µg/L	1	4/20/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/20/2012
Benzene	ND	1.0	1.0		µg/L	1	4/20/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/20/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/20/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Diethyl ether	ND	10	10		µg/L	1	4/20/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/20/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/20/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	LMW-3s
Work Order:	1204539	**Collection Date:**	4/18/2012 11:30:00 AM
Project:	Melching Demolition 10-339 4/18-4/19/12		
Lab ID:	1204539-04	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/20/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/20/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/20/2012
Styrene	ND	1.0	1.0		µg/L	1	4/20/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/20/2012
Toluene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/20/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Vinyl acetate	ND	100	100		µg/L	1	4/20/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/20/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/20/2012
Surr: 1,2-Dichloroethane-d4	*113*	*70-120*			*%REC*	1	4/20/2012
Surr: 4-Bromofluorobenzene	*98.4*	*75-120*			*%REC*	1	4/20/2012
Surr: Dibromofluoromethane	*101*	*85-115*			*%REC*	1	4/20/2012
Surr: Toluene-d8	*90.0*	*85-120*			*%REC*	1	4/20/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Sulfate	**16**	**2.0**	**1.0**		**mg/L**	2	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-3i
Work Order: 1204539
Collection Date: 4/18/2012 12:20:00 PM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-05
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date:	**4/20/2012**	Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	4/23/2012
METALS BY ICP-MS			**SW6020A**		Prep Date:	**4/20/2012**	Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/20/2012
Barium	**0.11**	**0.10**	**0.10**		**mg/L**	1	4/20/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/20/2012
Chromium	ND	0.010	0.010		mg/L	1	4/20/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/20/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/20/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/20/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/20/2012
Sodium	**130**	**1.0**	**1.0**		**mg/L**	1	4/20/2012
Zinc	ND	0.050	0.050		mg/L	1	4/20/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date:	**4/20/2012**	Analyst: **HL**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	4/23/2012
Anthracene	ND	5.0	5.0		µg/L	1	4/23/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Chrysene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	4/23/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Fluorene	ND	5.0	5.0		µg/L	1	4/23/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Phenanthrene	ND	5.0	2.0		µg/L	1	4/23/2012
Pyrene	ND	5.0	5.0		µg/L	1	4/23/2012
Surr: 2-Fluorobiphenyl	*46.0*	*36-94*			*%REC*	1	4/23/2012
Surr: 4-Terphenyl-d14	*40.8*	*26-119*			*%REC*	1	4/23/2012
Surr: Nitrobenzene-d5	*51.1*	*41-104*			*%REC*	1	4/23/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-3i
Work Order: 1204539
Collection Date: 4/18/2012 12:20:00 PM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-05
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/20/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/20/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/20/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/20/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
2-Butanone	ND	25	25		µg/L	1	4/20/2012
2-Hexanone	ND	50	50		µg/L	1	4/20/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/20/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/20/2012
Acetone	ND	50	50		µg/L	1	4/20/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/20/2012
Benzene	ND	1.0	1.0		µg/L	1	4/20/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/20/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/20/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Diethyl ether	ND	10	10		µg/L	1	4/20/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/20/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/20/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	LMW-3i
Work Order:	1204539	**Collection Date:**	4/18/2012 12:20:00 PM
Project:	Melching Demolition 10-339 4/18-4/19/12		
Lab ID:	1204539-05	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/20/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/20/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/20/2012
Styrene	ND	1.0	1.0		µg/L	1	4/20/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/20/2012
Toluene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/20/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Vinyl acetate	ND	100	100		µg/L	1	4/20/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/20/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/20/2012
Surr: 1,2-Dichloroethane-d4	*114*	*70-120*			*%REC*	1	4/20/2012
Surr: 4-Bromofluorobenzene	*99.0*	*75-120*			*%REC*	1	4/20/2012
Surr: Dibromofluoromethane	*101*	*85-115*			*%REC*	1	4/20/2012
Surr: Toluene-d8	*90.0*	*85-120*			*%REC*	1	4/20/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Sulfate	**4.7**	**2.0**	**1.0**		**mg/L**	2	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1204539
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-06

Client Sample ID: LMW-3d
Collection Date: 4/18/2012 12:30:00 PM
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/20/2012**		Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	4/23/2012
METALS BY ICP-MS			**SW6020A**		Prep Date: **4/20/2012**		Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/20/2012
Barium	**0.15**	**0.10**	**0.10**		**mg/L**	1	4/20/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/20/2012
Chromium	ND	0.010	0.010		mg/L	1	4/20/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/20/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/20/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/20/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/20/2012
Sodium	**230**	**2.0**	**1.0**		**mg/L**	10	4/23/2012
Zinc	ND	0.050	0.050		mg/L	1	4/20/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **4/20/2012**		Analyst: **HL**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	4/23/2012
Anthracene	ND	5.0	5.0		µg/L	1	4/23/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Chrysene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	4/23/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Fluorene	ND	5.0	5.0		µg/L	1	4/23/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Phenanthrene	ND	5.0	2.0		µg/L	1	4/23/2012
Pyrene	ND	5.0	5.0		µg/L	1	4/23/2012
Surr: 2-Fluorobiphenyl	*55.5*	*36-94*			*%REC*	1	4/23/2012
Surr: 4-Terphenyl-d14	*58.8*	*26-119*			*%REC*	1	4/23/2012
Surr: Nitrobenzene-d5	*58.5*	*41-104*			*%REC*	1	4/23/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1204539
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-06

