

PRELIMINARY RESULTS

MOSHER ENGINEERING LTD

DATE: 19-SEP-05 10:58 AM

ATTN: DAVE MOSHER

MOSHER ENGINEERING LIMITED 1358 QUEEN STREET

HALIFAX NS B3J 2H5

Lab Work Order #: L319019

Sampled By: JW

Date Received: 16-SEP-05

Project P.O. #: 105-1181

Job Reference: 105

Comments:

APPROVED BY: _____

PAUL NICOLAS

Project Manager

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY.
ANY REMAINING SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU
REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

ENVIRO-TEST ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	By	Batch
L319019-1 RB-LAKE								
Sample Date: 05-SEP-05 10:30								
Matrix: Water								
BTEX,TVH and TEH								
Tot. Extr. Hydrocarbons (C11-C30)								
TEH (C11-C30)	<0.1		0.1	mg/L	16-SEP-05	16-SEP-05	DVH	R325257
TVH (C5-C10)								
Total Volatiles	<0.1		0.1	mg/L		16-SEP-05	TJJ	R325137
BTEX								
Benzene	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
Toluene	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
Ethylbenzene	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
m+p-Xylenes	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
o-Xylene	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
Xylenes	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
Metal scan								
Silver (Ag)-Total	<0.001		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Aluminum (Al)-Total	0.04		0.02	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Arsenic (As)-Total	<0.0005		0.0005	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Boron (B)-Total	<0.03		0.03	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Barium (Ba)-Total	0.0129		0.0003	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Beryllium (Be)-Total	<0.001		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Bismuth (Bi)-Total	<0.0001		0.0001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Calcium (Ca)-Total	50.7		0.1	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Cadmium (Cd)-Total	<0.0002		0.0002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Cobalt (Co)-Total	<0.0002		0.0002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Chromium (Cr)-Total	0.003		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Cesium (Cs)-Total	<0.0001		0.0001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Copper (Cu)-Total	0.002		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Iron (Fe)-Total	0.12		0.05	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Potassium (K)-Total	3.3		0.1	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Lithium (Li)-Total	<0.01		0.01	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Magnesium (Mg)-Total	12.6		0.01	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Manganese (Mn)-Total	0.0024		0.0003	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Molybdenum (Mo)-Total	0.0018		0.0002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Sodium (Na)-Total	15.7		0.03	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Nickel (Ni)-Total	<0.002		0.002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Phosphorus (P)-Total	0.22		0.05	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Lead (Pb)-Total	<0.0005		0.0005	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Rubidium (Rb)-Total	0.0046		0.0002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Antimony (Sb)-Total	<0.001		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Selenium (Se)-Total	<0.001		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Tin (Sn)-Total	<0.0006		0.0006	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Strontium (Sr)-Total	0.0548		0.0001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Tellurium (Te)-Total	<0.001		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Titanium (Ti)-Total	0.0016		0.0009	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Thallium (Tl)-Total	<0.0001		0.0001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Uranium (U)-Total	0.0129		0.0001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Vanadium (V)-Total	0.001		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Tungsten (W)-Total	<0.0002		0.0002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Zinc (Zn)-Total	0.01		0.01	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Zirconium (Zr)-Total	<0.0004		0.0004	mg/L	16-SEP-05	17-SEP-05	DAG	R325716