Client Sample ID: LMW-3d
Collection Date: 4/18/2012 12:30:00 PM
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/20/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/20/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/20/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/20/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
2-Butanone	ND	25	25		µg/L	1	4/20/2012
2-Hexanone	ND	50	50		µg/L	1	4/20/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/20/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/20/2012
Acetone	ND	50	50		µg/L	1	4/20/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/20/2012
Benzene	ND	1.0	1.0		µg/L	1	4/20/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/20/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/20/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Diethyl ether	ND	10	10		µg/L	1	4/20/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/20/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/20/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	LMW-3d
Work Order:	1204539	**Collection Date:**	4/18/2012 12:30:00 PM
Project:	Melching Demolition 10-339 4/18-4/19/12		
Lab ID:	1204539-06	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/20/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/20/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/20/2012
Styrene	ND	1.0	1.0		µg/L	1	4/20/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/20/2012
Toluene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/20/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Vinyl acetate	ND	100	100		µg/L	1	4/20/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/20/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/20/2012
Surr: 1,2-Dichloroethane-d4	*115*	*70-120*			*%REC*	1	4/20/2012
Surr: 4-Bromofluorobenzene	*97.6*	*75-120*			*%REC*	1	4/20/2012
Surr: Dibromofluoromethane	*101*	*85-115*			*%REC*	1	4/20/2012
Surr: Toluene-d8	*90.2*	*85-120*			*%REC*	1	4/20/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Sulfate	ND	1.0	1.0		mg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-3d DUP
Work Order: 1204539
Collection Date: 4/18/2012 12:40:00 PM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-07
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/20/2012**		Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	4/23/2012
METALS BY ICP-MS			**SW6020A**		Prep Date: **4/20/2012**		Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/20/2012
Barium	**0.16**	**0.10**	**0.10**		**mg/L**	1	4/20/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/20/2012
Chromium	ND	0.010	0.010		mg/L	1	4/20/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/20/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/20/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/20/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/20/2012
Sodium	**240**	**2.0**	**1.0**		**mg/L**	10	4/23/2012
Zinc	ND	0.050	0.050		mg/L	1	4/20/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **4/20/2012**		Analyst: **HL**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	4/23/2012
Anthracene	ND	5.0	5.0		µg/L	1	4/23/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Chrysene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	4/23/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Fluorene	ND	5.0	5.0		µg/L	1	4/23/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Phenanthrene	ND	5.0	2.0		µg/L	1	4/23/2012
Pyrene	ND	5.0	5.0		µg/L	1	4/23/2012
Surr: 2-Fluorobiphenyl	*52.5*	*36-94*			*%REC*	1	4/23/2012
Surr: 4-Terphenyl-d14	*47.0*	*26-119*			*%REC*	1	4/23/2012
Surr: Nitrobenzene-d5	*58.0*	*41-104*			*%REC*	1	4/23/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-3d DUP
Work Order: 1204539
Collection Date: 4/18/2012 12:40:00 PM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-07
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/20/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/20/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/20/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/20/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
2-Butanone	ND	25	25		µg/L	1	4/20/2012
2-Hexanone	ND	50	50		µg/L	1	4/20/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/20/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/20/2012
Acetone	ND	50	50		µg/L	1	4/20/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/20/2012
Benzene	ND	1.0	1.0		µg/L	1	4/20/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/20/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/20/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Diethyl ether	ND	10	10		µg/L	1	4/20/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/20/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/20/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	LMW-3d DUP
Work Order:	1204539	**Collection Date:**	4/18/2012 12:40:00 PM
Project:	Melching Demolition 10-339 4/18-4/19/12		
Lab ID:	1204539-07	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/20/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/20/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/20/2012
Styrene	ND	1.0	1.0		µg/L	1	4/20/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/20/2012
Toluene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/20/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Vinyl acetate	ND	100	100		µg/L	1	4/20/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/20/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/20/2012
Surr: 1,2-Dichloroethane-d4	*113*	*70-120*			*%REC*	1	4/20/2012
Surr: 4-Bromofluorobenzene	*98.7*	*75-120*			*%REC*	1	4/20/2012
Surr: Dibromofluoromethane	*100*	*85-115*			*%REC*	1	4/20/2012
Surr: Toluene-d8	*90.4*	*85-120*			*%REC*	1	4/20/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Sulfate	ND	1.0	1.0		mg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: Trip Blank.
Work Order: 1204539
Collection Date: 4/18/2012
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-08
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/20/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/20/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/20/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/20/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/20/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/20/2012
2-Butanone	ND	25	25		µg/L	1	4/20/2012
2-Hexanone	ND	50	50		µg/L	1	4/20/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/20/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/20/2012
Acetone	ND	50	50		µg/L	1	4/20/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/20/2012
Benzene	ND	1.0	1.0		µg/L	1	4/20/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/20/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/20/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/20/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/20/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/20/2012
Diethyl ether	ND	10	10		µg/L	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: Trip Blank.
Work Order: 1204539
Collection Date: 4/18/2012
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204539-08
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/20/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/20/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/20/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/20/2012
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/20/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/20/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/20/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/20/2012
Styrene	ND	1.0	1.0		µg/L	1	4/20/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/20/2012
Toluene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/20/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/20/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/20/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/20/2012
Vinyl acetate	ND	100	100		µg/L	1	4/20/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/20/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/20/2012
Surr: 1,2-Dichloroethane-d4	*113*	*70-120*			*%REC*	1	4/20/2012
Surr: 4-Bromofluorobenzene	*100*	*75-120*			*%REC*	1	4/20/2012
Surr: Dibromofluoromethane	*98.1*	*85-115*			*%REC*	1	4/20/2012
Surr: Toluene-d8	*89.7*	*85-120*			*%REC*	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1204539
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204593-01

Client Sample ID: LMW-4
Collection Date: 4/19/2012 2:00:00 PM
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/20/2012**		Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	4/23/2012
METALS BY ICP-MS			**SW6020A**		Prep Date: **4/20/2012**		Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/20/2012
Barium	**0.15**	**0.10**	**0.10**		**mg/L**	1	4/20/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/20/2012
Chromium	ND	0.010	0.010		mg/L	1	4/20/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/20/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/20/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/20/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/20/2012
Sodium	**200**	**2.0**	**1.0**		**mg/L**	10	4/23/2012
Zinc	ND	0.050	0.050		mg/L	1	4/20/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **4/20/2012**		Analyst: **RM**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	4/23/2012
Anthracene	ND	5.0	5.0		µg/L	1	4/23/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Chrysene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	4/23/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Fluorene	ND	5.0	5.0		µg/L	1	4/23/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Phenanthrene	ND	2.0	2.0		µg/L	1	4/23/2012
Pyrene	ND	5.0	5.0		µg/L	1	4/23/2012
Surr: 2-Fluorobiphenyl	*32.0*	*36-94*		S	*%REC*	1	4/23/2012
Surr: 4-Terphenyl-d14	*32.1*	*26-119*			*%REC*	1	4/23/2012
Surr: Nitrobenzene-d5	*41.5*	*41-104*			*%REC*	1	4/23/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **AK**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/23/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-4
Work Order: 1204539
Collection Date: 4/19/2012 2:00:00 PM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204593-01
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/23/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/23/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/23/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/23/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/23/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/23/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/23/2012
2-Butanone	ND	25	25		µg/L	1	4/23/2012
2-Hexanone	ND	50	50		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/23/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/23/2012
Acetone	ND	50	50		µg/L	1	4/23/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/23/2012
Benzene	ND	1.0	1.0		µg/L	1	4/23/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/23/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/23/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/23/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/23/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/23/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/23/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/23/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/23/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/23/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/23/2012
Diethyl ether	ND	10	10		µg/L	1	4/23/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/23/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/23/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/23/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/23/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	LMW-4
Work Order:	1204539	**Collection Date:**	4/19/2012 2:00:00 PM
Project:	Melching Demolition 10-339 4/18-4/19/12		
Lab ID:	1204593-01	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/23/2012
Styrene	ND	1.0	1.0		µg/L	1	4/23/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/23/2012
Toluene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/23/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Vinyl acetate	ND	100	100		µg/L	1	4/23/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/23/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/23/2012
Surr: 1,2-Dichloroethane-d4	*98.8*	*70-120*			*%REC*	1	4/23/2012
Surr: 4-Bromofluorobenzene	*99.5*	*75-120*			*%REC*	1	4/23/2012
Surr: Dibromofluoromethane	*102*	*85-115*			*%REC*	1	4/23/2012
Surr: Toluene-d8	*98.9*	*85-120*			*%REC*	1	4/23/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Sulfate	**1.3**	**1.0**	**1.0**		**mg/L**	1	4/23/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1204539
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204593-02