ENVIRO-TEST ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	By	Batch
L319019-2								
RB-TANK 1								
Sample Date: 05-SEP-05 10:45								
Matrix: Water								
BTEX,TVH and TEH								
Tot. Extr. Hydrocarbons (C11-C30)								
TEH (C11-C30)	0.8		0.1	mg/L	16-SEP-05	16-SEP-05	DVH	R325257
TVH (C5-C10)								
Total Volatiles	<0.1		0.1	mg/L		16-SEP-05	TJJ	R325137
BTEX								
Benzene	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
Toluene	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
Ethylbenzene	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
m+p-Xylenes	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
o-Xylene	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
Xylenes	<0.0005		0.0005	mg/L		16-SEP-05	TJJ	R325137
Metal scan								
Silver (Ag)-Total	<0.001		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Aluminum (Al)-Total	0.08		0.02	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Arsenic (As)-Total	<0.0005		0.0005	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Boron (B)-Total	0.04		0.03	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Barium (Ba)-Total	0.0124		0.0003	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Beryllium (Be)-Total	<0.001		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Bismuth (Bi)-Total	<0.0001		0.0001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Calcium (Ca)-Total	45.3		0.1	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Cadmium (Cd)-Total	<0.0002		0.0002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Cobalt (Co)-Total	0.0003		0.0002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Chromium (Cr)-Total	0.003		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Cesium (Cs)-Total	<0.0001		0.0001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Copper (Cu)-Total	0.008		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Iron (Fe)-Total	2.89		0.05	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Potassium (K)-Total	3.5		0.1	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Lithium (Li)-Total	<0.01		0.01	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Magnesium (Mg)-Total	11.0		0.01	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Manganese (Mn)-Total	0.123		0.0003	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Molybdenum (Mo)-Total	0.0021		0.0002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Sodium (Na)-Total	14.7		0.03	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Nickel (Ni)-Total	0.004		0.002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Phosphorus (P)-Total	0.20		0.05	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Lead (Pb)-Total	0.0015		0.0005	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Rubidium (Rb)-Total	0.0044		0.0002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Antimony (Sb)-Total	<0.001		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Selenium (Se)-Total	<0.001		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Tin (Sn)-Total	<0.0006		0.0006	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Strontium (Sr)-Total	0.0492		0.0001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Tellurium (Te)-Total	<0.001		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Titanium (Ti)-Total	0.0168		0.0009	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Thallium (Tl)-Total	<0.0001		0.0001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Uranium (U)-Total	0.0107		0.0001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Vanadium (V)-Total	0.002		0.001	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Tungsten (W)-Total	<0.0002		0.0002	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Zinc (Zn)-Total	0.08		0.01	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Zirconium (Zr)-Total	0.0004		0.0004	mg/L	16-SEP-05	17-SEP-05	DAG	R325716
Refer to Referenced Information for Qualifiers (if any) and Methodology.								

Reference Information

Methods Listed (if applicable):

ETL Test Code	Matrix	Test Description	Preparation Method Reference(Based On)	Analytical Method Reference(Based On)
BTX-WP	Water	BTEX		EPA SW846,5030,8015
Volatile organic compounds are extracted (purged) by bubbling nitrogen through a water sample. The purged sample components are trapped in a tube containing a sorbent material. When purging is complete, the tube is heated and back flushed with helium to desorb the trapped compounds onto a gas chromatographic column. The gas chromatograph is temperature programmed to separate the method analytes which are then detected with a photoionization detector (PID) followed by a flame ionization detector (FID).				
MET-SCAN-TOT-LOW-WP	Water	Metal scan		EPA 200.8 Rev 5.4 May 1994
TEH-WP	Water	Tot. Extr. Hydrocarbons (C11-C30)		EPA SW846,8000A
This is the semi-quantitative determination of total extractable hydrocarbons (TEH) C11-C30 in water, soil and sediment samples. A water sample volume of 240 mLs in a 250 mL glass amber bottle is shaken with 2-4 mL hexane for one hour on a wrist action shaker, then sonicated for 5 minutes. A soil/sediment sample of 25 grams is weighed out with sodium sulphate and extracted with 10 mLs hexane/acetone for one hour on a wrist action shaker, then sonicated for 5 minutes. After extraction, the solvent layer is drawn off and analysed against a calibrated diesel standard on a gas chromatograph equipped with a flame ionization detector. All results are reported on a dry weight basis. By special request, the result can be calculated on C10-C24 to meet specific regulations.				
TVH-WP	Water	TVH (C5-C10)		EPA SW846,5030,8015
Volatile organic compounds are extracted (purged) by bubbling nitrogen through a water sample. The purged sample components are trapped in a tube containing a sorbent material. When purging is complete, the tube is heated and back flushed with helium to desorb the trapped compounds onto a gas chromatographic column. The gas chromatograph is temperature programmed to separate the method analytes which are then detected with a photoionization detector (PID) followed by a flame ionization detector (FID).				

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.

Chain of Custody numbers:

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
WP	Enviro-Test Laboratories - Winnipeg, Manitoba, Canada		

GLOSSARY OF REPORT TERMS

Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in environmental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.

The reported surrogate recovery value provides a measure of method efficiency. The Laboratory warning units are determined under column heading D.L.

mg/kg (units) - unit of concentration based on mass, parts per million

mg/L (units) - unit of concentration based on volume, parts per million

< - Less than

D.L. - Detection Limit

N/A - Result not available. Refer to qualifier code and definition for explanation

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

UNLESS OTHERWISE STATED, SAMPLES ARE NOT CORRECTED FOR CLIENT FIELD BLANKS.

Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

Enviro-Test Laboratories has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, Enviro-Test Laboratories assumes no liability for the use or interpretation of the results.