Client Sample ID: LMW-5
Collection Date: 4/19/2012 2:15:00 PM
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/20/2012**		Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	4/23/2012
METALS BY ICP-MS			**SW6020A**		Prep Date: **4/20/2012**		Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/20/2012
Barium	**0.13**	**0.10**	**0.10**		**mg/L**	1	4/20/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/20/2012
Chromium	ND	0.010	0.010		mg/L	1	4/20/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/20/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/20/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/20/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/20/2012
Sodium	**140**	**1.0**	**1.0**		**mg/L**	1	4/20/2012
Zinc	ND	0.050	0.050		mg/L	1	4/20/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **4/20/2012**		Analyst: **RM**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	4/23/2012
Anthracene	ND	5.0	5.0		µg/L	1	4/23/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Chrysene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	4/23/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Fluorene	ND	5.0	5.0		µg/L	1	4/23/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Phenanthrene	ND	2.0	2.0		µg/L	1	4/23/2012
Pyrene	ND	5.0	5.0		µg/L	1	4/23/2012
Surr: 2-Fluorobiphenyl	*56.1*	*36-94*			*%REC*	1	4/23/2012
Surr: 4-Terphenyl-d14	*63.6*	*26-119*			*%REC*	1	4/23/2012
Surr: Nitrobenzene-d5	*51.4*	*41-104*			*%REC*	1	4/23/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **AK**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/23/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-5
Work Order: 1204539
Collection Date: 4/19/2012 2:15:00 PM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204593-02
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/23/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/23/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/23/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/23/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/23/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/23/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/23/2012
2-Butanone	ND	25	25		µg/L	1	4/23/2012
2-Hexanone	ND	50	50		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/23/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/23/2012
Acetone	ND	50	50		µg/L	1	4/23/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/23/2012
Benzene	ND	1.0	1.0		µg/L	1	4/23/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/23/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/23/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/23/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/23/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/23/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/23/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/23/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/23/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/23/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/23/2012
Diethyl ether	ND	10	10		µg/L	1	4/23/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/23/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/23/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/23/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/23/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	LMW-5
Work Order:	1204539	**Collection Date:**	4/19/2012 2:15:00 PM
Project:	Melching Demolition 10-339 4/18-4/19/12		
Lab ID:	1204593-02	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/23/2012
Styrene	ND	1.0	1.0		µg/L	1	4/23/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/23/2012
Toluene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/23/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Vinyl acetate	ND	100	100		µg/L	1	4/23/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/23/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/23/2012
Surr: 1,2-Dichloroethane-d4	*98.3*	*70-120*			*%REC*	1	4/23/2012
Surr: 4-Bromofluorobenzene	*98.0*	*75-120*			*%REC*	1	4/23/2012
Surr: Dibromofluoromethane	*101*	*85-115*			*%REC*	1	4/23/2012
Surr: Toluene-d8	*100*	*85-120*			*%REC*	1	4/23/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Sulfate	**25**	**10**	**1.0**		**mg/L**	10	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-6
Work Order: 1204539
Collection Date: 4/19/2012 2:30:00 PM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204593-03
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/20/2012**		Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	4/23/2012
METALS BY ICP-MS			**SW6020A**		Prep Date: **4/20/2012**		Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/20/2012
Barium	ND	0.10	0.10		mg/L	1	4/20/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/20/2012
Chromium	ND	0.010	0.010		mg/L	1	4/20/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/20/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/20/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/20/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/20/2012
Sodium	**62**	**1.0**	**1.0**		**mg/L**	1	4/20/2012
Zinc	ND	0.050	0.050		mg/L	1	4/20/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **4/20/2012**		Analyst: **RM**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	4/23/2012
Anthracene	ND	5.0	5.0		µg/L	1	4/23/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Chrysene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	4/23/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Fluorene	ND	5.0	5.0		µg/L	1	4/23/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Phenanthrene	ND	2.0	2.0		µg/L	1	4/23/2012
Pyrene	ND	5.0	5.0		µg/L	1	4/23/2012
Surr: 2-Fluorobiphenyl	*57.6*	*36-94*			*%REC*	1	4/23/2012
Surr: 4-Terphenyl-d14	*66.2*	*26-119*			*%REC*	1	4/23/2012
Surr: Nitrobenzene-d5	*53.0*	*41-104*			*%REC*	1	4/23/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **AK**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/23/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1204539
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204593-03

Client Sample ID: LMW-6
Collection Date: 4/19/2012 2:30:00 PM
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/23/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/23/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/23/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/23/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/23/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/23/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/23/2012
2-Butanone	ND	25	25		µg/L	1	4/23/2012
2-Hexanone	ND	50	50		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/23/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/23/2012
Acetone	ND	50	50		µg/L	1	4/23/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/23/2012
Benzene	ND	1.0	1.0		µg/L	1	4/23/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/23/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/23/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/23/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/23/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/23/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/23/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/23/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/23/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/23/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/23/2012
Diethyl ether	ND	10	10		µg/L	1	4/23/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/23/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/23/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/23/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/23/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1204539
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204593-03

Client Sample ID: LMW-6
Collection Date: 4/19/2012 2:30:00 PM
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/23/2012
Styrene	ND	1.0	1.0		µg/L	1	4/23/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/23/2012
Toluene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/23/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Vinyl acetate	ND	100	100		µg/L	1	4/23/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/23/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/23/2012
Surr: 1,2-Dichloroethane-d4	*97.7*	*70-120*			*%REC*	1	4/23/2012
Surr: 4-Bromofluorobenzene	*98.4*	*75-120*			*%REC*	1	4/23/2012
Surr: Dibromofluoromethane	*102*	*85-115*			*%REC*	1	4/23/2012
Surr: Toluene-d8	*99.0*	*85-120*			*%REC*	1	4/23/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Sulfate	**3.7**	**1.0**	**1.0**		**mg/L**	1	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	LMW-7
Work Order:	1204539	**Collection Date:**	4/19/2012 3:00:00 PM
Project:	Melching Demolition 10-339 4/18-4/19/12		
Lab ID:	1204593-04	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date:	**4/20/2012**	Analyst: **LR**
Mercury	ND	0.00020	0.00020		mg/L	1	4/23/2012
METALS BY ICP-MS			**SW6020A**		Prep Date:	**4/20/2012**	Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/20/2012
Barium	ND	0.10	0.10		mg/L	1	4/20/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/20/2012
Chromium	ND	0.010	0.010		mg/L	1	4/20/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/20/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/20/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/20/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/20/2012
Sodium	**79**	**1.0**	**1.0**		**mg/L**	1	4/20/2012
Zinc	ND	0.050	0.050		mg/L	1	4/20/2012
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date:	**4/20/2012**	Analyst: **RM**
2-Chloronaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthene	ND	5.0	5.0		µg/L	1	4/23/2012
Acenaphthylene	ND	5.0	5.0		µg/L	1	4/23/2012
Anthracene	ND	5.0	5.0		µg/L	1	4/23/2012
Benzo(a)anthracene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(a)pyrene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(b)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(g,h,i)perylene	ND	1.0	1.0		µg/L	1	4/23/2012
Benzo(k)fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Chrysene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibenzo(a,h)anthracene	ND	2.0	2.0		µg/L	1	4/23/2012
Fluoranthene	ND	1.0	1.0		µg/L	1	4/23/2012
Fluorene	ND	5.0	5.0		µg/L	1	4/23/2012
Indeno(1,2,3-cd)pyrene	ND	2.0	2.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
Phenanthrene	ND	2.0	2.0		µg/L	1	4/23/2012
Pyrene	ND	5.0	5.0		µg/L	1	4/23/2012
Surr: 2-Fluorobiphenyl	*53.9*	*36-94*			*%REC*	1	4/23/2012
Surr: 4-Terphenyl-d14	*55.1*	*26-119*			*%REC*	1	4/23/2012
Surr: Nitrobenzene-d5	*48.5*	*41-104*			*%REC*	1	4/23/2012
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **AK**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/23/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: LMW-7
Work Order: 1204539
Collection Date: 4/19/2012 3:00:00 PM
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204593-04
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/23/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/23/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/23/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/23/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/23/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/23/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/23/2012
2-Butanone	ND	25	25		µg/L	1	4/23/2012
2-Hexanone	ND	50	50		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/23/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/23/2012
Acetone	ND	50	50		µg/L	1	4/23/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/23/2012
Benzene	ND	1.0	1.0		µg/L	1	4/23/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/23/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/23/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/23/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/23/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/23/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/23/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/23/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/23/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/23/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/23/2012
Diethyl ether	ND	10	10		µg/L	1	4/23/2012
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/23/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/23/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/23/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/23/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1204539
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204593-04

Client Sample ID: LMW-7
Collection Date: 4/19/2012 3:00:00 PM
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/23/2012
Styrene	ND	1.0	1.0		µg/L	1	4/23/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/23/2012
Toluene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/23/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Vinyl acetate	ND	100	100		µg/L	1	4/23/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/23/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/23/2012
Surr: 1,2-Dichloroethane-d4	*97.4*	*70-120*			*%REC*	1	4/23/2012
Surr: 4-Bromofluorobenzene	*97.5*	*75-120*			*%REC*	1	4/23/2012
Surr: Dibromofluoromethane	*100*	*85-115*			*%REC*	1	4/23/2012
Surr: Toluene-d8	*100*	*85-120*			*%REC*	1	4/23/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Sulfate	**61**	**10**	**1.0**		**mg/L**	10	4/20/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Client Sample ID: Trip Blank
Work Order: 1204539
Collection Date: 4/19/2012
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204593-05
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **AK**
1,1,1,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1,1-Trichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1,2,2-Tetrachloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1,2-Trichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1-Dichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,1-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2,3-Trichloropropane	ND	1.0	1.0		µg/L	1	4/23/2012
1,2,4-Trichlorobenzene	ND	5.0	5.0		µg/L	1	4/23/2012
1,2,4-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dibromo-3-chloropropane	ND	1.0	0.20		µg/L	1	4/23/2012
1,2-Dibromoethane	ND	1.0	0.050		µg/L	1	4/23/2012
1,2-Dichlorobenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dichloroethane	ND	1.0	1.0		µg/L	1	4/23/2012
1,2-Dichloropropane	ND	2.0	1.0		µg/L	1	4/23/2012
1,3,5-Trimethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
1,3-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/23/2012
1,4-Dichlorobenzene	ND	2.0	1.0		µg/L	1	4/23/2012
2-Butanone	ND	25	25		µg/L	1	4/23/2012
2-Hexanone	ND	50	50		µg/L	1	4/23/2012
2-Methylnaphthalene	ND	10	5.0		µg/L	1	4/23/2012
4-Methyl-2-pentanone	ND	50	50		µg/L	1	4/23/2012
Acetone	ND	50	50		µg/L	1	4/23/2012
Acrylonitrile	ND	2.0	2.0		µg/L	1	4/23/2012
Benzene	ND	1.0	1.0		µg/L	1	4/23/2012
Bromochloromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Bromodichloromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Bromomethane	ND	5.0	5.0		µg/L	1	4/23/2012
Carbon disulfide	ND	5.0	5.0		µg/L	1	4/23/2012
Carbon tetrachloride	ND	1.0	1.0		µg/L	1	4/23/2012
Chlorobenzene	ND	1.0	1.0		µg/L	1	4/23/2012
Chloroethane	ND	5.0	5.0		µg/L	1	4/23/2012
Chloroform	ND	1.0	1.0		µg/L	1	4/23/2012
Chloromethane	ND	5.0	5.0		µg/L	1	4/23/2012
cis-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
cis-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/23/2012
Dibromochloromethane	ND	5.0	5.0		µg/L	1	4/23/2012
Dibromomethane	ND	5.0	5.0		µg/L	1	4/23/2012
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	1	4/23/2012
Diethyl ether	ND	10	10		µg/L	1	4/23/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1204539
Project: Melching Demolition 10-339 4/18-4/19/12
Lab ID: 1204593-05

Client Sample ID: Trip Blank
Collection Date: 4/19/2012
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
Ethylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
Hexachloroethane	ND	5.0	5.0		µg/L	1	4/23/2012
Isopropylbenzene	ND	5.0	5.0		µg/L	1	4/23/2012
m,p-Xylene	ND	2.0	1.0		µg/L	1	4/23/2012
Methyl iodide	ND	5.0	1.0		µg/L	1	4/23/2012
Methyl tert-butyl ether	ND	5.0	5.0		µg/L	1	4/23/2012
Naphthalene	ND	5.0	5.0		µg/L	1	4/23/2012
n-Propylbenzene	ND	1.0	1.0		µg/L	1	4/23/2012
o-Xylene	ND	1.0	1.0		µg/L	1	4/23/2012
Styrene	ND	1.0	1.0		µg/L	1	4/23/2012
Tetrachloroethene	ND	2.0	1.0		µg/L	1	4/23/2012
Toluene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,2-Dichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,3-Dichloropropene	ND	1.0	1.0		µg/L	1	4/23/2012
trans-1,4-Dichloro-2-butene	ND	5.0	1.0		µg/L	1	4/23/2012
Trichloroethene	ND	1.0	1.0		µg/L	1	4/23/2012
Trichlorofluoromethane	ND	1.0	1.0		µg/L	1	4/23/2012
Vinyl acetate	ND	100	100		µg/L	1	4/23/2012
Vinyl chloride	ND	1.0	1.0		µg/L	1	4/23/2012
Xylenes, Total	ND	3.0	3.0		µg/L	1	4/23/2012
Surr: 1,2-Dichloroethane-d4	*97.6*	*70-120*			*%REC*	1	4/23/2012
Surr: 4-Bromofluorobenzene	*99.9*	*75-120*			*%REC*	1	4/23/2012
Surr: Dibromofluoromethane	*102*	*85-115*			*%REC*	1	4/23/2012
Surr: Toluene-d8	*99.8*	*85-120*			*%REC*	1	4/23/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

☐ ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Form

☐ ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager:

ALS Work Order #: 1204539

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Mulching Demo	A	PNA's
Work Order		Project Number	10-339	B	VOC's
Company Name		Bill To Company	LEI	C	MI 10 Metals
Send Report To	Kirk P	Invoice Attn		D	Sodium
Address		Address		E	Sulfate
				F	
City/State/Zip		City/State/Zip		G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	LMW-1s	4/18/12	10:30	W	1,2	6	X	X	X	X	X						
2	LMW-2	"	10:40	W	1,2	6	X	X	X	X	X						
3	LMW-1d	"	11:20	W	1,2	6	X	X	X	X	X						
4	LMW-3s	"	11:30	W	1,2	6	X	X	X	X	X						
5	LMW-3i	"	12:20	W	1,2	6	X	X	X	X	X						
6	LMW-3d	"	12:30	W	1,2	6	X	X	X	X	X						
7	Dup LMW-3d	"	12:40	W	1,2	6	X	X	X	X	X						
8	Trip Blank	4/18						✓									
9																	
10																	

Sampler(s) Please Print & Sign: [signature]

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other _____ ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date: 4/18/12	Time: 4:30	Received by:
Relinquished by:	Date: 4/18/12	Time: 1655	Received by (Laboratory): [signature]
Logged by (Laboratory): JLB	Date: 4/19/12	Time: 800	Checked by (Laboratory): [signature]

Notes:

Cooler ID	Cooler Temp
	5.8°C

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other _____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2008 by ALS Laboratory Group.

☐ ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Form

☐ ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager:

ALS Work Order #: 1204593

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Mdching Demo	A	PNA's
Work Order		Project Number	10-339	B	VOC's
Company Name		Bill To Company	LEI	C	MI 10 Metals
Send Report To	Kirk Perschbacher	Invoice Attn		D	Sodium
Address		Address		E	Sulfate
				F	
City/State/Zip		City/State/Zip		G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	LMW-4	4/19/2012	2:00	W	1,2	6	X	X	X	X	X						
2	LMW-5	"	2:15	W	"	6	X	X	X	X	X						
3	LMW-6	"	2:30	W	"	6	X	X	X	X	X						
4	LMW-7	"	3:00	W	"	6	X	X	X	X	X						
5		"															
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: [signature]

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other _____ ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date: 4/19/2012	Time: 4:30	Received by:
Relinquished by:	Date: 4/19/12	Time: 1635	Received by (Laboratory):
Logged by (Laboratory): KEJ	Date: 4/20/12	Time: 0810	Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp
	4.0°C

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other _____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2008 by ALS Laboratory Group.

APPENDIX F-
ANALYTICAL DATA FOR LAKE SAMPLES AT GSI

ALS Group USA, Corp

Date: *05-Apr-12*

Client: Lakeshore Environmental, Inc.
Work Order: 1203923
Project: Melching Demolition 10-339 3/29/12
Lab ID: 1203923-01

Client Sample ID: WS-1
Collection Date: 3/29/2012 11:00:00 AM
Matrix: WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/4/2012**		Analyst: **LR**
Mercury	**0.0030**	**0.00020**	**0.00020**		**mg/L**	1	4/4/2012
METALS BY ICP-MS			**SW6020A**		Prep Date: **4/2/2012**		Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/4/2012
Barium	ND	0.10	0.10		mg/L	1	4/4/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/4/2012
Chromium	ND	0.010	0.010		mg/L	1	4/4/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/4/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/4/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/4/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/4/2012
Sodium	**13**	**1.0**	**1.0**		**mg/L**	1	4/4/2012
Zinc	ND	0.050	0.050		mg/L	1	4/4/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Chloride	**20**	**10**	**10**		**mg/L**	2	4/3/2012
Sulfate	**15**	**2.0**	**1.0**		**mg/L**	2	4/3/2012
TOTAL DISSOLVED SOLIDS			**A2540 C**				Analyst: **KV**
Total Dissolved Solids	**210**	**10**	**10**		**mg/L**	1	4/3/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	WS-2
Work Order:	1203923	**Collection Date:**	3/29/2012 11:15:00 AM
Project:	Melching Demolition 10-339 3/29/12		
Lab ID:	1203923-02	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date:	**4/4/2012**	Analyst: **LR**
Mercury	**0.0011**	**0.00020**	**0.00020**		**mg/L**	1	4/4/2012
METALS BY ICP-MS			**SW6020A**		Prep Date:	**4/2/2012**	Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/4/2012
Barium	ND	0.10	0.10		mg/L	1	4/4/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/4/2012
Chromium	ND	0.010	0.010		mg/L	1	4/4/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/4/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/4/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/4/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/4/2012
Sodium	**13**	**1.0**	**1.0**		**mg/L**	1	4/4/2012
Zinc	ND	0.050	0.050		mg/L	1	4/4/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Chloride	**20**	**10**	**10**		**mg/L**	2	4/3/2012
Sulfate	**14**	**2.0**	**1.0**		**mg/L**	2	4/3/2012
TOTAL DISSOLVED SOLIDS			**A2540 C**				Analyst: **KV**
Total Dissolved Solids	**200**	**10**	**10**		**mg/L**	1	4/3/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	WS-3
Work Order:	1203923	**Collection Date:**	3/29/2012 11:30:00 AM
Project:	Melching Demolition 10-339 3/29/12		
Lab ID:	1203923-03	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date:	**4/4/2012**	Analyst: **LR**
Mercury	**0.0015**	**0.00020**	**0.00020**		**mg/L**	1	4/4/2012
METALS BY ICP-MS			**SW6020A**		Prep Date:	**4/2/2012**	Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/4/2012
Barium	ND	0.10	0.10		mg/L	1	4/4/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/4/2012
Chromium	ND	0.010	0.010		mg/L	1	4/4/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/4/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/4/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/4/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/4/2012
Sodium	**13**	**1.0**	**1.0**		**mg/L**	1	4/4/2012
Zinc	ND	0.050	0.050		mg/L	1	4/4/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Chloride	**20**	**10**	**10**		**mg/L**	2	4/3/2012
Sulfate	**15**	**2.0**	**1.0**		**mg/L**	2	4/3/2012
TOTAL DISSOLVED SOLIDS			**A2540 C**				Analyst: **KV**
Total Dissolved Solids	**210**	**10**	**10**		**mg/L**	1	4/3/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *05-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	W-4
Work Order:	1203923	**Collection Date:**	3/29/2012 11:45:00 AM
Project:	Melching Demolition 10-339 3/29/12		
Lab ID:	1203923-04	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/4/2012**		Analyst: **LR**
Mercury	**0.00030**	**0.00020**	**0.00020**		**mg/L**	1	4/4/2012
METALS BY ICP-MS			**SW6020A**		Prep Date: **4/2/2012**		Analyst: **RH**
Arsenic	ND	0.0050	0.0050		mg/L	1	4/4/2012
Barium	ND	0.10	0.10		mg/L	1	4/4/2012
Cadmium	ND	0.0010	0.0010		mg/L	1	4/4/2012
Chromium	ND	0.010	0.010		mg/L	1	4/4/2012
Copper	ND	0.0040	0.0040		mg/L	1	4/4/2012
Lead	ND	0.0030	0.0030		mg/L	1	4/4/2012
Selenium	ND	0.0050	0.0050		mg/L	1	4/4/2012
Silver	ND	0.00020	0.00020		mg/L	1	4/4/2012
Sodium	**14**	**1.0**	**1.0**		**mg/L**	1	4/4/2012
Zinc	ND	0.050	0.050		mg/L	1	4/4/2012
ANIONS BY ION CHROMATOGRAPHY			**SW9056**				Analyst: **ED**
Chloride	**21**	**10**	**10**		**mg/L**	2	4/3/2012
Sulfate	**16**	**2.0**	**1.0**		**mg/L**	2	4/3/2012
TOTAL DISSOLVED SOLIDS			**A2540 C**				Analyst: **KV**
Total Dissolved Solids	**200**	**10**	**10**		**mg/L**	1	4/3/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

☐ **ALS Laboratory Group**
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Form

Page 1 of 1

☐ **ALS Laboratory Group**
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager:

ALS Work Order #: 1203923

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Melching Demo	A	MI 10 Metals
Work Order		Project Number	10-339	B	TDS
Company Name		Bill To Company	LEI	C	Na Sodium
Send Report To	Kirk P	Invoice Attn		D	Chloride
Address		Address		E	Sulfate
				F	
City/State/Zip		City/State/Zip		G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WS-1	3/29/12	11:00	W	Nitric	2	X	X	X	X	X						
2	WS-2	3/29/12	11:15	W	Nitric	3	X	X	X	X	X						
3	WS-3	3/29/12	11:30	W	Nitric	3	X	X	X	X	X						
4	W-4	3/29/12	11:45	W	Nitric	3	X	X	X	X	X						
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: [illegible]

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other _____ ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
[illegible]	3/30/12	1030	[illegible]
[illegible]	3/30/12	1205	[illegible]
Logged by (Laboratory): DFS	3/30/12	1230	Checked by (Laboratory): [illegible]

Received by (Laboratory): [illegible]

Notes:

Cooler ID	Cooler Temp
	5.8°C

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other _____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2008 by ALS Laboratory Group.

ALS Group USA, Corp

Date: *27-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	WS-101
Work Order:	1204671	**Collection Date:**	4/23/2012 11:00:00 AM
Project:	Melching Inc. 10-339 4/23/12		
Lab ID:	1204671-01	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/25/2012**		Analyst: **LR**
Mercury	**0.00050**	**0.00020**	**0.00020**		**mg/L**	1	4/26/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *27-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	WS-102
Work Order:	1204671	**Collection Date:**	4/23/2012 11:15:00 AM
Project:	Melching Inc. 10-339 4/23/12		
Lab ID:	1204671-02	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/25/2012**		Analyst: **LR**
Mercury	0.00091	0.00020	0.00020		mg/L	1	4/26/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *27-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	WS-103
Work Order:	1204671	**Collection Date:**	4/23/2012 11:30:00 AM
Project:	Melching Inc. 10-339 4/23/12		
Lab ID:	1204671-03	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/25/2012**		Analyst: **LR**
Mercury	0.00062	0.00020	0.00020		mg/L	1	4/26/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *27-Apr-12*

Client:	Lakeshore Environmental, Inc.	**Client Sample ID:**	WS-104
Work Order:	1204671	**Collection Date:**	4/23/2012 11:45:00 AM
Project:	Melching Inc. 10-339 4/23/12		
Lab ID:	1204671-04	**Matrix:**	WATER

Analyses	Result	Report Limit	MDEQ OP Memo 2 TDL	Qual	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470**		Prep Date: **4/25/2012**		Analyst: **LR**
Mercury	**0.00031**	**0.00020**	**0.00020**		**mg/L**	1	4/26/2012

Note: See Qualifiers page for a list of qualifiers and their definitions.

☐ ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Form

Page _____ of _____

☐ ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager:

ALS Work Order #: 1204671

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Melching INC	A	Mercury
Work Order		Project Number	10-339	B	
Company Name	LEI	Bill To Company		C	
Send Report To	KIRK PERSCHBACHER	Invoice Attn		D	
Address		Address		E	
				F	
City/State/Zip		City/State/Zip		G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WS-101	4-23-12	11:00	W	HNO3	1	X										
2	WS-102	↓	11:15	W	↓	1	X										
3	WS-103		11:30	W		1	X										
4	WS-104		11:45	W		1	X										
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Jason Crompton

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other _____ ☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

	Date:	Time:		
Relinquished by:	4-23-12	13:55	Received by:	
Relinquished by:	4/23/12	1400	Received by (Laboratory):	
Logged by (Laboratory): DFS	4/23/12	1430	Checked by (Laboratory):	

Notes:

Cooler ID	Cooler Temp
	10.8°C

QC Package: (Check One Box Below)
☐ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other _____
☐ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2008 by ALS Laboratory Group.